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Research Article

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Resilient architecture: A sustainable approach to rebuilding low-cost community shelters in flash flood-prone areas

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Abstract

Pakistan and India have been severely impacted by natural disasters, causing widespread damage to homes and infrastructure and leaving whole communities and individuals vulnerable. Global warming, deforestation, limited government support, and poor infrastructure have increased the vulnerability of populations in hazard-prone locations. This research explores resilient architecture in flash flood-prone regions, with a specific focus on low-cost shelter reconstruction using easily available local materials like lime, mud, earth, and bamboo. Through an in-depth literature review and the analysis of two case studies from Pakistan and India in their relevant context, the study identifies key performance parameters such as form, material, raised platforms, services, and structure. The findings highlight commonalities and differences in performance parameters between the two cases. Both cases excel in achieving resilient architecture, incorporating traditional approaches, post-disaster reconstruction, community participation, women's economic empowerment, raised platforms, and enhanced cross-bracing techniques. The research aims to contribute valuable insights and practical recommendations for sustainable and cost-effective solutions, aiding in the reconstruction of communities affected by flash floods. The suggested pragmatic guidelines, rooted in engaging communities, utilizing sustainable materials, employing traditional methods, and implementing educational programs, offer a tangible roadmap for efficient and cost-effective solutions. Embracing these insights enables policymakers, communities, and stakeholders to actively participate in the revitalization of regions impacted by flash floods, nurturing resilience and sustainable growth in the aftermath of natural disasters. This research stands as a valuable resource for propelling practices that harmonize with the environment and empower communities to not only rebuild but also thrive.

Keywords

Resilient Architecture, Flash Flood, Low-cost, Sustainable materials, Pakistan, India

Introduction

Long-term development of nations like Pakistan and India requires research on natural hazards, as these countries are prone to terrible natural catastrophes on a regular basis (Bobrowsky, 2013). Due to embankment openings, spillovers, and intense rainfall, floods can take hours or can come unexpectedly and without any prior notice. Pakistan and India are mostly affected by flash floods, which occur six hours after the start of heavy rainfall and are often accompanied by cloudbursts, storms, and cyclones (Ali, 2013). Flash floods commonly cause loss of lives, property, and infrastructure, such as dwellings, bridges, and highways. The ground has become infertile owing to erosion of the upper layers of the earth, resulting in a lack of food and animal fodder, and the entire living system has been damaged within hours (Bird, 2022).

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The challenges faced by affected communities are likely to be exacerbated by the impacts of climate change. Extreme weather events will impact low-income communities more severely, as many of these built environments lack resilience strategies to cope with them. Water is the basic imperative for enabling life during natural disasters. By bolstering this critical aspect, low-income communities can better endure the challenges posed by natural disasters and improve their prospects for recovery and rebuilding (Thomas, 2017; Watson & Adams, 2012).

Resilience has emerged as a pivotal subject of academic discourse and a global concern for numerous decades, aligned with the escalating realization and acknowledgment that the world, along with its inhabitants, remains susceptible to shifts in climate and demographics (Dupre & Bischeri, 2020). The essence of resilience is often defined as “the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, and identity” (Walker et al., 2004).

Climate change is not a primary threat to natural resources and livelihoods; changes in resource flows caused by climate change have an impact on the viability of livelihoods unless effective measures are taken to protect and diversify them via adaptability and sustainability methods (Boulter et al., 2013). Although the majority parts of Pakistan and India are living below the poverty line, rebuilding shelters in disaster zones can only be done when the nation has the resources to address the dire situation (Khayyam & Noureen, 2020).

The government and non-government organizations (NGOs) have played a proactive role in delivering help to the affected, but it arrived considerably later than expected.

Prevention should be considered before consequences and resilient structures that are affordable to the locals (Shah et al., 2018). This paper explores the sustainable architecture of Flash Flood-prone areas in Pakistan and India as a response to rebuilding low-cost, resilient shelters. In addition, the research identifies the properties of sustainable materials that enable structures to be efficient, durable, and resilient to Flash Floods.

Local construction materials, such as bamboo, mud, and lime, have a huge influence on people’s lives. Due to their special characteristics, these materials are strong, long-lasting, environmentally friendly, and resilient to Flash floods. In Pakistan and India’s situation, the widespread use of environmentally friendly building materials enables residents to build their own homes using a self-help approach, fostering a sense of pride and ownership. Moreover, through an in-depth literature review and the analysis of two case studies from Pakistan and India in their relevant context, the study identifies key performance parameters such as form, material, raised platforms, services, and structure. The findings highlight commonalities and differences in performance parameters between the two cases. Both cases excel in achieving resilient architecture, incorporating traditional approaches, post-disaster reconstruction, community participation, women's economic empowerment, raised platforms, and enhanced cross-bracing techniques. The following objectives are considered in proposing this research paper.

- To study traditional techniques and practices that can be employed in the construction of low-cost and resilient shelters in flash flood-prone areas of Pakistan and India.
- To analyze two case studies from Pakistan and India for the assessment of identifying key performance parameters for attaining low-cost community shelters in flash flood-prone areas.
- The research aims to contribute valuable insights and practical recommendations for sustainable and cost-effective solutions, aiding in the reconstruction of communities affected by flash floods in Pakistan and India.

Materials and Methods

The research employs a comprehensive methodology to investigate sustainable architecture for rebuilding communities impacted by natural disasters, particularly focusing on flash floods. A literature review is conducted, drawing insights from various sources like books, conference papers, peer-reviewed journals, and articles to examine traditional techniques for constructing low-cost, resilient shelters. The study also includes the analysis of two case studies from Pakistan and India within a relevant context, exploring key performance parameters related to form, material, raised platform, services, and structure. The findings demonstrate that all two cases have excelled in attaining resilient architecture, considering traditional approaches, post-disaster reconstruction, community participation, women’s economic empowerment, raised platforms, and enhanced cross-bracing techniques. The study aims to contribute valuable insights into the development of sustainable and cost-effective

solutions for rebuilding communities affected by flash floods, offering practical recommendations for resilient architecture initiatives.

Literature Review

Pakistan and India, as South Asian nations, possess diverse natural and built environments, and a significant number of individuals are directly impacted by flash floods every year (NRSC, 2020). This diversity makes these countries the guardians of their natural resources, but it also presents a challenge and concern as it can lead to various natural disasters, such as flash floods and earthquakes (Hyndman & Hyndman, 2017). Pakistan and India, situated in South Asia, are neighboring countries with shared borders. Positioned to the west of India, Pakistan boasts diverse geography, including mountains and a coastline along the Arabian Sea. Meanwhile, India, located to the east of Pakistan, shares borders with multiple countries and exhibits diverse geography, including the Himalayas, plains, and an extensive coastline along the Indian Ocean (*South Asia Political Map*, 2018).

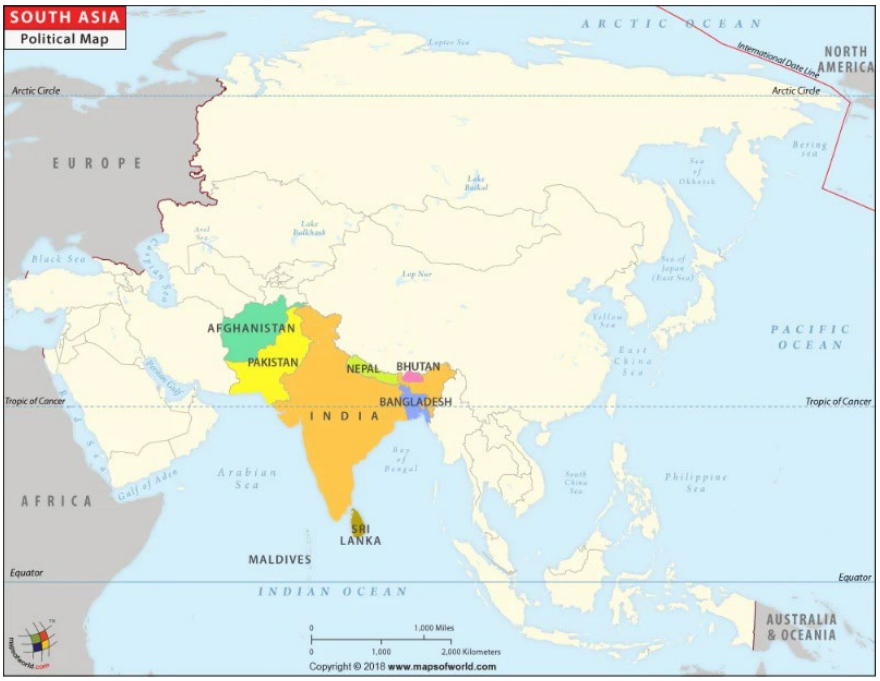

Figure 1. Geographical location of South Asian countries (MAPS OF WORLD)

Most of the parts are rural agricultural areas where farmers grow crops, including cotton, wheat, sugarcane, and fruit crops. These flood zones are the most impoverished in the country due to restricted access to essential facilities such as markets, healthcare, and education. From 2010 to 2012, monsoon flooding in Pakistan caused significant losses (Tariq & van de Giesen, 2012). It was reported that over 20 million people were impacted by the flash flood in Pakistan's southern provinces of Sindh, Baluchistan, and Punjab (Yule & Ng-Tatam, 2011).

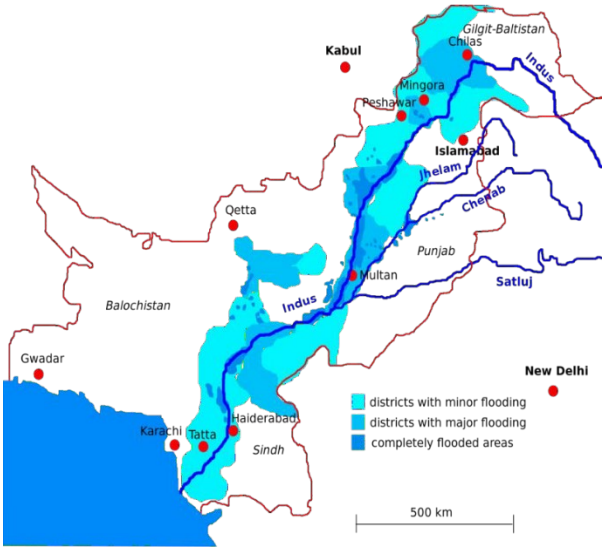

Figure 2. Flash Flood in Pakistan (Pakistan Meteorological Department)

Recent flooding events in Pakistan and India (Rannard, 2022) have vividly demonstrated the growing impacts of climate change and the lack of resilience in built environments around the globe. Notably, the recent flooding in Pakistan severely affected over 33 million individuals across the provinces of Sindh, Balochistan, Khyber Pakhtunkhwa, Gilgit Baltistan, and Punjab. The cumulative toll of these floods has resulted in a staggering count of 1,343 reported fatalities and 12,720 injuries. The destruction caused is extensive, encompassing approximately 6,579 kilometers of roads, 246 bridges, and nearly 1.7 million houses (DTM Pakistan, 2022).

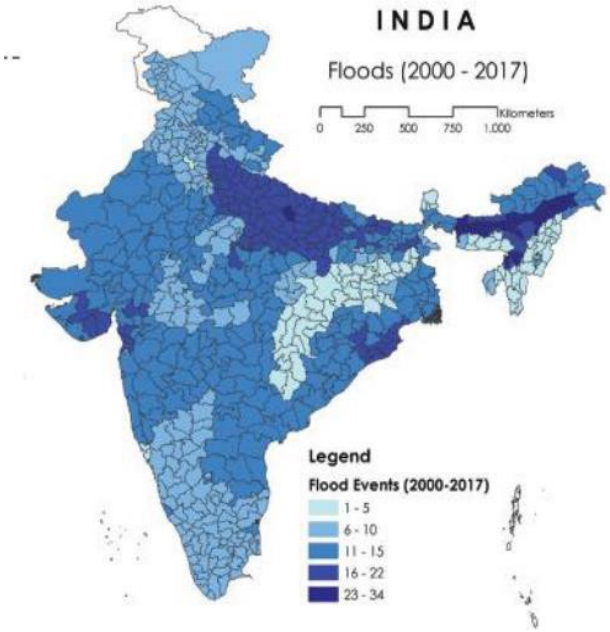

Figure 3. Flash Flood in India (SEEDs India)

From 2000 to 2017, India's Northeast and the Himalayan areas (Assam, Bihar, Gujarat, and West Bengal) were devastated by the monsoon season, and more than 15 million were reported to have been impacted by the Flash Flood (Nkala et al., 2017; SEEDS et al., 2020). Flash flooding may have a broad range of varying impacts on populations. This impact includes the destruction of property, disruption of the economy, and effects on human health, including the possibility of fatalities, serious injuries, and disease epidemics (Minucci et al., 2016). Infrastructure that had been poorly constructed was destroyed, such as dams, retaining walls, waterways, and irrigation routes. The loss of animals and crops was another impact of Flash flooding (*see* Figure 4). Homes were devastated, and the foundations failed to sustain the building as the roof collapsed. As a result of insufficient resources, the majority of the families without hope were left regardless of getting aid. During the flooding, the families fled, but they later returned and rebuilt their homes despite losing everything (Nakanishi, 2023).

Figure 4. Displacement During Flash Flood (World ASIA, GULF NEWS)

Bamboo, mud, soil, and lime are examples of sustainable materials that nature has gifted across the world to develop low-cost architecture. There is relatively less processing time required because these materials have been utilized for several years in Pakistan and India. Utilizing these materials has minimal environmental impacts and benefits such as economic effectiveness, thermal heat control, sound absorption, and ease of manufacturing. About 30% of the world's population still resides in mud brick and bamboo construction, which have been used to build low-cost shelters for thousands of years (Li et al., 2020). The bamboo and mud building has the following properties:

Table 1. Flash Flood Materials Properties

Stability	The use of bamboo is helpful for retaining stability and flexibility in flash floods (Chen et al., 2020).
Insects' resistance	Because mud and bamboo are homes for little insects, the resistance against insects is low. This could be a weakness, but many solutions, including medications and sprays, have been supported to address this issue.
Economic factors	Building homes using mud and bamboo is affordable, which is good for the populace.
Flash Flood resistance	Mud and bamboo have been used to defend against flash flood resistance. The term "resistance" refers to the ability of individuals to reconstruct their homes at a reasonable cost after suffering damage from various natural catastrophes (Chowdhooree & Das, 2022).
Special characteristic	People can build their own homes as a means of personal growth. Mud and bamboo are readily available and inexpensive, making it easier for victims and those in need to construct them.
Experience required	To build these dwellings, no expert labor is required. For example, a man who understands the many varieties of bamboo and mud may build a house with his own hands. Consequently, a person should possess fundamental abilities.
Rain resistance	Rain resistance ranges from low to medium. Rainwater penetrates the home and wets the mud and bamboo. In dwellings, there is no suitable roofing. However, because of alternate floors, individuals may live in the rain for a long.

Hydraulic lime has maintained stable under water for several months in flood-prone regions of Pakistan (*see* Figure 8). When there is flooding, lime often takes on various shapes, preventing the flood from spreading. Lime has become widely recognized as a conservative substance not just in South Asia but also around the world (Ventolà et al., 2013). Due to its ability to absorb carbon dioxide, one of its most significant benefits is its improvement of health and hygiene (Holmes & Rowan, 2015). In comparison to solid materials (hard cement and masonry, this creates a more pleasant atmosphere by reducing

surface condensation and molding development. There are the following Lime characteristics against solid materials.

Table 2. Lime Qualities with Hard Cement and Masonry

LIME	HARD CEMENT AND MASONRY
• **Do not allow dampness.** They allow buildings to breathe by allowing vapor to pass through. This reduces the chance of absorbing moisture and protects the building fabric from harm.	• **Allow dampness.** Hard cement and masonry surfaces make it challenging for moisture that is constantly absorbed into the structure to evaporate. This can cause moisture, condensation, peeling paint, higher heating expenses, and wetness on both internal and external walls.
 **Figure 5.** Do Not Allow Dampness.	 **Figure 6.** Damped Wall.
• **Gives a comfortable environment.** Permeable and open-textured materials absorb and release moisture to stabilize a building's internal humidity, reducing surface condensation and mold formation (Weissman & Bryce, 2015).	• **Less comfortable environment.** Traditional solid-wall construction is the most difficult and typically the least affordable building feature to insulate.
• **Benefits of ecology** Compared to cement, lime needs less energy. Lime absorbs carbon dioxide. It is possible to make lime on a small scale. Perfect binder. Clay soils may be stabilized with relatively little quicklime. The structure is protected by small amounts of lime.	• **Fewer benefits of ecology** The environmental impact of concrete, as well as its preparation and application, is complicated. The cement manufacturing sector is a large source of CO2, a major greenhouse emission. The concrete flow is employed to add to the levels of soil erosion, water pollution, and floods in order to build hard surfaces. Demolition and concrete dust can be important sources of harmful air pollution.
• Become a shield to materials around. • Functional. • Less healing time. • Easy to handle.	• Less shield to material around. • Deformation/ deterioration. • Long healing time. • Difficult to handle.

Flash Flood relief shelters have been developed with a focus on vernacular construction skills, resulting in building designs that have a lower carbon footprint and can be easily constructed by those in need.

Examples in Pakistan

The Home: Straw Bale Houses, Pakistan

Pakistan Straw Bale and Appropriate Building (or PAKSBAB) employs indigenous and renewable materials to construct flood-resistant and energy-efficient dwellings. The properties are also cost-effective and load-bearing designs, with straw bale walls supporting the roof load and allowing the structure to withstand severe winds and flood pressure.

Figure 7. Image, Protection from Lime (Recovery and Resilience After Floods in Pakistan, 2011)

In order to increase the tensile strength of mud bricks, women have been practicing utilizing fibrous materials like straw to construct their dwellings. The use of mud bricks in buildings reflects both the formation of national cultural pride and the predominance of human values (*see* Figure 8).

Figure 8. Construction with Mud (Heritage Foundation of Pakistan)

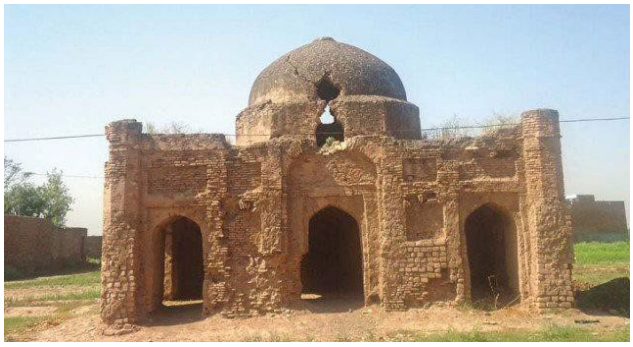

Figure 9. Construction with Mud and Lime (Mughal Heritage 17th Century, 2015

The building was made of lime mud brick. The structure is coated with lime and mud to preserve the building. Despite several Flash Floods, this structure has remained preserved (*see* Figure 9).

Case Studies

The two resilient shelters of different countries, such as Pakistan and India, have been selected to analyze as case studies for the assessment of attaining sustainable, low-cost structures. These projects have contributed to the resilience of communities facing such disasters and have effectively integrated objectives such as economic growth, community development, and relationship building in a creative and contextually appropriate manner (Pelling, 2003).

Women's Centre, Pakistan

Architect Yasmeen Lari designed the Women's Centre in Darya Khan Shaikh, Sindh, in 2010. This initiative was designed with the intention of empowering women, creating a role model environment where they may support their families during hard times, and potentially enhancing their financial situations.

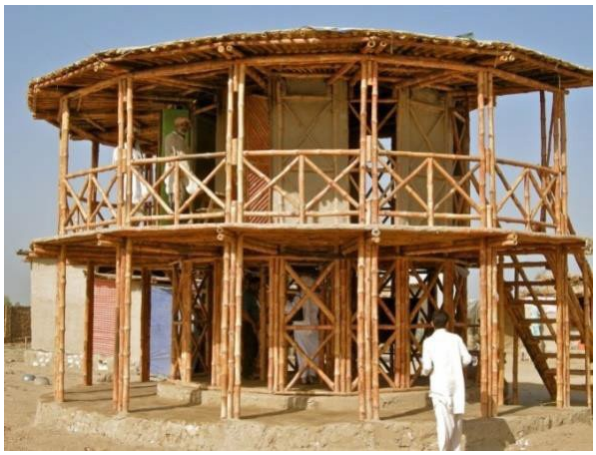

Figure 10. Image, Women Centre (TMA Darya Khan | PAKWORKERS)

The two-story floating bamboo structure has been designed to protect them from flooding, where women could utilize their abilities to grow vegetables and watch youngsters playing outside. This initiative has been guided toward activities that would generate income. This raised building form has been a source of pride throughout the Flash Floods.

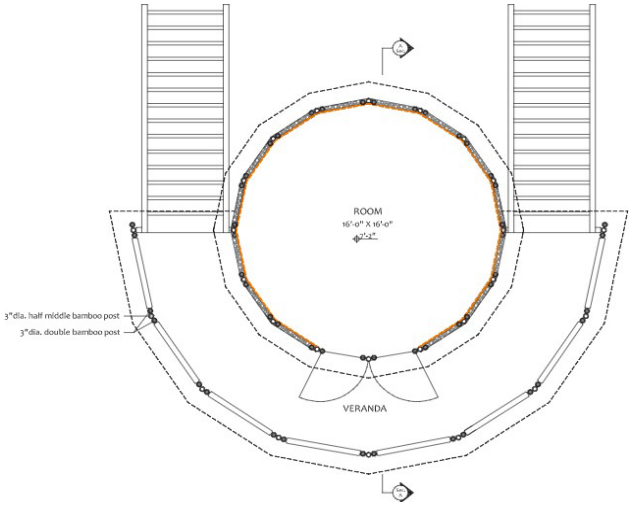

Figure 11. Architectural Plan (Arch Daily Vernacular Architecture)

Form

Women's Centre is circular in form, allowing for good air dispersion and enough closet space. This circular design uses less material to construct than a rectangular design. It is structurally stronger than a rectangular enclosure and has low wind resistance. The veranda has served as a porch or gallery, allowing a person to sit comfortably (*see* Figure 12).

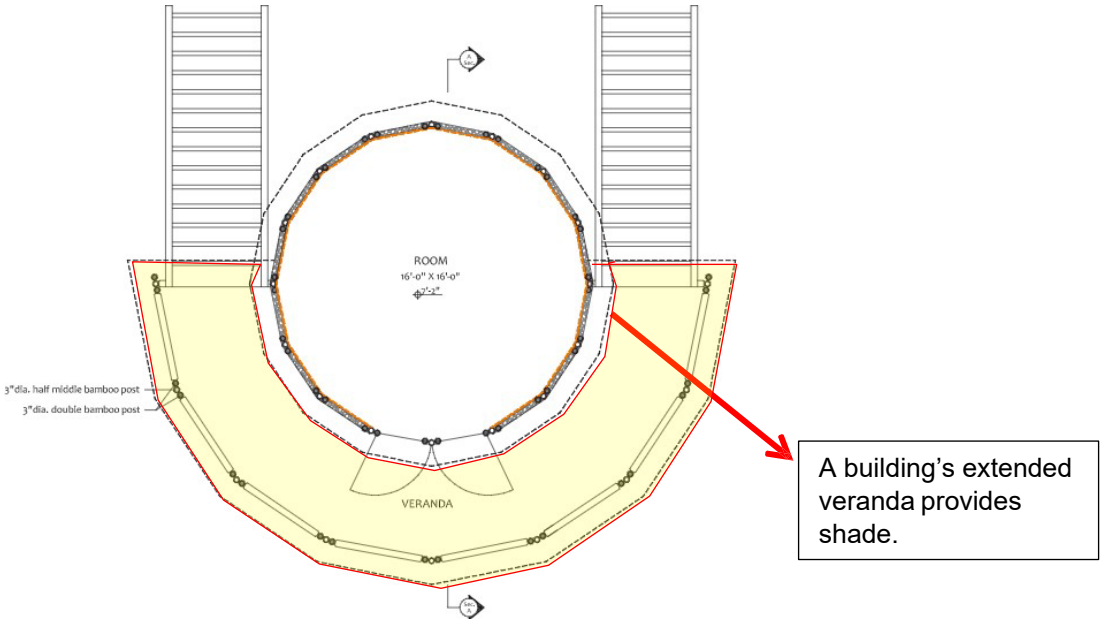

Figure 12. Veranda Feature

Material

This construction approach has employed low-carbon emitting materials such as bamboo, lime, and mud. The use of bamboo as a building material has been prevalent for a long time, and it has the potential to be environmentally sustainable.

Raised Platform

A raised platform has been designed to protect the building from flooding. The elevated floors have helped to keep individuals out of dangerous situations.

Figure 13. Raised Floor*Services*

The building's construction materials have a significant impact on the building's long-term energy expenses. Women's Centre uses energy-saving materials to minimize the quantity of energy generated. The raised structure has enough proper cross ventilation (*see* Figure 14).

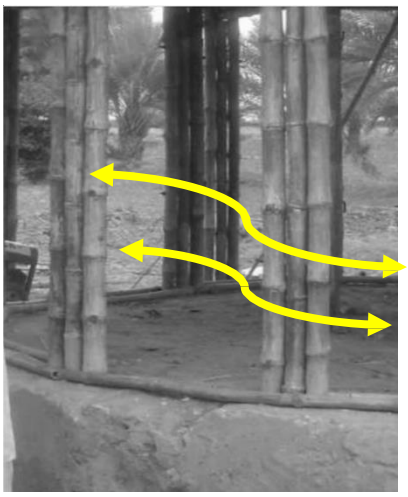

Figure 14. Cross Ventilation

Structure

A braced system has been promoted in this project and has the ability to support the weight of the roof (*see* Figure 15).

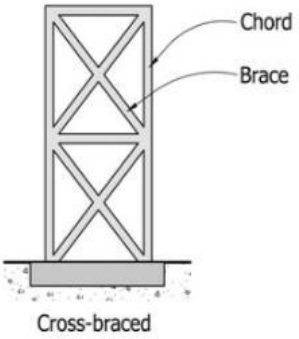

Figure 15. Cross Bracing

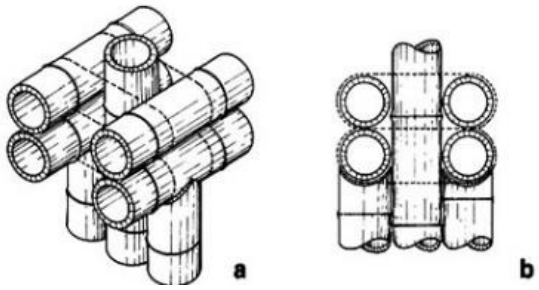

Figure 16. Bamboo Double Post

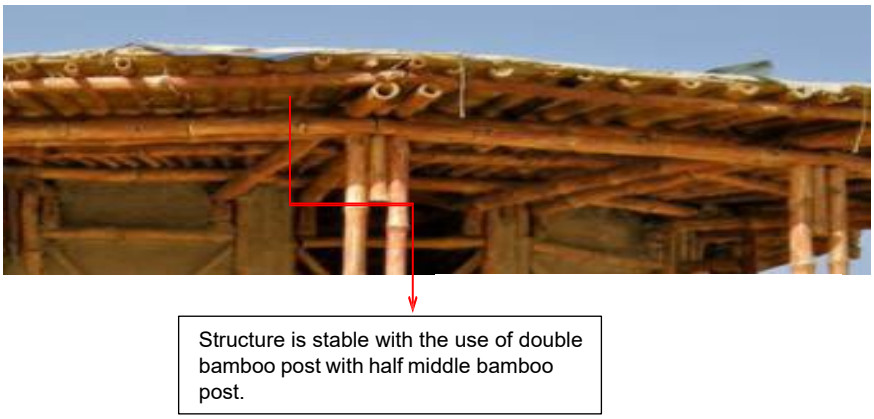

Figure 17. Roof

Cross bracing, which has integrated two diagonal pieces in an X form to construct wall trusses, can be used in any framework (*see* Figure 17). Bamboo or wood slats are used to divide the top row from the bottom row so that the upper bamboos do not slip over the lower. The methods have been employed in this project to increase a building's capacity to withstand flooding. Poor drainage can lead to structural problems, so a sloping roof was chosen for this project (*see* Figure 18).

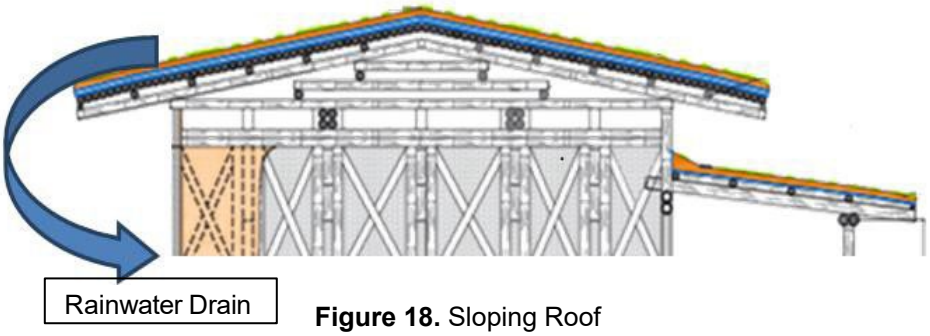

Figure 18. Sloping Roof

Bamboo House in India

Architect Kamal Chawaa, with the collaboration of SEEDs (Firm), constructed 80 bamboo dwellings in Assam, India, as a response to flash floods in 2018. The project was designed as an example of modern vernacular architecture with the goal of fostering resilient communities via participatory design.

Figure 19. Bamboo House (SEEDs)

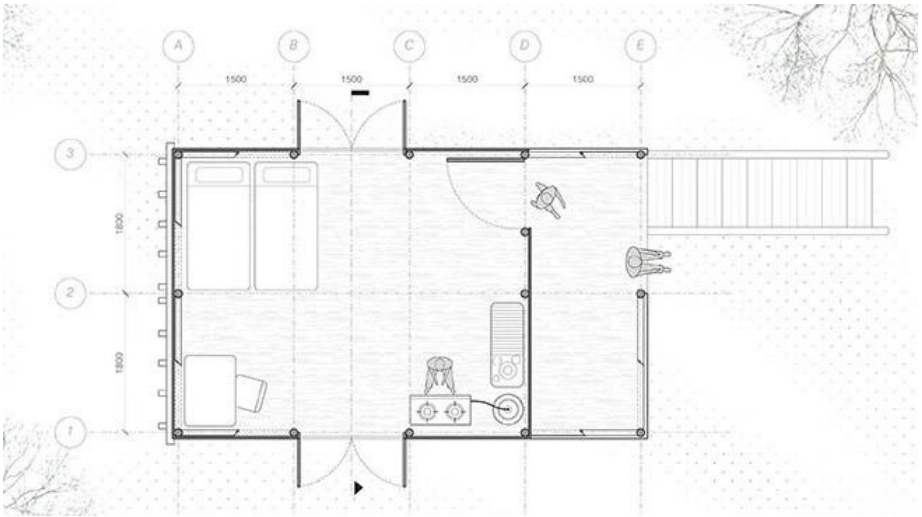

Figure 20. Architectural Plan (SEEDs)

Form

The bamboo house is rectangular in shape, and its layout is multifunctional, complementing the local community's way of life. A team of architects has collaborated with local people to create a hybrid dwelling design that combines contemporary technologies with local traditional architecture.

Material

Bamboo, lime, and mud have been used in this project to address the concerns of climate change and carbon footprint. Modifications have been made to improve the traditional building elements, such as deeper bamboo foundations covered with a lime mixture for the purpose of withstanding floods.

Raised Platform

The platforms have been highly raised to allow for daily activities like weaving, livestock raising, boat storage, and play areas for kids.

Figure 21. Playing Area for Kids (Designboom)

Services

The semi-open veranda space has offered for social interaction and food preparation. Compared to standard designs, this project's construction costs were up to 10 to 15% lower, making it economically feasible.

Figure 22. Semi-open Space (Designboom)

Structure

Bamboo crossing bracing has been promoted in this project. Indigenous binding methods using rattan and bamboo dowels have been used to make the building resilient to lateral forces during floods.

Figure 23. Assembling Cross Bracing (SEEDs)

The following Table 3 shows the common and different features of two selected projects in the context of the resilient architecture of Flash Flood-prone areas of Pakistan and India.

Table 3. Common and Different Features of Two Case Studies

Elements	Women Centre, Pakistan	Bamboo House, India
Platform	Raised platform with earth blocks, mud, lime and bamboo	Raised platform with mud, bamboo, and concrete
Materials	Use stone, bamboo, mud, lime	Use mud, stone, and bamboo
Services	Offers energy-efficient services	Offers energy-efficient services
Technology	Employs local technology	Employs local and latest technology
Structure	Use cross bracing	Use cross bracing
Access	Offers access from stairs	Offers access from stairs
Form	Circular	Rectangular

Results and Discussions

Traditional Approach

The results of the study indicate that sustainable, low-cost solutions for Flash flood-affected areas have been achieved through the architecture of the two case studies in Pakistan and India, utilizing traditional materials such as bamboo, lime, earth, and mud. These environmentally friendly materials have a minimal carbon footprint and are found in Pakistan and India. Using them as construction material is a sustainable approach and ecologically beneficial. Two cases are traditional and cost-effective, and they promote basic building techniques that can be used to build high-quality, resilient structures, which can save expenses and enhance security.

Post-disaster Reconstruction

The results of the study show that two case studies have successfully withstood two flooding seasons post-construction, highlighting the effectiveness of combining indigenous knowledge with modern building methods, especially in disaster-resilient community design. The integration of traditional techniques with post-disaster rehabilitation has resulted in a resilient built environment. The use of locally produced materials has also boosted the economy by creating employment opportunities and meeting essential needs. Architects, urban planners, and engineers must invest significant effort in post-disaster reconstruction efforts. They should focus on utilizing the best natural resources available to them to respond to flood-prone areas.

Community Participation

Results show that the locals in both case studies have been trained by architects and engineers to rebuild their homes with minimal resources and take safety measures in the face of emergencies and disasters. Workshops were conducted not only to educate the participants but also to interact with the community to effect change in their living conditions. These workshops aimed to promote community participation in rebuilding efforts and raise awareness about sustainable and disaster-resilient construction practices. The success of these workshops is reflected in the fact that the communities were able to withstand subsequent flooding seasons after construction, demonstrating the effectiveness of combining local knowledge and modern building methods (Jamshed et al., 2018). Their involvement with rural youngsters has not only made an imprint on the young brains but has also sparked change in the community.

Figure 24. Participatory Approach, Pakistan (Heritage Foundation of Pakistan)

Figure 25. Participatory Approach, India (INHABITAT, India)

Women's Economic Empowerment

The results of the research indicate that women have been trained in various skills to improve their household income in the two case studies. Additionally, community centers such as women's centers, schools, and dispensaries have been designed to empower women and enhance their social, economic, and financial status through a sustainable approach. This demonstrates the importance of including women in the rebuilding process and creating spaces that prioritize their needs and well-being. Such initiatives not only contribute to community development but also promote gender equality and women's empowerment (*see* Figure 26).

Figure 26. School (Heritage Foundation of Pakistan)

Raised Platform

The two case studies have incorporated raised platforms as a solution to protect the structures from floods, reinforcing their foundation and structure. This approach is crucial in hazard-prone locations where the development of raised platforms is necessary to provide human protection, secure assets, and protect food, water sources, and livestock from flood damage (*see* Figure 27). During floods, extra food must be protected from being washed away or ruined, and grain must be kept safe from excess water by raising the basement above the ground level. (*see* Figure 26).

Figure 27. Raised Floor for Food (Heritage Foundation of Pakistan)

Figure 28. Raised Floor for Animals

Enhance Cross-Bracing Techniques

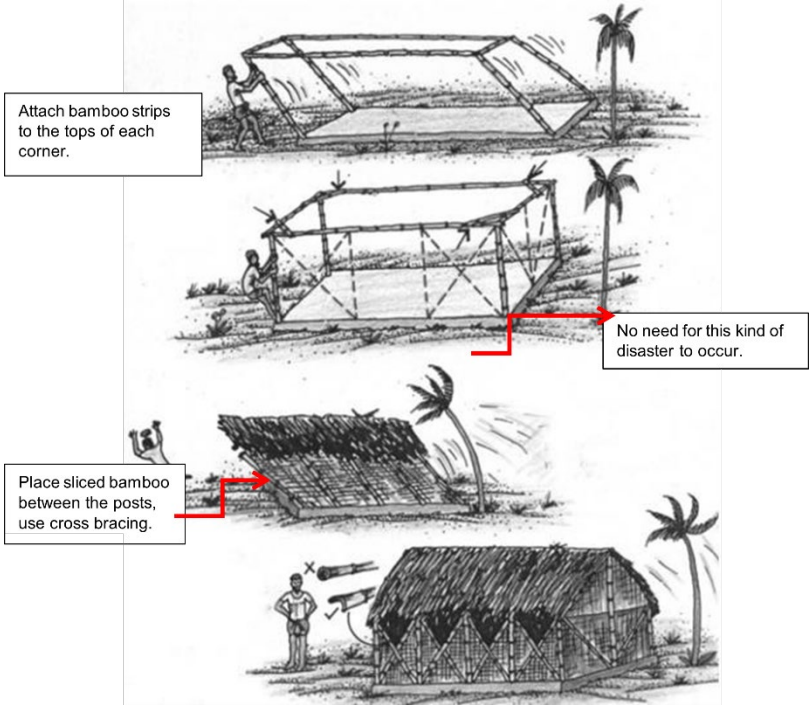

Figure 29. Enhance Cross Bracing Techniques

The results of this study show that cross-bracing techniques utilizing bamboo material have been employed in two case studies to minimize destruction. These techniques enhance the ability of a structure to withstand Flash Flood events. Overall, a cross-braced system can be an effective way to improve the structural integrity and stability of a building, especially in situations where heavy loads or external forces are a concern.

Table 4. Practical Recommendations

Recommendation	**Implementation Approach**
Community Engagement and Participation:	Encourage active involvement of the community in both the design and construction phases, ensuring incorporation of local insights and needs. Initiate community-led projects to foster a sense of ownership and pride in the reconstruction process.
Utilization of Sustainable Materials	Advocate for the widespread adoption of eco-friendly building materials such as bamboo, mud, lime, and earth. Conduct awareness campaigns to educate communities about the advantages of sustainable materials for constructing durable and resilient structures.
Traditional Techniques and Practices:	Integrate proven traditional construction techniques and practices that align with the local context. Organize workshops and training sessions to transfer traditional knowledge to local builders and communities.
Post-Disaster Reconstruction Planning:	Develop comprehensive plans for post-disaster reconstruction that incorporate principles of resilient architecture. Establish rapid-response teams and allocate resources for immediate initiation of reconstruction following a flash flood.
Women's Economic Empowerment:	Implement programs empowering women in construction and decision-making processes. Offer skill development opportunities for women in construction-related activities, contributing to their economic empowerment.

Table 4. Continue.

Educational Initiatives:	Launch educational initiatives on disaster preparedness and resilience at the community level. Integrate sustainable architecture concepts into school curricula to promote awareness from an early age.
Monitoring and Evaluation:	Establish a robust monitoring and evaluation system to assess the effectiveness of reconstruction projects. Regularly review and update reconstruction strategies based on lessons learned from previous initiatives.

By implementing these practical recommendations, sustainable and cost-effective solutions can be realized, contributing to the reconstruction and resilience of communities affected by flash floods in Pakistan and India.

Conclusion

This research underscores the imperative for resilient architecture in regions of Pakistan and India prone to flash floods, where natural disasters have inflicted severe damage on homes, infrastructure, and entire communities. The heightened vulnerabilities resulting from global warming, deforestation, limited government support, and inadequate infrastructure emphasize the necessity for a strategic rebuilding approach that addresses both immediate needs and long-term sustainability. The study's emphasis on low-cost shelter reconstruction, utilizing sustainable materials such as lime, mud, earth, and bamboo, highlights the potential for eco-friendly building practices. The examination of two case studies sheds light on critical performance parameters, illustrating that resilient architecture, incorporating traditional methods, post-disaster reconstruction, community engagement, women's economic empowerment, raised platforms, and enhanced cross-bracing techniques, is not only feasible but also successful. The proposed practical recommendations, anchored in community involvement, sustainable materials, traditional techniques, and educational initiatives, provide a practical guide for effective and economical solutions. By embracing these insights, policymakers, communities, and stakeholders can contribute to the reconstruction of areas affected by flash floods, fostering resilience and sustainable development in the wake of natural disasters. This research serves as a valuable tool for advancing practices that align with environmental harmony and empower communities to rebuild and flourish.

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Indoor air pollution affects the early COVID-19 fatality: A multiple linear regression analysis

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Abstract

In this study, early COVID-19 mortality and reproduction rates were settled as dependent variables and they were investigated to understand the most effective factors on these parameters. For this, various urban-related and host factor-related variables such as household type, GDP rates, etc., were collected for 56 countries from different sources, and stepwise multi-linear regression analyses were conducted to get regression equations to explain these dependent variables. Based on the results, indoor air pollution death rates were the most effective independent variable with the biggest partial contribution to the fatality of the COVID-19 regression equation. Moreover, due to the clusters of countries that show the highest and lowest indoor air pollution death rates, which may represent a global organization of the human population, it may be concluded that microbial circulations of the biologically evolving ecosystem also may be connected to the human factors, especially based on supply chains of these countries among agriculture, energy, and technology. The results suggest that the air quality within buildings, which are crucial elements of urban systems, could be the primary global factor influencing both the fatality and spread of COVID-19. This implies that both the building structures and the population compositions of cities may have a more significant impact on the trajectory of microbial diseases than previously acknowledged.

Keywords

COVID-19, Fatality, Indoor Air Pollution, Regression, Toxicity

Introduction

Toxic is a substance that is poisonous to other substances or organisms, and toxicity is the quality of being toxic(Mückter, 2003). Although the term toxic usually refers to a poison that affects a particular organism in a particular way, the term has changed over time. Modern toxicology - the science of toxics - does not treat toxics simply as a poison. The one-dimensional term toxic has evolved into a multidimensional perspective: toxics are not seen as a substance with only one effect; they act differently in several domains and can even be influenced by the actions of organisms(Krebs & McKeague, 2020; Libralato et al., 2010; Maeder et al., 2004; Mückter, 2003). So, toxicity therefore implies a broad relationship between the toxic substance and the organism. Ecotoxicology is the branch of toxicology that deals with the study of toxic effects caused by natural and synthetic pollutants on ecosystem components, animals (including humans), plants, and microbial in an integrated context (Anderson et al., 1994; Clements & Rohr, 2009). There are various classes of toxins known for different organisms, such as metalloids, pesticides, hydrocarbon compounds, etc. All of them have different effects on environmental elements, and they are also pollution-related (Gautam & Anbumani, 2020; Kishor et al., 2021; Menéndez-Pedriza & Jaumot, 2020; Palmer & Herat, 2021). Toxic substances can differ from each other based on molecular size, concentration, effects on different organisms, and so on. In terms of indoor air pollution, the networks of ecotoxicology become important since, with human factors and in human ecosystems, the toxic compounds are mainly created by both human population structure and human actions collectively (C. Lu et al., 2022; Rabha et al., 2018; Shi et al., 2022; Sriprapat et al., 2014).

Toxic substances are taken up by organisms through different mechanisms such as dermis, grids, pores, etc. The ingested substances accumulate in the cells of the organism (bioaccumulation: the net result of uptake, biotransformation, and elimination), and within the foot chain, toxic substances cumulatively accumulate in the bodies of different organisms (biomagnification) (Gobas et al., 2016; C.

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Lu et al., 2022; Sriprapat et al., 2014). Once in the organism's body, the toxic substance can be transformed into another form by different mechanisms (biotransformation) (Gray, 2002; Soffers et al., 2001). In addition, once in the body, the contaminant may disappear (elimination), such as through excretion or excretion (de Sousa et al., 2018). Moreover, a toxic substance can affect different organisms in different ways. Sometimes a substance may be toxic to some populations - groups of organisms of the same species - or sometimes it may be toxic only to some individuals in a population. Also, sometimes a substance can be toxic to a community - groups of different populations living in the same area - or only affect some populations in the same community(Cho et al., 2012; Mironenko et al., 2000a; Yang et al., 2014; Zhdanova et al., 2000). In addition, different organisms can react to the same toxic substance in different ways(Mironenko et al., 2000a). Through biotransformation, they can carry out elimination, detoxification, activation, redistribution, and sequestration processes for the toxic substance in the body. As a result of these processes, the effect of the toxic substance is changed by the organism and the environment due to the modifying process performed by the organism on the toxic substance(de Sousa et al., 2018; Messaoudi et al., 2019). Organisms can also react with the toxic substance genetically (Anderson et al., 1994). If somehow the toxic substance changes the genetic material in such a way that the organism can adapt the material so that it is no longer harmful to the organism, the material can no longer be considered toxic(Mironenko et al., 2000a; Yang et al., 2014).

The toxicity, pollution, and microbial evolution are interconnected and all these dimensions have impacts on the human population (Koechler et al., 2015a; Parsek et al., 1995; van der Meer, 2003). Evolution is mainly time-dependent because the evolution of a population requires the number of generations to come to an end (HO et al., 2011). So, depending on the size of the organisms - and of course depending on the size of the population, generation times, the size of the genomes, etc. - the generation time of populations, and also their response to environmental changes such as climate change, varies (Orive, 1993; Sheridan & Bickford, 2011). For instance, some bacterial populations can evolve from one species to another within days, but the transition from mammoths to the current elephants takes a much longer time, thousands of years (Krause et al., 2006; Ochman & Wilson, 1987; Ziebuhr et al., 1999). Moreover, in terms of microbial evolution and microbial circulations among organisms, feedback mechanisms become important to understand the relations between the organisms and their ecosystems (Biedermann & Rohlfs, 2017; Moreno-Fenoll et al., 2017). There are two types of feedback mechanisms (Baer & Blair, 2008; Crespi, 2004; Lashof et al., 1997). In a given homeostatic system, a negative feedback mechanism operates. A negative feedback system is a loop system that ensures that conditions are maintained within set limits. Within these limits, changes can be reversed. For instance, arterial blood pH is normally maintained at 7.40 within the range of 7.35 and 7.45. If there are some fluctuations within this range, the internal influence of external influences can be reversed back to the normal position(Breen, 2001). The process of reversal of normal conditions is called a negative feedback mechanism because the effects are controlled by the opposite reaction, which is the opposite of the effect. In the positive feedback mechanism, homeostatic protection is disrupted through new states, and a range of normal conditions are irreversible changes. The effect of positive feedback, despite negative feedback, cannot be reversed by another opposite reaction, rather the effect itself makes the change. The effect grows by feeding on itself until it reaches another homeostatic range of conditions. For instance, Atlantic cod stocks were severely overexploited in the 1970s and 1980s, leading to their sudden collapse in 1992 (Collie et al., 2013). Overexploitation is irreversible, and the effect of overexploitation - the extinction of fish - is self-perpetuating, with more extinctions occurring after a threshold level is crossed.

Although negative feedback works in a way that stabilizes traits rather than creating chaotic conditions on organisms -in the case of a positive feedback mechanism-, it can gradually change the threshold levels for migration and reproduction rates of organisms with negative feedback mechanisms (Procacci et al., 1975). For instance, two different genes for the same trait may have the same fitness values -this means that natural selection will not work on these different traits because of the same fitness, and character types can evolve in equally varying directions. Thus, with gradual change with negative feedback, it is conceivable that the population could evolve into another population with more stabilized genes(Zamorano et al., 2023). Moreover, the feedback interval may also change due to the separation of traits, as some members migrate or there are some barriers between individuals of the same population. This means that the separated individuals will evolve in different ways, resulting in different species (Bader et al., 2015). This kind of change can take decades or billions of years, depending on the size of the organisms and the speed of changing conditions. In general, small-sized organisms, such as bacteria or phytoplankton, evolve faster and further than large-sized organisms, such as humans or birds (Krause et al., 2006; Ochman & Wilson, 1987). This condition is also applicable to human ecosystems, in the case of COVID-19, the viral evolution is much stronger and has a higher rate compared to the host -the human- (Decaro & Lorusso, 2020) and the circulation of the virus in human

environments may represent both the human population structure and organization in terms of connecting the microbial environment with human ecosystems (Dowd et al., 2020; Madrazo Cabo et al., 2020).

If there are some major impacts, the positive feedback mechanism may work. This means that if the species survive during and after the positive feedback, the new homeostatic range, which is different from the initial conditions, will be established. For instance, a mutation in some individuals in a colony of bacteria exposed to UV radiation helps the bacteria to survive. In this case, the mutation will be maintained and this process will result in the creation of a new homeostatic plateau for the new colony (Alcantara-Diaz, 2004). This kind of change is difficult to see in a large-sized organism. Due to the complexity of large organisms, such as humans, an effect that causes a positive feedback mechanism will usually kill the organisms (Benton & Twitchett, 2003). But in small-sized organisms, especially single-celled organisms such as fungi or bacteria - and viruses such as SARS-CoV-2 - such changes have large effects, and survival and reproduction rates are higher than in large sizes (Alcantara-Diaz, 2004; Decaro & Lorusso, 2020; Lashof et al., 1997; Pereson et al., 2021; Petrosillo et al., 2020).

Response to toxic compounds varies among organisms in a population, and the human population structure that is based on their responses to various toxic compounds is also predictable by combining the data of various cell lines (Eduati et al., 2015; Möller et al., 2001). Since all living things are the result of evolution, these organisms have somehow acquired resistance to existing toxics in the past (Baquero et al., 2009; Koechler et al., 2015b) such as in Chernobyl, after the well-known nuclear power plant explosion, some fungi were able to use radioactive decay to survive (Mironenko et al., 2000b). The accumulation of antibiotics in nature due to human activities such as poultry or drug treatments causes microorganisms to become resistant to these substances (Baquero et al., 2009). In addition, due to the accumulation of plastics, there are plastic-eating bacteria that have evolved(Yang et al., 2014). Since organisms are part of the environment and affect the environment, interactions between toxins and organisms also affect the environment. For instance, after the evolution of photosynthetic plants, the earth's atmosphere changed irreversibly, contributing to higher oxygen levels (Scoffoni et al., 2016). Moreover, COVID-19 is related to human factors, pollution, microbial evolution, and toxicity(Bloem & Salemi, 2021; Madrazo Cabo et al., 2020; Petrosillo et al., 2020). Microbial evolution, fatality, and reproduction of SARS-CoV-2 are also related to several human population-related factors such as disease rates, household types, etc. which may represent human population organization with its connection to the environment(Connolly et al., 2020; Dowd et al., 2020; Lulbadda et al., 2021).

When the words come to the human population, the connection between humans and the environment includes various aspects such as trade relationships between humans, such as war conditions, educational or cultural organizations of humans, etc (Gilmour et al., 2007; Landrigan et al., 1999). Human actions are diverse and create lots of toxic compounds that affect environmental conditions and promote the evolution of biological organisms (Mironenko et al., 2000b; Yang et al., 2014; Zhdanova et al., 2000). Supply chains, such as agriculture, technology, and energy, are global networks that have huge impacts on the environment and also connect the human microenvironments by providing coordination of releases of materials and resources (de Kok & Fransoo, 2003; Todeva & Rakhmatullin, 2016). All these processes also have impacts on the environment, such as, the outputs of these processes may be toxic compounds, or the result in population structure based on these actions may create stratification among the human population and these may create outputs of human-environment relations (Wang et al., 2022). In this case, global supply chains are highly related via air pollution hotspots (Moran & Kanemoto, 2016; Song et al., 2020). To represent these complex interactions between the human population and the environment, there are need for indicators to simplify and model the relationships of complex interaction networks (Spangenberg, 2002). Indicators are data types that help to reduce a larger and more complex event or structure and evaluate it in terms of a single or a few parameters, and there are needs for indicators such as the sustainability of cities and ecological validity (Kogan et al., 1977; Munier, 2011). In this study, we argue that indoor air pollution mortality rates can be an indicator that is the representative parameter of the organizational and spatial structure of the human population, both because it is economically and collectively relevant to the global human population structure (Moran & Kanemoto, 2016)and because it is a variable that predicts COVID-19-related mortality according to literature (Azuma et al., 2020; Domínguez-Amarillo et al., 2020) and our results of this study. Since the data from COVID-19 is incredibly diverse (Chen et al., 2021; Hasell et al., 2020; Tsai et al., 2021; Zawbaa et al., 2022)-such as time of viral spread, variant data of each mutant, country and city-dependent factors of the disease, treatment responses, etc-, it may provide an insight of understanding microbial circulations among human population via considering human population structure that represent the host interactions of SARS-CoV-2(Kuchipudi et al., 2023). Determining the structure of human populations is particularly important in disciplines such as urban

ecology and human ecosystem studies, but it is also important for today's challenges and problems of climate change, microbial evolution, and urbanization. For this purpose, human population modeling requires the identification of parameters that can represent both the micro-world - such as microbial circulations among hosts (Kuchipudi et al., 2023). Therefore this study focuses on using results of data analysis in a theoretical framework to represent human population structure in theory with its connection to SARS-CoV-2 fatality and reproduction; and argues that indoor air pollution death rates as an indicator is suitable for both of these purposes, with a case study from COVID-19 and human population related data.

Method

Data for 44 host-dependent parameters were collected for 56 countries (Supplementary Material:DATA.docx). The countries were Aruba, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Chile, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Ghana, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kenya, Latvia, Lithuania, Luxembourg, Malawi, Mexico, Netherlands, New Zealand, Nigeria, North Macedonia, Norway, Poland, Portugal, Qatar, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Turkey, Uganda, Uk, USA, Zimbabwe. The parameters for all the countries were Gross Domestic Product (GDP), Gini index, Conflict rates, Tax rates, Household size, Body-mass index (BMI), Vegetable oil consumption, Animal fat consumption, Sugar consumption, Undernourishment levels, Antibiotic resistance levels, Cancer rates, Lung cancer rates, Asthma rates, Chronic obstructive pulmonary disease (COPD) rates, Pneumonia rates, Noncommunicable diseases (NDC) rates, Diabet rates, Diarrheal diseases rates, Colorectal cancer rates, Dyspepsia rates, Constipation rates, Irritable bowel syndrome (IBS) rates, Anemia rates, Vitamin A deficiency levels, Zinc deficiency levels, Vitamin D levels, Iodine uptake levels, Sunlight exposure levels, Temperature levels, Rainfall levels, Air toxicity levels, General toxicity levels, Forest area, Population size, Population growth type, Urbanization percent, COVID-19 mortality rates, Indoor air pollution death rates, Outdoor air pollution death rates, Carbon dioxide (CO_2) emission rates, Food insecurity rates, COVID-19 fatality rates and COVID-19 reproduction rates. COVID-19 fatality rates and COVID-19 reproduction rates were used as dependent variables and the others were used as independent variables (Supplementary Material: Variables.docx). For each dependent variable (COVID-19 fatality rates and COVID-19 reproduction rates) stepwise regression was performed via IBM SPSS Statistics version 26. For parameters with missing data, the missing value analysis was conducted. For those whose significant value in the missing value analysis was greater than 0.05, the mean of the series was used, and new parameter sets were subsequently created by transferring missing values. It was verified that the blank answers were distributed at random. The values with significance values of the EM mean values greater than 0.05 were thought to be randomly distributed based on the analysis findings, and the null values that resulted from this assumption were assigned using SPSS's replace missing value assignment feature using the series mean method. For the analyses, the values obtained served as SMEAN values. All variables were subsequently standardized. For this, new standardized variables (Zvariable) were created, and the Z-scores for these variables—which serve as a representation of deviations—were obtained by using the standardization method in SPSS's Descriptive option. Additional analyses used these standardized values. All independent parameters were included in the stepwise regression analysis to reach the most reasonable equation. The stepwise approach is one way to get the regression equation's maximum value. The regression equation is constructed using the largest partial correlation, not the largest correlation between the independent and dependent variables, and attempts to incrementally increase the regression result by adding each independent variable to the previous equation using a separate equation (Wilkinson, 1979). Therefore, it has been investigated which of these 42 independent parameters contributed more to the regression equation to explain the dependent variables. All the details about data and variable information can be found in Supplementary Materials. As the model equation, the classical multiple linear regression approach was used ($Y = a + b1X1 + b2X2...$).

Results

Multiple linear regression was calculated to predict COVID-19 fatality based on all parameters. A regression equation was found ($F(3,36)=26.556$, $p<.000$), with an adjusted R^2 of 0.663 (Table 1, Table 2). The predictor variables were Indoor air pollution death rates, Conflict rates, and Anemia rates of the countries (Table 1). There were three regression equations created to predict the outcome variable based on the stepwise method (Table 2). Indoor air pollution death rates had the highest partial contribution to the regression equations as ($F(1,38)=33.649$, $p<.000$) (Table 3), with an adjusted R^2 of 0.456 (Table 2). Conflict situations and Anemia rates have also emerged in the equation as one of the

determinants of fatality, albeit with more minor effects compared to indoor air pollution death rates (Table 1, Table 2).

Table 1. Entered Independent Variables to Multiple Linear Regression Equation to Predict COVID-19 Fatality*

Model	Variables Entered	Method
1	indoordeath	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	conflict	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	anemi	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

*Dependent Variable: Zscore(cov19fatality)

Table 2. Model Summary of Stepwise Regression Results For COVID-19 Fatality.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,685 (a)	,470	,456	,78236625
2	,779 (b)	,607	,586	,68267517
3	,830 (c)	,689	,663	,61575519

a. Predictors: (Constant), Zscore(indoordeath)
b. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(conflict)
c. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(conflict), Zscore(anemi)

Table 3. ANOVA (a) Results Table For COVID-19 Fatality

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20,597	1	20,597	33,649	,000(b)
	Residual	23,260	38	,612	-	-
	Total	43,856	39	-	-	-
2	Regression	26,613	2	13,306	28,552	,000(c)
	Residual	17,244	37	,466	-	-
	Total	43,856	39	-	-	-
3	Regression	30,207	3	10,069	26,556	,000 (d)
	Residual	13,650	36	,379	-	-
	Total	43,856	39	-	-	-

a. Dependent Variable: Zscore(cov19fatality)
b. Predictors: (Constant), Zscore(indoordeath)
c. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(conflict)
d. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(conflict), Zscore(anemi)

Another multiple linear regression was calculated to predict COVID-19 reproduction based on all parameters. The predictor variables were Indoor air pollution death rates, Air toxicity levels, and Vegetable oil consumption (Table 4). A regression equation was found ($F(3,36)=7.485$, $p<.001$), with an adjusted $R2$ of 0.333 (Table 5, Table 6). The predictor variables were Indoor air pollution death rates, Air toxicity levels, and Vegetable oil consumption rates of the countries. There were 3 regression equations created to predict the outcome variable based on the stepwise method. All three predictor variables nearly had equal contributions to the equation; there were no significant differences between the partial contributions of the entered variables for the creation of the multiple linear equations compared to the COVID-19 (as dependent variable) results.

Table 4. Entered Independent Variables to Multiple Linear Regression Equation to Predict COVID-19 Reproduction*

Model	Variables Entered	Method
1	indoordeath	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
2	airtoxicty	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).
3	vegetableoil	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

**Dependent Variable: Zscore(cov19reproduction)*

Table 5. Model Summary of Stepwise Regression Results For COVID-19 Fatality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,352 (a)	,124	,101	,87381789
2	,559 (b)	,312	,275	,78463951
3	,620 (c)	,384	,333	,75260701

a. Predictors: (Constant), Zscore(indoordeath)
b. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(airtox)
c. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(airtox), Zscore: SMEAN(vegoil)

Table 6. ANOVA (a) Results Table For COVID-19 Reproduction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,095	1	4,095	5,363	,026(b)
	Residual	29,015	38	,764	-	-
	Total	33,110	39	-	-	-
2	Regression	10,331	2	5,165	8,390	,001(c)
	Residual	22,779	37	,616	-	-
	Total	33,110	39	-	-	-
3	Regression	12,719	3	4,240	7,485	,001(d)
	Residual	20,391	36	,566	-	-
	Total	33,110	39	-	-	-

a. Dependent Variable: Zscore(cov19reprodcution)
b. Predictors: (Constant), Zscore(indoordeath)
c. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(airtox)
d. Predictors: (Constant), Zscore(indoordeath), Zscore: SMEAN(airtox), Zscore: SMEAN(vegoil)

Conclusion

This study aimed to identify the most influential factors in the early lethality and spread of COVID-19. For this purpose, data on the virulence and spread of COVID-19 were analyzed using multiple linear regression with various data collected from countries in different geographical regions of the world. Stepwise regression was used to understand which of the variables selected as independent variables would have a larger partial contribution in a significant regression equation and to eliminate insignificant independent variables. As a result, the indoor air pollution rates of the countries were found to be the most influential factor in COVID-19 mortality compared to other factors. Indoor air pollution rates were also found to be effective in the spread of COVID-19.

Discussion

Indoor air pollution is directly related to the use of coal in home heating systems, resulting in CO, sulfur oxides, nitrate oxides, aldehydes, and possible other chemicals that cause lung-related diseases as well as impaired immune response (Bruce et al., 2006) and the majority of human exposure to pollutants occurs indoors (Ferreira & Barros, 2022). People spend much more time indoors than in outdoor environments, nearly 80 percent of the individual's time is spent in indoor areas (Wadden & Scheff, 1983; Zhang et al., 1994). Moreover, for several toxic chemicals, compared to indoor exposures, the outdoor exposures were insignificant in terms of influencing the host. Although exposure to toxins indoors may in some cases depend on seasonal conditions, there are still differences between indoor and outdoor exposures (Kornartit et al., 2010). Indoor human activities such as cleaning also influence the toxic chemical composition of indoor environments (Q.-O. Lu et al., 2023). Essentially, an accurate risk assessment depends on the exposure pathways and bioaccessibility of the contaminants (He et al., 2016). Indoor air Technology is needed to eliminate indoor air pollution. Therefore, this is an item that perpetuates the supply chain loop between countries (Dionova et al., 2020; Yue et al., 2021).

It is an obvious fact that indoor air pollution is related to poverty (Bruce et al., 2006). Some of the countries with the highest levels of indoor air pollution deaths in the data set used in this study are Bangladesh, Zimbabwe, Malawi, India, Ghana, Kenya, Uganda, Indonesia, Nigeria, North Macedonia, Mexico, Bulgaria, and Hungary (Supplementary Data). A few key features of the clustering of these countries are more prominent in terms of urban structure and organization of human populations of these countries, including their wide range of political systems, rapid urbanization, the relatively high rate at which their natural environment is being destroyed due to urbanization, and the fact that agriculture is the major GDP provider in these countries (Abdullah et al., 2022; Arriola, 2009; David &

Ardiansyah, 2017; Diao et al., 2010; Dionova et al., 2020; Güneralp et al., 2017; Middlebrook, 1981; Mondal, 1970; Ochoa-Noriega et al., 2020; Rana, 2011; Rodriguez Lopez et al., 2017; Yue et al., 2021). Some of the countries with the lowest levels of indoor air pollution deaths in the data set used in this study are Israel, Finland, France, Luxembourg, New Zealand, Australia, Denmark, Netherlands, USA, Canada, Singapore, South Korea, Iceland and Russia. A few key features of commonalities of these countries are more prominent in terms of urban structure and organization of human populations of these countries, including their political stability, food safety, security qualifications, democratic governance, and the fact that their primary production is not agriculture, but that they sustain their economic existence with varying degrees of contribution from various sectors (Abu-Saad et al., 2000; Borch & Kjærnes, 2016; ERSSON & LANE, 1983; Haas, 2022; Ottelin et al., 2019; Rashid et al., 2017; White et al., 2017). While the countries that belong to the developing countries are working to increase their building stock to develop, they are also increasing their energy demand. However, since they do not have enough resources and their only markets are agriculture and raw materials, trade with other countries in other clusters creates a kind of loop (Kumar et al., 2016). Therefore, since the continuity of the global supply chain between countries depends on the technological and economic differences between these countries, by selecting a parameter such as indoor air pollution, a representation of the global organization of the human population can be obtained, in other words, indoor air pollution can be an indicator data for the human population structure. When this parameter is selected as an indicator, the basic human organization provider here may be concretized by looking at the network of organizations formed by microenvironments -which is the indoors that humans spend time-, rather than focusing on the global networks such as countries or cities. Since the human microenvironment is embodied by the creation of closed spaces, especially in urban ecosystems (Schweizer et al., 2007a), within these structures, basic human activities such as trade, nutrition, shelter, reproduction, population maintenance, and generation activities are carried out. The need for humans, who have similarities in social structure with other great apes in the hominid group, especially in terms of population continuity, to stabilize their position in contrast to their relative great apes, may also be seen as an evolutionary output to ensure the continuity of the human population (Mogielnicki & Pearl, 2020), hence the idea that the human microenvironment is also the basic cells that make up a global human population structure.

There are studies in the literature that close contact with the human microenvironment increases and influences the spread of the virus (Nielsen & Xu, 2022). Closer proximity in enclosed spaces, where the human microenvironment requires close contact with each other, increases the spread of viral variants. According to our study, from a global perspective, both external air pollution and internal pollution may be important determinants of spread. In addition, the fact that indoor air pollution deaths also explain COVID-19 deaths may give a clue that air pollution may be more important than other factors in both spread and deaths. The link between air pollution and the disease such as COVID-19, which spreads through air circulation, may be related both to the fact that there is more micro-material in the air for viral particles to attach to, and to the increased impact of SARS-CoV-2 due to the microbial damage caused by existing and continuous air pollution on the human body (Ott et al., 1992). Since human exposures are dependent on human activities, structures such as enclosures can be a representation of human actions (Figure 1). Therefore, incorporating human activities globally can also be done by focusing on human microenvironments. In contrast to differences between cities, more than 90% of the variation in indoor time-microenvironment-activity patterns originated within and between subjects (Schweizer et al., 2007b). Therefore, in future studies, human microenvironments may be used to address the global organization of human populations.

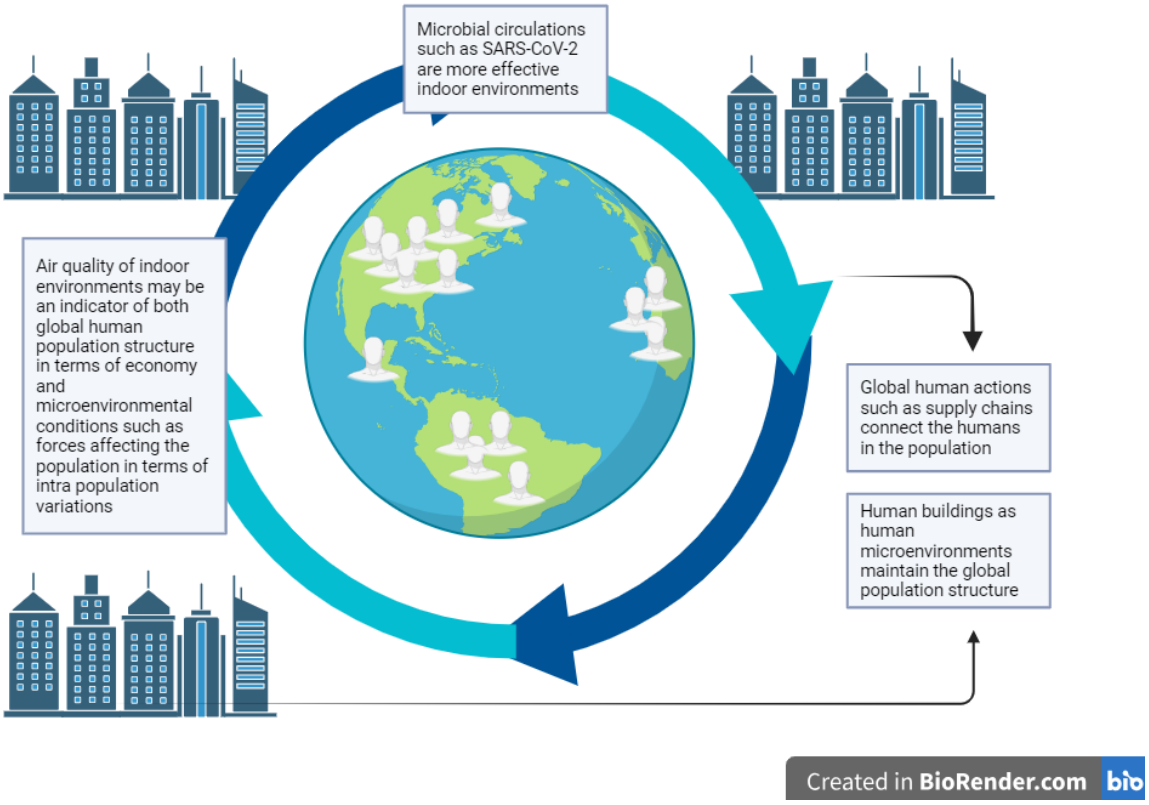

Figure 1. Indoor Air Toxicity May Be an Indicator of Human Population Structure, which is Composed of Activities and Relations of Humans.

The human population, looking closely at the hominid group, has fought against external factors by bonding together as a population (Mogielnicki & Pearl, 2020). For instance, the size gap between the male and female of the human population has been reduced relative to other great apes by the development of sexual selection in the human population on cultural and property-based grounds (Mogielnicki & Pearl, 2020). Examples of this include the clustering behavior around a leader, the establishment of patriarchy and the cooperation between men and women in the maintenance of property for the care of offspring, despite the fact that women's reproductive abilities do not coincide with the establishment of patriarchy(Fletcher et al., 2015; Mogielnicki & Pearl, 2020; Rantala, 2007; Stringer, 2016). From this point of view, the economic organization of the human population must also have a place in the structure of the population (STEUDELNUMBERS et al., 2007). The functions of protection and nutrition, which are the most basic components of population cooperation, not only have a sustaining effect on the care of offspring by human women and men, but also, as we suggest, ensure the continuity of a population structure through what we call the global supply chain (Mogielnicki & Pearl, 2020; STEUDELNUMBERS et al., 2007). Within this structure, small groups of people clustered in small microenvironments - in this case buildings - maintain the continuity of exchange between them, and in fact maintain the stratification of the population. Indoor air pollution rates can be an important parameter for this stratification to both represent global chains and to identify the impact of local and smaller microenvironments. Because this variable could be an indicator that relates both globally to the homo sapiens population and micro and locally to the microenvironment of homo sapiens groups.

In this study, Stepwise regression was used to analyse more than 40 variables that are related to urban systems and human population organisation to understand the fatality and spread of COVID-19 disease. Although many elements of the organisational structure of urban systems have already been used in the literature to describe the impacts of microbial diseases such as COVID-19, the possibility that a factor such as indoor air pollution could be the main element affecting both the spread and fatalities of COVID-19 has not yet been comprehensively addressed in this way (Table 1, Table 4). Indoor air pollution is a parameter that is representative of the smallest elements of urban systems: homes and the building structures in which all people live. Within cities, people spend their time, interact and communicate in builded structures. Therefore, the possibility that the pollution of the air inside the

buildings -which are one of the main elements of the architecture of the city- is one of the main elements that are effective in both the spread and the fatalities of a microbe such as COVID-19, which has affected the whole world, brings to the fore the importance of biological impacts of the environment, especially toxicity, in the design and architecture of city systems. Biological systems' movement, particularly microbiological circulations within buildings, constitutes one of the key aspects of urban life. It is influenced by the city's structure, as well as the shape and characteristics of buildings, thereby impacting the design and architecture aimed at human populations' resistance against toxic compounds and microbial diseases. The architecture of indoor spaces may therefore play a more important role in health than we realise.

The datasets used in this study were acquired to find a global pattern, but the results point to the importance of the human microenvironment, especially when considered in the context of COVID-19 mortality. The most important point here is that when considering global supply chains or other global parameters and relationships between countries, these grand relationships have a significant angle that determines - or at least influences - the human microenvironment. Given that this virus is spread by human contact and spreads through microenvironments, and considering that one of the main parameters on which these deaths depend may be indoor air pollution, it can be argued that the large intercontinental human population of people on the planet in total becomes a suppressive external factor - perhaps an evolutionary selection factor - that determines microbial relationships in smaller structures such as houses or buildings. Thus, global microbial cycles may be propagated within the population by selection factors that are the result of the materialization of an intrapopulation selection force. Of course, this proposition requires more data than the scope of this study, but more future work should be done in this direction. Since every living organism is intimately dependent on its environment to live, survive, and reproduce, changes in environments will have major impacts on living things in the future, as they have in the past. Increasing knowledge about environments and the relationships between human populations and environmental factors will provide important information for understanding and predicting the evolution of organisms.

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Kozmoloji ve siyasetin normatif düzen analojisi*

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Öz

Bu çalışmanın amacı; biyofiziksel bir mekân olarak doğa ile sosyal bir mekân olarak kolektivitenin ilişkisini kozmolojik ve siyasal düzenin normatif ve analojik niteliği bağlamında incelemektir. Nitel araştırma yönteminin kullanıldığı çalışmada bilim ve siyaset felsefesi başta olmak üzere felsefe ve kültürel antropoloji literatüründen faydalanılmıştır. Kozmolojinin konusu olan doğa, insanın varoluşunun maddi koşullarını ve imkanlarını belirleyen biyofiziksel bir habitattır. Siyasetin konusu olan kolektivite ise insanın düşünsel ve eylemsel koşullarını belirleyen sosyal bir habitattır. Bu açıdan kozmoloji, doğanın; siyaset de kolektivitenin kuramsal bilgisini sunmaktadır. Doğanın ve kolektivitenin kuramsal bilgileri, paradigmatik bir düşüncenin ürünü olarak birbirlerinden bağımsız değildir. Bu paradigmatik düşünce, insanın kendi varoluşuna dair bir düzen arayışının inşasıdır. Dolayısıyla kozmoloji ve siyaset, paradigmatik bir düzen kuramının farklı biçimleri olarak ortaya çıkmaktadır. Buna göre çalışmada doğa ile kolektivite arasında paradigmatik hakikatlere ve ilkelere dayanan normatif ve analojik bir düzen ilişkisi olduğu öne sürülmektedir. Bu ilişkinin diyalektik, tarihsel ve antropolojik boyutu tartışılmaktadır.

Anahtar Kelimeler

Kozmolojik Düzen, Siyasal Düzen, Doğa ve Kolektivite Diyalektiği, Doğa ve Kolektivite Analojisi

The normative order analogy of cosmology and politics

Abstract

This study aims to analyze the relationship between nature as a biophysical space and collectivity as a social space in the context of the normative and analogical of the cosmological and political order. In the study where the qualitative research method was used, philosophy and cultural anthropology literature, especially science and political philosophy, were used. Nature, the subject of cosmology, is a biophysical habitat that determines the material conditions and possibilities of human existence. Collectivity, which is the subject of politics, is a social habitat that determines humans' intellectual and action conditions. In this context, cosmology offers theoretical knowledge of nature; politics also offers theoretical knowledge of collectivity. Theoretical understanding of nature and collectivity are not independent of each other as the product of a paradigmatic thought. This paradigmatic thought is the construction of an individual's search for order in their own existence. Therefore, cosmology and politics emerge as different forms of a paradigmatic theory of order. Accordingly, there is a normative and analogical order relationship between nature and collectivity based on paradigmatic truths and principles. This relationship, which emerges as a dialectic, also has a historical and anthropological dimension. The dialectical, historical, and anthropological dimensions of this relationship are discussed.

Keywords

Cosmological Order, Political Order, Dialectics of Nature and Collectivity, Analogy of Nature and Collectivity

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Extended Summary

The purpose of this study is to question the ontological and epistemological relationship between nature and society by considering cosmology and politics with the notion of order. The paper focuses on the notion of order in cosmology and politics. It addresses the ontological and epistemological relationship between nature and collectivity in a philosophical, scientific, and anthropological context.

Cosmology refers to a fictional order of nature fed by different sources such as philosophy, theology, science, and mythology. A fictional order regarding nature is an order regarding human existence. The concept of politics, which has similar resources to cosmology, refers to a fictionalized order in society. An order constructed regarding society is also an order regarding the social existence of the individual. Therefore, the concept of order is common between cosmology and politics. Nevertheless, the relationship between cosmology and politics is not only about the concept of order. Every political theory is constructed based on a description of human nature. The description of human nature brings with it the necessity of first defining nature, the place of an individual in nature, and their relationship with nature. In this direction, the description of nature goes beyond its biological or physical meaning and acquires a social meaning. Thus, an indirect relationship emerges between what nature is and what society is. Within the framework of this relationship, nature acquires a political identity, and society acquires a natural identity. The basis of the connection between the cosmological order and the political order is based on the understanding of human nature. This situation stands out with its paradigmatic, anthropological, and evolutionary dialectical aspects.

First of all, historically, different constructions of nature, human nature, and society are the product of different paradigmatic understandings of cosmology and politics. For this reason, each different cosmological order design that emerges in the history of thought also reveals a different political order design. A paradigm, a holistic thinking system, is a determining thought pattern for constructing the cosmological and political order. Accordingly, cosmological order and political order emerge as different theoretical models of a common paradigm. As the paradigmatic knowledge of nature and society changes, so do cosmology and political theories. Cosmology and politics are the narratives of the establishment of order from chaos or the transition from uncertainty to a certain state. This narrative also includes the narrative of a development extending from what is to what should be. This development, which represents an evolutionary process, reveals a historical narrative that will legitimize the order. At this point, the history of nature comes to the fore for cosmology and the history of society for politics. These two histories unite in culture, a holistic adventure of the relationship between humans and nature. Thus, nature and society become two essential subjects of anthropology. Society is a social habitat different from nature, which humans create against and within nature to adapt to it. This social habitat has an institutional and functional quality through culture. Culture, which systematically creates thought, meaning, value, and action, has a paradigmatic character with this quality. The origins of culture, which determines the relationship between nature and humans, are based on humans' interpretation of nature. In other words, the culture that emerges from nature turns into an institutional structure with the creativity of the human mind, and this structure recreates nature with the meanings it creates. In this respect, the main function of culture is to give meaning to nature and society within the framework of an order and to ensure the continuity of the order. Thus, nature and society gain order by becoming a state of culture. The formation of culture is an evolutionary process. The process extending from hunting and gathering to post-industrial society points to the evolution of humans and the relationship between humans and nature. This evolution, built on the harmony and opposition of nature and humans, adds a dialectical character to the relationship between nature and humans. This evolutionary dialectic is an anthropological history that extends from an individual’s dependence on nature to his domination of nature. A similar history exists in society, extending from the clan to the state. In this respect, cosmological and political order emerge as two aspects of a common paradigm, culture and history.

The question of this study is whether the concepts of nature and collectivity are related to or different from each other in philosophical, scientific, and anthropological contexts. This question has been addressed from paradigmatic, cultural anthropological, and evolutionary dialectical aspects. In the analysis made in line with these three contexts, it was analyzed that there is an analogical relationship between nature and collectivity, as well as between cosmological order and political order. The analogy between cosmology and politics emerges in different forms, both historically and theoretically, because a design of order regarding nature and society forms the basis of an individual’s existential effort.

Giriş

Düşüncenin tarihi; özü itibariyle insanın sürekli artan bir münasebetle içerisinde bulunduğu doğayı ve kolektiviteyi; felsefe, teoloji ve bilim gibi farklı biçimlerde sürekli anlama, açıklama ve tanımlama çabasının bir birikimidir. Tarihsel koşullar içerisinde insanın ilksel halinden post endüstriyel haline değin süregelen bu çaba; bir canlı türü olarak insanın doğayla biyofiziksel münasebetinin kozmolojik, birey olarak kolektiviteyle sosyal münasebetinin siyasal tasavvurlarını beraberinde getirmektedir. Kozmoloji ve siyaset kuramları olarak ortaya çıkartan bu tasavvurların ortak gayesi; zaruri olarak insanın içerisinde bulunduğu biyofiziksel ve sosyal habitatın -doğanın ve kolektivitenin- yapısını, düzenini ve ilişkilerini anlamak, açıklamak, kurmak veya kurgulamaktır.

Bilimsel anlamda ampirik niteliğinin (Whitehead, 2017, s. 13) yanı sıra felsefi anlamda şeylerin özü, niteliğinin kaynağı, varoluşsal ilkesi (Arslan, 2012, ss. 13-14), kendiliği ve kendiliğindenliği (Collingwood, 1999, ss. 56, 58) olan doğa; olguların, olayların ve ilişkilerin kapsayıcı bir açıklamasıdır. Bununla birlikte doğa; yalnızca kendiliğinden -doğal- olanın değil, kendiliğinden olanın üretimi olan şeyleri de dolaylı belirleyen bir kavramdır. Bu bakımdan doğa; doğal olanın felsefi olarak zorunlu olduğu kavrayışının yanı sıra bu kavrayışın karşıtını da dolaylı olarak barındırmaktadır. Yani doğa; doğal ya da doğası gereği şeylerin bir açıklamasıyken aynı zamanda doğal olmayan veya doğası gereği olmayan şeylerin de bir kriteri olmaktadır. Buna göre doğa; bütün şeylerin, olguların, olayların, eylemlerin, süreçlerin ve biçimlerin açıklandığı, tanımlandığı ve kurgulandığı bir model haline gelmektedir. Bu model; doğal olan ve doğal olmayan bütün görüngülerin; olması gerektiği şeyi ifade ettiği gibi, olmaması gerektiği şeyi de ifade etmektedir.

Doğanın bu belirleyici misyonuyla kozmoloji; evrenin ne, neden ve nasıl olduğunu; mitolojik, felsefi, teolojik ve bilimsel düşünce biçimleriyle farklı açılardan ortaya koyan kuramsal ve kurumsal bir düşünce yapısı ve düşünme sistematiğidir. Bu sistematik içerisinde kozmos; düzenlenmiş olan veya bir düzen içerisinde var olan evren (Dürüşken, 2021, ss. 19-20) ya da doğadır. Bu bağlamda kozmoloji; düzenin ortaya çıkışı olan kozmogoniyle birlikte düzenin kaidelerini ve niteliğini açıklamaktadır (Shakian, 1997, s. 13). Şeylerin ne, nasıl ve neden olduğunu anlatan bir varlık ve bilgi kavrayışı olan kozmoloji; doğanın, var olan gerçekliğinin var edilen kozmolojik hakikate dönüştürüldüğü kuramsal bir inşadır. Ontolojik bir kuram olan doğa; şeylerin doğası ya da şeylerin doğası gereği aşkınlığıyla var olan her şeye nüfuz eden ontolojik bir tümel ve epistemolojik bir tikel olarak ortaya çıkmaktadır. Bu nedenle kozmoloji; mevcut her şeyin doğrudan ya da dolaylı olarak anlamlandırmasına ve tanımlanmasına kaynaklık eden bir düzen kurulumudur. Bu kurulum; kaostan düzenin ya da olmayandan olanın ortaya çıkışı itibariyle ilerlemeci bir tarih düşüncesini (Bıçak, 2017, s. 122) bünyesinde barındırmaktadır. Böylece doğa; kaosun düzene, belirsiz olanın belirlenime dönüştüğü ilerlemeci bir süreci ve bu dönüşümün neticesindeki mutlak düzenin normatif imgesi olmaktadır.

Kolektivitenin olgu, olay, yapı ve ilişkilerinin ne ve nasıl olduğuna dair kolektiviteye dair idealize edilen anlamlar (Arslan, 2017, s. 164) olan siyaset; kolektivitenin özsel bilgisiyle (Küçükalp, 2011, ss. 53-54) birlikte kolektivitenin değer, anlam ve ilişkilerinin ne olduğu ve ne olması gerektiğine dair normatif bir önerme niteliğine sahiptir (Cevizci, 2017, s. 260). Bu açıdan salt devlete ilişkin bir olgu olmaktan ziyade bireyler arasındaki karşılıklı etkileşim ve ilişkiler olan (Eriksen, 2009, s. 31) siyaset; kolektif yetkinliği, yapıyı ve düzeni ifade etmektedir (Ağaoğulları, 2009, ss. 12-16). Bu bağlamda siyasal olan kolektif, kolektif olan da siyasaldır. Zira siyaset; bütün anlamlarıyla birlikte kolektivitenin varoluşsal düzenine ilişkindir. Dolayısıyla siyaset kuramı; belirli yasalar ve kaideler temelinde düzenli olan, düzenli olması gereken ya da düzenlenmesi zaruri olarak kabul edilen kolektivitenin normatif bir açıklaması ve kolektif düzenin normatif bir inşasıdır. Siyaset kuramının normatif yönü; düzenin tümel anlam, değer ve ilkelerle meşrulaştırılmasını ortaya çıkartırken (Cevizci, 2017, ss. 260-261) bu meşrulaştırma da insanın ve kolektivitenin varoluşuna dair (Erdoğan, 2021, s. 8) anlam, değer ve ilkelerin ontolojik ve epistemolojik açıklamasını zorunlu hale getirmektedir.

Bu zorunluluk bağlamında siyaset; özü itibariyle insanın ve kolektivitenin ontolojik kuramıdır. Yani kuramsal doğrularla inşa edilen kolektivite düşüncesi, var olan gerçekliğin var edilen bir hakikate dönüşümüdür. Teoloji, felsefe ve bilim gibi farklı anlamsal ve kavramsal çerçeveler kullanan siyaset kuramı; şeylerin doğasının ya da doğası gereği olanın hakikatiyle kolektivitenin belirleyici ontolojik tümeli olmakla birlikte kolektif fenomen ve ilişkileri de şekillendiren epistemolojik bir tikel olarak ortaya çıkmaktadır. Bu açıdan siyaset kuramı; anlamlar, kavramlar, değerler ve ilişkiler olmak üzere insanın ve kolektivitenin tüm yönleriyle yaratıldığı bütüncül bir düzendir. Kolektivitenin varoluşu ve düzeni, tarihsiciliğe dayanan bir dizge barındırmaktadır. İnsanın toplumsallaşmasının anlatısı olan bu tarihsicilik; kolektivitenin düzen olarak, insanın da kolektif düzende birey olarak tamamlanışının ve kolektif nihayete ulaşmasının ilerlemeci sürecidir. Böylece kolektivite, siyasete -siyaset kuramına- ait mutlak hakikatin ve düzenin kimliğine bürünmektedir.

Düzenin ontolojisi ve epistemolojisi bağlamında kozmoloji ve siyaset, birbirine ilişik kuramlardır. Zira kuramsal bir düzen olan doğa ve kolektivite, sistematik bir düşüncenin farklı örüntülerdeki normatif ve analojik tasarımları olarak ortaya çıkmaktadır. Kozmoloji ve siyaset kuramının temelini oluşturan düzen kavramından yola çıkan bu çalışma; doğa ile kolektivite arasındaki ilişkiyi paradigmatik ve diyalektik eksende kültürel antropolojik analizle ele alarak kozmoloji ve siyasetin normatif düzen tasarımını ve ikisi arasındaki analojiyi ortaya koymayı amaçlamaktadır. Çalışmanın odaklandığı soru; doğa ve kolektivite kavrayışlarının felsefi, bilimsel ve antropolojik bağlamda birbirlerine ilişik ya da birbirlerinden müstakil olup olmadığıdır.

Doğa ve Kolektivitenin Düzen İlişkisi

Doğaya ilişkin kuram ve kavrayış, insan doğasına ilişkin; insan doğasına ilişkin kuram ve kavrayış, insanın varoluşuna ilişkin; insanın varoluşuna ilişkin kuram ve kavrayış ise siyasete -kolektiviteye- ilişkin kuram ve kavrayışı etkilemektedir (Küçükalp, 2011, s. 45). Doğadaki fenomenlerin varoluşu, aynı zamanda insanın varoluşunun da kaynağıdır. Bu nedenle insan doğasının bilgisi, öncelikle doğanın bilgisini zaruri kılmaktadır. Zira varlığı itibariyle doğaya içkin olan insan, kendisini aşkın bir doğayla tanımlamaktadır. Bu bağlamda doğaya dair kuram, esas itibariyle temelinde insanı barındıran (Günay, 2010, s. 1) insana dair bir kuramdır.

“Her siyaset kuramı, belli bir insan doğası anlayışına dayanır” (Arslan, 2017, s. 165). Kuramın kurgusunda, insanın etik doğasına ilişkin bir varsayım vardır. İnsanın düzenli ve ayırt edici davranışsal modelleri olan insan doğası (Heywood, 2016, ss. 20-21); insanın düşünsel ve eylemsel amaç, biçim ve nedenselliğini değişmeyen öz, ilke, değer ve niteliklerle açıklayan ve tanımlayan varoluşsal bir kavrayıştır. Bu kavrayışla evrendeki yeri, davranışları, eylemleri, düşünceleri, inançları, değerleri ve tarihi gibi bütün yönleriyle insan, bir kuram haline gelmektedir. Bu kuram doğrultusunda kolektivitenin biçimi ve siyasetin niteliği şekillenmektedir. Değişmeyen mutlak bir öze işaret eden insan doğası; kolektivitenin, bu öze göre inşa edilmesi gerekliliğini ortaya çıkarmakta ve kolektivite, hipotetik bir doğanın hipotetik bir düzeni olmaktadır. Bu bakımdan kolektivitenin düşünce, eylem ve ilişkilerini belirleyen varlık biçiminde somutlaşan insan doğası (Stevenson, 2005, s. 12); kolektivitenin doğasını yaratmakta ve kolektivite, insan doğasının bir yansıması olarak ortaya çıkmaktadır (Heywood, 2016, ss. 20, 22). Böylece insan doğası, siyaset kuramında niteleyici bir role bürünürken (Arnhart, 2011, s. 16); şeylerin özü ve olması gerektiği şey olan doğa, kolektivitede vücut bularak siyasal bir anlam, değer ve işlev kazanmaktadır (Heywood, 2016, s. 22).

Buna göre doğanın varlık ve bilgi kavrayışı insanı, insanın varlık ve bilgi kavrayışı da doğayı içermekte; doğa ve insan ortak bir varoluşsal bilgiyle anlam kazanmaktadır. İnsanın dışsal bir gerçekliği olan doğa, bunun ötesine geçerek içsel bir hakikate dönüşmektedir. İnsanın hem parçası olduğu doğa ve hem de bireyi olduğu kolektivite olan bu hakikat (Demiralp, 2015, s. 13), insanın davranış ve eylemlerini anlamlandırarak doğallaştırmaktadır. Böylece insan ile doğa arasındaki ilişki, biyofiziksel olmanın yanı sıra anlamsal bir boyut kazanmaktadır. Bu bağlamda doğal ve kendiliğinden bir düzen olan kozmoloji; şeylerin doğası ya da şeylerin doğası gereği doğrultusunda kolektivitenin ve düzeninin inşasında olumlu ya da olumsuz bir örneklem ve model olarak ortaya çıkmakta, siyaset kuramına doğal ve meşru bir zemin sağlamaktadır. Kozmoloji ve kozmolojik düzen vasıtasıyla kendini meşrulaştıran siyaset kuramı; kozmolojik feyz ile kolektiviteyi bir düzen olarak tasavvur etmekte, tesis ettiği kolektif anlam, değer, yapı ve ilişkilerle bu düzene süreklilik sağlamaktadır (Bıçak, 2017, ss. 14-32). Zira insanın varlığının ve varlık biçiminin temel kaynağı olan doğa, insanın kendisini tanımladığı, açıkladığı ve gerçekleştirdiği biricik düzendir.

Türk Dil Kurumu çevrimiçi sözlüğüne göre belirli bir yöntemle kurulmuş olan bir sistem, belirli bir amaç doğrultusunda olguların sıralanması ve nitelenmesi, bir yapıda yer alan unsurların yapıyla ve birbirleriyle olan ilişkileri gibi anlamlara sahip olan düzen kavramı (erişim tarihi: 08.02.2022); kendisini kural, ilke ve yasalarla tesis etmekte ve bu kural, ilke ve yasalar düzenin ne ve nasıl olduğunu belirlemektedir. Dolayısıyla düzeni inşa etmek veya keşfederek çözümleyebilmek için öncelikle düzeni tesis eden kural, ilke ve yasaların icat edilmesi veya keşfedilmesi gerekmektedir. Bir bütünü niteleyen düzen; bütünün parçalarını ve bu parçaların işleyiş ve ilişkilerini de niteleyerek aynı kural, ilke ve yasaların işlevselliğiyle bütünün her alanında mutlaklaşmaktadır. Böylece bütünün tamamında idealize edilerek amaçsallaşan mutlak düzen, kendi nesnesini yaratan bir arzu öznesi olmaktadır.

Kozmoloji için doğa, verili veya var olanı temsil ederken; siyaset için kolektivite, kurulması veya var edilmesi gereken düzeni temsil etmektedir. Düzen ve birlik olan doğanın mutlak hakikatinin kavranması (Ruby, 2012, ss. 17-18), düzen ve birlik olarak kolektivitenin inşasında mutlak normların ortaya çıkarılması bakımından ehemmiyet taşımaktadır. Doğadaki fenomenlerin açıklaması olan kozmoloji ile kolektivitedeki fenomenlerin açıklaması olan siyaset; amaç, yöntem, anlam, değer, öz ve ilişki çerçevesinde mutlak düzenin ne ve nasıl olduğunun belirleniminin varlık ve bilgi kavrayışı hususunda

birleşmekte ve aynılaşmaktadır. Böylece kozmoloji ile siyaset arasında, doğanın ve kolektivitenin mutlak düzenini amaçsallaştıran doğrusal bir bağ ve ilişki ortaya çıkmaktadır. Doğadaki ve kolektivitedeki düzenin unsur, yapı ve ilişkilerinin ne olduğu ve ne olması gerektiğine dair ortaya çıkan kozmoloji ve siyasetin ortak sorunsalı; doğayı ve kolektiviteyi ortak bir mutlak düzenin izdüşümleri haline getirmektedir. Bu bakımdan kozmoloji ve siyaset, ontolojik ve epistemolojik olarak tümel bir paradigmanın örüntüleri olmaktadır.

Doğa ve Kolektivitenin Paradigmatik Tasarımı

Bilim felsefesine ilişkin öne çıkan paradigma kavramı; ortaya çıkan bir sorunsalın aynı yöntem, kural, ölçüt ve ilkelere göre çözümlenmesi doğrultusunda işlevsel olan ve bu yönde pek çok örneklemi türeterek değer, anlam, inanç, teknik ve kuram(lar)ın tümünü kapsayan genel kabul görmüş evrensel bir düşünme modelidir (Kuhn, 2006, ss. 65, 82, 97, 282). Bilimin, evreni tüm yönleriyle açıklama niteliğine sahip bütüncül tek bir kuram meydana getirme gayesine (Hawking, 2006, s. 19) sahip olan paradigmanın amacı, bu bütüncüllüğü her alanda işlevsel kılacak olan zihin dünyasını oluşturmaktır. Bu açıdan insan ile doğa ilişkisinin niteliği, biçimi ve bunların dönüşümü bağlamında bilim; rasyonel ve mantıksal süreçlerin yanı sıra tarihsel olarak felsefe, mitoloji, teoloji ve metafizik gibi farklı düşünüşleri de içeren bir düşünce biçimidir. Dolayısıyla bilim tarihi de esasen bir düşünce tarihidir (Erdoğan, 2009, s. 10). Düşüncenin sınırsız etkinliği, etkileşimi ve yaratıcı sentezi bağlamında bilim felsefesindeki dar anlamının ötesine geçen paradigma kavramı; insanın fikir, eylem, davranış ve etkinliklerinin her alanında bilgiyi yaratan amaçların ve çıkarların sistematik olarak örgütlendiği (Kuyaş, 2006, s. 53) tümel bir düşünce yapısını ifade etmektedir.

Olgu ve olayların varlığı ve bilgisine dair sorunsalların çözümü işlevi gören ve bu işlevselliği ölçüsünde var olan paradigma (Kuhn, 2006, ss. 115, 282); tarihsel ve değişken bir nitelik göstermekle birlikte farklı alanlarda kuram(lar)ın ortaya çıktığı tek bir zihin dünyasının kurucu düşünme modelidir. Buna göre olgu ve olaylar arasında düzenli ilişkiler olduğu varsayımından hareket eden kuram, paradigmatik olarak dünyayı açıklayan bir önermedir (Bates, 2009, ss. 20, 43). Dünyanın paradigmatik açıklaması; esasında tek bir düşünme kalıbı olan paradigmanın aynı ilke, kural, yasa, dil, anlam, değer, kavram ve mantık setinin; farklı alanlardaki olgu, olay ve sorunsallara dair farklı kuramlara uygulanış varyasyonlarını ortaya çıkarmaktadır (Kuhn, 2006, s. 301). Böylece kapsayıcı bir tasavvur sistemi olan paradigma; kozmoloji ve siyaset kuramlarının inşasında düşünme biçimini dikte eden ve düşünceyi belirleyen ilke, kural, yasa, değer, anlam ve kavramlar dizisidir.

Paradigmaya bağlı olarak ortaya çıkan kuramlar, somut gerçekliği ve nesnel anlamı olmayan zihinsel olgulardır (Hawking, 2006, s. 18). Sistematik ve bütüncül bir kavrayış olan kuram, zihinsel sürecin ortaya koyduğu ve kullandığı soyutlamalarla oluşan ilke ve yasalarla (Randal, 2014, s. 40) şekillenmektedir. Bu ilke ve yasalar, bilgi vasıtasıyla temellendirilerek (Cevizci, 2017, s. 126) somut bir gerçekliğe ve nesnel bir anlama dönüşmektedir. Dolayısıyla her kuram, işlenmiş ve işlevselleştirilmiş bilgiler bütünüdür. Bilginin tarafları olan özne ile nesne (Mengüşoğlu, 2017, s. 56) arasında bilgi vasıtasıyla varoluşsal bir bağ kurulmakta; bu bağ çerçevesinde özneyle anlam kazanan nesne, kendi başına var olma durumundan (Mengüşoğlu, 2017, s. 57) özneyle var olma durumuna evrilerek özneye bağımlı hale gelmektedir.

Düşüncenin dışında var olan şey; düşünme eyleminin konusu olduğunda düşünceden müstakil varoluşunu yitirmekte; zihnin bir parçası ve bilincin bir ürünü olarak nesneleşmektedir. Bu bakımdan doğanın ve kolektivitenin kuramsal bilgisi; onların ve onlara ait fenomenlerin ne olduğunu değil, düşünce tarafından nasıl tasavvur edildiğini göstermektedir (Wittgenstein, 2013, ss. 23, 26). Dolayısıyla her bilme eylemi, aynı zamanda bir tasarlama ve yaratma eylemidir. Düşünceden bağımsız olan, ancak düşünceye konu olarak düşüncenin malzemesi olan bir fenomen; düşünce tarafından yeniden yaratılmaktadır. Bunun anlamı, düşüncenin dışındaki fenomenin gerçekliğinin ve bilgisinin; değişmeyen, yek ve mutlak bir hakikat olarak (Mengüşoğlu, 2017, s. 97) düşünceyle tekrar yaratılmasıdır. Yani kuramsal olarak yaratılan şey; aslında fenomenin kendisi veya bilgisi değil, paradigmatik düşüncenin fenomen hakkındaki bilincidir. Tanımlayıcı bir özne olan bu bilinç, nesne olan fenomenin varlık kavrayışına ilişkindir (Mengüşoğlu, 2017, ss. 95-96). Doğanın hakikatini sunma iddiasındaki kozmoloji kuramı ve keolektivitenin hakikatini sunma iddiasındaki siyaset kuramı; doğanın ve kolektivitenin ne olup ne olmadığına (Kuhn, 2006, ss. 78, 100), ne olması ve olmaması gerektiğine yön veren paradigmanın, farklı alanlarda farklı biçimlerde çok boyutlu olarak ortaya çıkan tek boyutlu hakikatidir. Yani kozmoloji ve siyaset, varlık ve bilgi kavrayışı olarak aynı paradigmanın birbirine koşut paydaşlarıdır (Kuhn, 2006, ss. 186, 187).

Paradigmatik tasarımlar olan kozmoloji ve siyaset, doğanın ve kolektivitenin düzen sorunsalının çözücüsüdür. Kaotik ve çelişkili görünen bir varoluştan ortaya çıkan düzen yaratma ihtiyacı (Hezfeld, 2012, s. 250), genel geçer değer, ilke ve yasalar dizgesini zaruri kılarken; bu değer, ilke ve yasalar

paradigma tarafından karşılanmaktadır (Kuhn, 2006, s. 122). Doğa yasalarından meydana gelen kozmolojik düzen ile kolektivitenin yasalarından meydana gelen siyasal düzen, parçası oldukları paradigmanın yasalarıyla paradigmatik düzene göre kurulmaktadır. Düzen arayışının bir neticesi olan paradigmanın varlık ve bilgi kavrayışı, şeylerin doğası veya doğası gereği şeylerin özü ve niteliği itibariyle doğanın doğasıyla birlikte insan doğasını da tanımlamaktadır. Paradigmanın anlam ve yasaları doğanın anlam ve yasalarında, doğanın anlam ve yasaları da kolektivitenin anlam ve yasalarında yeniden üretilmekte; paradigmanın düzeni doğal düzende, doğal düzen de kolektif düzende ortaya çıkmaktadır.

Nihayetinde paradigmanın -düşüncenin- kaynağı olan, doğayı ve kolektiviteyi mutlak bir düzen arzusuyla tasavvur eden insan; bu tasavvuru varoluşunun her alanına taşımaktadır. Bu doğrultuda aynı paradigmatik enstrümanlarla şekillenen kozmoloji ve siyaset kuramı; mutlak düzenin kurulumu gayesinde birleşerek birbirlerini beslemektedir. Bu nedenle düzenin tasarımı ve inşası bağlamında paradigmatik ve analojik bir ilişkiye sahip olan doğa ile kolektivite ve kozmoloji kuramı ile siyaset kuramı; dünyanın biyofiziksel ve sosyal yekpare düzeninin yaratımı doğrultusundaki aynı çabanın farklı gösterimleridir (Herzfeld, 2012, ss. 249, 250).

Doğa ve Kolektivitenin Kültürel Antropolojisi

Esasen bir insan tasarımı olan kozmoloji ve siyaset kuramı; paradigmatik bir ön kabul olarak yalnızca insanın varoluşsal bilgisine değil, varoluşsal bilgisini temellendirebileceği olgusal bir tarihe de ihtiyaç duymaktadır. Zira düşüncenin bir etkinliği olan bilginin tarihi, düşüncenin öznesi olan insanın tarihine koşuttur. İnsanın tarihini kavrayabilmek için; olgu ve olayların ne ve nasıl olduğundan ziyade olduğu duruma nasıl eriştiğini kavramak gerekmektedir (Boas, 1920, s. 314). *“Tarihin kendisi doğa tarihinin, doğanın insan durumuna dönüşmesinin gerçek bir parçasıdır”* (Marx, 2011, s. 181). Biyofiziksel ve sosyal koşullarla prehistoryadan beri şekillenen insanın tarihi; insanın insanlaşmasının, insanlaşmaya dair bir bilinç oluşturmasının tarihidir. İnsanı doğadaki diğer türlerden ayıran bu bilinç; insanın dışındaki şeylerle ve çevresiyle birlikte varoluşunu ve evrendeki yerini anlamlandırmasıdır. Böylece evren; insanla birlikte evrene ait bütün unsurları insan durumuna -bilinç haline- dönüştürülmesiyle tanımlanmaktadır.

Bilincin nesnesi olan evrenin gerçeklikleri, tarihsel olarak değişkenlik gösteren (Teber, 2010, s. 237) bilişsel bir sürecin ürünüdür. İnsan ile doğa ilişkisinin bilişsel sürecinde doğanın ve kolektivitenin içerisinde ortaya çıkan bilinç; nesnel gerçekliğinden farklı olarak doğanın, maddi gerçekliğinin imgeleştirilerek insanlaştırılmasıdır (Teber, 2010, ss. 239, 237). Bu doğrultuda doğa kuramı insanı, insan kuramı da doğayı içeren tek bir kuramdır (Marx, 2011, s. 181). İnsanı *“nesneler dünyasında özne, özneler dünyasında ise egemen”* (Morin, 2019, s. 4) hale getiren bilinç; insana, doğayı ve kolektiviteyi keşfetmenin ötesinde onları tasarlama imkânı vermektedir. Böylece varoluşsal kaygı, gereklilik ve sorunsalın bilişsel kavrayışı olan düzen; sadece olgu ve olayları organize etme aracı olarak değil, bilincin düzen amacı olarak üretilmektedir (Herzfeld, 2012, s. 323). Bu bağlamda bir bilinç olan doğa, kolektivite ve bunların düzeni; antropolojik çerçevede bir kültürdür. Zira kolektivitenin maddi ve düşünsel bütün yaşam koşullarıyla ve biçimleriyle gelişen bilinç, bu koşul ve biçimlerin tümünü ifade eden kültür tarafından belirlenmektedir (Teber, 2010, s. 239). Bu açıdan bir kültür olarak doğa ve kolektivite, biyolojik özelliklerinin yanı sıra (Özbudun, Şafak ve Serpil, 2014, s. 11) insanın; düşünce ve eylemlerinde (Saran, 1992, s. 21), bilişsel birikimi ve sembolik yönlerinde (Eriksen, 2009, s. 31), örgütlenme biçim ve ilişkilerinde, yaşamını idame faaliyetlerinde ve inanç, ahlak ve ideoloji gibi değer sistemlerinde (Özbudun ve Uysal, 2012, ss. 13, 18-20, 25) antropolojik olarak bütüncül bir şekilde var olmaktadır.

Bütün canlı türlerinde olduğu gibi insan türü de varlığını devam ettirebilmek için temel yaşamsal gereksinimlerini karşılamak zorundadır. Bu doğrultuda karşılaşılan sorunların üstesinden gelinmesi; iş birliği, iş bölümü, maddi ve sembolik değer üretimlerini beraberinde getiren bir örgütlenme zorunluluğunu, yani kolektiviteyi ortaya çıkarmaktadır. Bu açıdan işlevsel ve araçsal bir hayatta kalma stratejisi olarak insan yetisinin bir ürünü olan kolektivite; düşünce, davranış, eylem ve değerlerden oluşan yaratılmış sosyal bir habitattır (Malinowski, 1992, ss. 66, 67, 68). Her canlı türü, biçimsel bağlamda bir kolektivite olmakla birlikte; yalnızca insan türü kendi yaşamını kendisinin kontrol ettiği bir kolektivite yaratmaktadır. Doğaya uyum sağlama biçimi olarak insanın nesneleştirme yetisinin ürünü olan (Wulf, 2009, s. 63) kolektivite, insanın kendi varoluş koşullarını değiştirmesi, dönüştürmesi ve yeniden yaratmasıdır.

Yaşamsal bir edimle doğadaki varoluşunu yapay olarak yaratan insan, bu varoluşu konumlandırabilmek için bir doğaya ihtiyaç duymaktadır. Bu ihtiyaç doğrultusunda insanın nesneleştirme yetisinin somut ve soyut ürünleri, yapay olan kolektiviteyi doğal kılmakta; doğal bir yapaylık olarak kolektivite de insana ait yeni, ikinci bir doğa hüviyetinde ortaya çıkmaktadır. Dolayısıyla kolektivite; insanın, doğanın hem içinde

hem de dışında var olmasıdır. Kendiliğinden bir habitat olan doğa, insanın bulunduğu; yaratılmış bir habitat olan kolektivite ise insanın sahip olduğu doğadır (Plessner, 1981'den akt. Wulf, 2009, ss. 66, 67, 68). Bu iki doğa arasında düşünce, imge ve eylemlere dayanan diyolojik bir ilişki vardır (Flügge, 1963'ten akt. Wulf, 2009, s. 63). Biyolojik, fiziksel ve düşünsel olgular; doğa ile kolektivite arasındaki diyolojik ilişkinin insan tarafından yaratılarak, keşfedilerek veya icat edilerek yönlendirildiği iletişim araçlarıdır. Bu doğrultuda tanımlanan fenomenler olan doğa; insanın kendisini biçimlendirdiği kolektivitenin görünümleri olarak anlam kazanmaktadır. İnsanın örgütlenmiş eylem ve düşüncelerinden oluşan bu biçimlendirme; insanın kendisini yarattığı, bulduğu ve yansıttığı kültürdür (Sartre, 1989, ss. 196-197). Kültürel bir varlık olan insana dair her şeyi kapsayarak insanın varoluşsal bilincinin kurumsallaşması olan kültür; insanın insanlaşma süreci ve bu sürecin biçimidir (Tylor, 1958'den akt. Wulf, 2009, ss. 129-130). Bu bakımdan doğayı da kapsayan kültür, doğayla şekillenen ve doğayı da şekillendiren bir bilinçtir.

Etimolojik kökeni colere sözcüğüne dayanan (Emiroğlu ve Aydın, 2003, s. 523), kültür, aynı zamanda yetiştirmek ve terbiye etmek anlamlarını da taşımaktadır (Eriksen, 2009, s. 30). Bu yönüyle kültür; bireyin düşünce ve eylemlerinin kolektif bir terbiyesi olduğu çıkarımına da sahiptir. İnsanın doğadaki diğer canlı türlerinden ayrışarak iradi varoluşunu ifade eden bu terbiye; iradi olmayanın iradi hale getirilmesidir. Dolayısıyla kültür; insan iradesinden bağımsız ve muğlak olan, bu nedenle de insanın varoluşuna hem kaynak hem de bir tehdit olan doğanın ve doğal olanın iradi karşıtını temsil etmektedir. Zira bir kültür olan kolektivite; insanın etkileşim ve ilişkilerle ortaya çıkan sosyal örgütlenmesi, iradi etkinliği ve bu iradi etkinlikle ortaya çıkan kurumsallaşmanın ürünü ve kurumsal yapıların bütünüdür (Eriksen, 2009, ss. 30, 31, 72, 74, 82). Dolayısıyla kolektiviteden ve kültürden bağımsız bir insan, iradi olmayan doğaya bağımlı bir yabanıllıktır. Bu açıdan kültür, bireyleri terbiye eden iradi bir kolektif düzen haliyken; kolektivite de doğanın dışında ve karşısında yer alan bir kültür durumudur.

Kolektivitenin ve bireyin somut ve soyut tüm olgularını kapsayarak kolektif düşünce ve eylemleri içeren çok yönlü bir yapı olan kültür (Tylor, 1920, s. 1); kolektivitenin işlevsel mekanizması ve yapısıdır. Bir kültür olarak kolektivitenin yapısı; aktarılabilen organik bir niteliğiyle (Saran, 1992, s. 136) rölatif ve etkileşimli olan (Wells, 1972, ss. 38, 39), kolektivitenin değer, anlam, eylem, düşünce ve ilişki kalıplarını belirleyerek kolektif uyumu sağlayan (Haviland, 2002, ss. 65, 74, 89, 90) ve bireyler tarafından ortak kabul gören ve bireyler arasında paylaşılan kolektif yaşam düzenidir (Saran, 1992, s. 136). Kolektif düzen, kendisine uygun düşünce ve eylemler üreten değerler, anlamlar, kurallar ve normlar bütünüdür (Haviland, 2002, ss. 65, 89). Ancak, varoluşu kolektiviteye bağlı olduğu kadar doğaya da bağlı olan insan; biyofiziksel olduğu kadar da sosyal bir varlıktır (Levi-Strauss, 1969, s. 3.). Dolayısıyla insanın bilişsel birikimi, biyofiziksel doğadan bağımsız değildir (Plessner, 1980'den akt. Lerch, 2014, s. 200). Zira bütün yaşamın biyofiziksel kaynağı olan doğa; insanın, düşünsel ve eylemsel olarak sürekli kendisini geliştirerek var olduğu ve etkinlikleriyle ilişki içerisinde bulunduğu bir alandır.

İnsanın doğadaki varoluşunun edimsel bir zorunluluğu olan kolektivite, kendi varlığının idamesi için varoluşunu belirleyen varsayımsal değer ve kaidelerin öngörüldüğü bir yapıya ihtiyaç duymaktadır (Malinowski, 1992, s. 74). Kolektivite içindeki bireyin kendisini tabi kıldığı bu yapı; doğal ve sosyal habitatın ne ve nasıl olduğunu belirlendiği bilişsel bir düzendir. Bireye düşünce ve davranış kalıpları geliştiren bu düzen; kolektivitenin varoluşsal istikrarı ve sürekliliği için vazgeçilmez olan işlevsel bir mekanizmadır (Radcliffe-Brown, 1950'den akt. Wulf, 2009, s. 113). Bu doğrultuda insanın doğayı ve kolektiviteyi kapsayan tümel bir varoluş tasarısı olan -kozmolojik ve siyasal- düzen, bilişsel bir birikim olan insanın tarihinde ortaya çıkmaktadır.

İnsan doğası başta olmak üzere şeylerin doğasını yaratmayı ve dönüştürmeyi içinde barındıran (Eriksen, 2009, s. 72) ve kolektivitenin ortak bir amaç ve tipoloji kalıbı olan kültür, karakteristik bir düşünce ve eylem modelidir (Benedict, 1971, s. 33). Her kolektivite, bir sistem veya yapı olarak içinde bulunduğu ve yaşayışını gerçekleştirdiği bir forma veya modele sahiptir (Pritchard, 1998, s. 28). Bu model; farklı bireylerden oluşan kolektivitenin heterojen yapısını uyumlu hale getirerek kolektiviteyi homojenleştirmenin (Benedict, 1971, s. 11) yanı sıra farklı türlerden oluşan doğanın heterojen yapısını uyumlu hale getirerek doğayı da homojenleştiren bir işleve sahiptir. Düzenli bir sosyal yaşamı mümkün kılmak için bireyi istikrarlı bir kolektivite sistemiyle bütünleştiren, kolektivitenin ilişkilerini belirleyen, insanın dışsal ve içsel habitata uyumunu sağlayan kültür; kolektivitenin düzenli sistemi olarak insanın kolektiviteyle ve doğayla olan entegrasyonudur (Radcliffe-Brown, 1931, s. 152). Bu bakımdan kültür, kolektivitenin ve doğanın belirleyici yekpare düzeni olarak paradigmatik bir karakter göstermektedir.

Doğa ve Kolektivitenin Evrimsel Diyalektiği

Doğaya atfedilen anlamlar ve doğaya dair geliştirilen kavramlarla fiziksel olduğu kadar düşünsel nitelikteki doğayla ilişkisi çerçevesinde (Eriksen, 2009, s. 73) insan, hem doğayı şekillendirmekte hem de doğa tarafından şekillendirilmektedir. Dolayısıyla insan iradesinin dışındaki doğa ile insan iradesi

olan bilinç iç içe geçmekte (Lerch, 2014, s. 206), doğa ile kolektivite arasında karşıtlığın yanı sıra bağımlılığın da olduğu bir diyalektik ortaya çıkmaktadır (Levi-Strauss'dan akt. Herzfeld, 2012, s. 250). Biyofiziksel habitat ile sosyal habitatın birliği anlamına gelen bu diyalektik, kolektivitenin ortaya çıkışının ve gelişiminin de özüdür (Teber, 2010, s. 187). Doğa ile kolektivite arasındaki karşıtlık ve bağımlılık, kültürlenmiş olan ve kültür dışı olan ile imgeleşmektedir. Bu bakımdan kültür dışı yabanıllık; kolektivitenin karşısında salt bir doğayı temsil ederken, kültürün kendisi de kolektviteye içkin iradi bir düzenle anlamlandırılarak yabanıllıktan arındırılmış bir doğayı temsil etmektedir. İnsanın iradesi dışında muğlak, kontrolü ve denetimi mümkün olmayan doğa; bilişsel süreçlerle geliştirilen anlam, kavram ve değerlerle kültürlenmektedir. Böylece kültürleşmiş doğa, kolektivitenin mutlak, kontrol edilebilir ve denetlenebilir iradi yaşamının iradi faaliyet alanı haline gelmektedir. Kültür; doğayı, kolektif düzenin iradi bir parçası olan bir kültür durumuna dönüştürmektedir.

Düzeni tesis ve idame etmek için doğayı dönüştüren ve kullanan kültür, doğanın sosyal ikamesidir (Levi-Strauss, 1969, s. 4). Bir kültür durumu olarak doğa, bir yandan kültürün hammaddesini ve özünü oluştururken diğer yandan da kültürün doğallaşmasını sağlamaktadır (Eriksen, 2009, s. 73). Yani doğa kültürü üretmekte, kültür de doğayı dönüştürerek (Eagleton, 2005, s. 11) meşruiyetini kültürleştirdiği doğadan almaktadır. Kültürle birlikte dışsal bir gerçeklik olan doğanın nesnelliği imgeleşerek öznelliğe dönüşmekte; bu öznellik, imgeleştirdiği doğayı bir nesnellik olarak içsel bir gerçeklik olan kolektivitede tekrar üretmektedir. Böylece kültürel bir doğa oluşmakta (Descola, 2013, s. 76) ve organik habitat ile sosyal habitat arasında analojik bir ilişki ortaya çıkmaktadır (Radcliffe-Brown, 1935, s. 394). Doğadan beslenen kültür, anlamlar ve simgeler atfederek doğaya kolektif bir nitelik kazandırırken; insanın doğaya uyum sağlama biçimi olan kolektivite ile doğa arasında ontolojik ve epistemolojik bir süreklilik sağlamaktadır (Descola, 2013, s. 72-73, 75). Bu doğrultuda doğanın eylem ve ilişkileri kolektivitenin; kolektivitenin eylem ve ilişkileri de doğanın niteliği haline gelmektedir. Böylece kolektivite doğanın, doğa da kolektivitenin içerisinde ortaya çıkmakta; kolektivite doğayla doğa da kolektiviteyle var olurken dışsal olan içsel, içsel olan da dışsal olanla; birinci habitat ikinci habitatla, ikinci habitat da birinci habitatla açıklanmaktadır. Nihayetinde doğa, kolektivitenin; kolektivite de doğanın hem nedeni hem de neticesi olmaktadır.

Kültürle anlam kazanan ve kültürel bir değeri olan doğa (Eagleton, 2005, s. 12) ve kolektivite; bir yandan kültürü üretirken diğer yandan bir değişim aracı (Eagleton, 2005, s. 11) ve düzenin işlevsel bileşenleri olarak kültür tarafından yeniden üretilmektedir. Bu nedenle kültürün yapısal modelleri olan doğa ve kolektivite, var olandan ziyade vuku bulan bir şeydir (Firth, 1951'den akt. Eriksen, 2009, s. 112). Vuku bulan doğa ve kolektivitenin özünde meydana gelen şey, insan ve insanın iradi varoluş biçimidir. Bu bağlamda kültür; kendiliğindenlikle yapma veya kendiliğinden olan ile iradi bir yapılma veya iradi olan arasındaki benliksel bir bölünmenin imgesidir. Bu bölünme; doğayı biçimlendirebilen insanın, doğa gibi kendini de biçimlendirmesi ve tekil-birey anlamından kolektivite anlamına dönüşerek kendisini gerçekleştirmesidir (Eagleton, 2005, ss. 16-17, 15). Kendini kolektivite olarak gerçekleştirme, bir uygarlık yaratısı anlamına gelirken kültür de uygarlıkla eş bir anlam kazanmaktadır (Williams, 1985, s. 89). Bu uygarlık yaratısı içerisinde yeniden biçimlendirilen doğa da tekil anlamından kolektivite anlamına dönüşmekte; kültür dışı olan doğa ile kültürlenmiş doğa arasında da bir ayrım ortaya çıkmaktadır.

Kültür dışı olan ile kültürel olan arasındaki ayrımın ölçütü, değerdir (Descola, 2013, s. 74). Kültür dışı var olan şeyler bir değerden yoksun olarak anlam taşımaz iken kültürle var olan şeyler ise bir değer sahibi olarak doğallaşmakta; şeylerin değeri, kültürün yapısı içerisinde onların doğaları halini almaktadır. İnsanı ve doğadaki diğer şeyleri kültürleştirerek onlara yeni bir doğa yaratan kültür, anlam ve değerler itibariyle betimleyici ve normatiftir (Eagleton, 2005, ss. 18, 19). Kolektivitenin bilinç ve varoluş hali olan kültür, yaşamı bireşimci bir şekilde yönlendiren normatif değerler bütünü olarak kolektivitenin *ethos*'udur (Descola, 2013, s. 312). Böylece ortak bir ontolojik ve epistemolojik zeminde biraraya gelen doğa ve kolektivite, normatif nitelikteki kültürün inşa ettiği tikeller iken; kozmoloji ve siyaset de bu inşanın betimleyici araçları, kültürün normatif yapısal parçalarıdır. Bu nedenle insanı ve insanın tarihini ele alan ve nesnesi kültür olan antropolojinin iki ana konusu; anlamlar, değerler, imgeler, semboller ve ilişkiler itibariyle fiziksel/biyolojik perspektifte doğa ve sosyal perspektifte kolektivitedir. Doğa ve kolektivitenin antropolojik tarihi ve bilgisi, dolaylı yoldan kozmoloji ve siyasetin normatif tarihi ve bilgisidir.

Antropolojik bağlamda zamanda geriye yansıtılan şey; olaylardan ziyade örüntüler, süreçler ve ilkelerdir (Foley, 1992'den akt. Barnard, 2015, s. 53). Bu örüntüler ve süreçler, antropolojiye evrimci bir perspektif; insana, doğaya, kolektiviteye ve kültüre de evrimsel bir nitelik ve tarih yaratmaktadır. Bu antropolojik evrim; ilkelden uygarlığa, basitten karmaşığa ve nihayetinde kültür dışı olandan kültürel olana uzanan ve bilinmeyenden öğrenilerek kullanılana dönüşen doğa ile bilmeyenden öğrenerek kullanana dönüşen kolektiviteyi içeren değişim sürecidir. Bu sürecin temelinde, doğa ve kolektivite

ilişkisinin düşünsel ve eylemsel dönüşümü, kültürel-paradigmatik değişimi yer almaktadır. Doğa ve kolektivite ilişkisinin, bu ilişkinin ortaya çıkardığı kültürün ve bunların değişiminin kaynağı; yaşamsal idameyi karşılayarak doğanın ve kolektivitenin varoluş şeklini belirleyen üretim eylemleri ve bu eylemlerin biçimleridir. Üretim eylem ve biçimleri, doğanın ve kolektivitenin bütün veçhelerinin ve bu veçheler arasındaki karşılıklı ilişkilerin ortaya çıkış (Eriksen, 2009, s. 288) nedenidir.

Tarihsel koşulları içerisinde ortaya çıkan ve kolektivitenin yapısını belirleyen üretim biçimleri, insanın maddi gereksinimlerinden kaynaklı fiziksel/biyolojik doğasını aşarak kültürel bir varlığa dönüştüğü önemli bir faktördür. Üretim biçimlerinin dönüştürücü gücü; yalnızca kolektiviteyi değil, doğayı da maddi ve düşünsel olarak dönüştüren bir etkendir. Bu doğrultuda kültür, üretim biçimleriyle değişkenlik gösteren kolektivitenin ve doğanın yapısal nitelikleri itibariyle tarihsel bir görüngüdür (Teber, 2010, s. 212, 186, 208, 185). Üretim biçimlerini etkileyen, üretim eylemlerinin çeşitlenmesini sağlayan ve insanın türsel gelişiminde fark yaratarak türsel varoluş başarısının aracı olan bir diğer olgu ise teknik ve teknolojidir. Evrimsel sürecin fark yaratan bir kültür bileşeni olan teknoloji (Barnard, 2015, s. 55); insanın, deneyimle edinilmiş yeteneklerinin ve imal ettiği maddi araçların sistematize edilerek doğa ile olan ilişkisinde kullanılmasıdır (Eriksen, 2009, s. 282). Bu açıdan teknoloji, insanla doğa arasındaki ilişkinin belirleniminde tarihsel bir rol üstlenmektedir.

Üretim biçim ve eylemleri, niteliği ve içeriği itibariyle doğa ve kolektivite bağının tezahürüdür. Ontolojik olarak ne doğayla bütünleşme ne de doğayla mücadele etme ereği taşıyan bu bağ, esas itibariyle insanın doğa ile olan uyarlanma örüntüleridir. Bütün canlı türleri için geçerli bir adaptasyon olan doğa ile uyarlanma; canlının bulunduğu habitat, habitatın da canlı üzerinde zorunlu kıldığı veya meydana getirdiği karşılıklı değişim ve etkileşim süreçleridir (Haviland, 2002, s. 197). Doğa ile uyarlanmanın tezahürü, türsel varoluşunu üreten insanın üretim eyleminin hammaddesi olan doğa ile kurduğu ilişki iken; üretim biçiminin muhteviyatı da insanın doğayı fonksiyonel kullanım çeşitliliğidir. İnsanın doğayla uyarlanma örüntüleri; insanın doğaya dâhil ve müdahil olma durumu, doğaya uyarlanma ve doğayı uyarlama formasyonlarıdır. Bu formasyonlar; geçim örüntüsü olarak doğanın, yaşam örüntüsü olarak kolektivitenin düşün biçiminin müsebbibidir. Zira insan, doğaya uyum sağlamanın yanı sıra kendi tanımları, anlamları, ihtiyaçları, istek ve arzuları doğrultusunda kalıplaştırdığı doğayı şekillendirmekte; öğrenilmiş davranışlar ve sürekli gelişen sosyal örgütlenmelerle kültür üretme yetisi kazanmaktadır (Haviland, 2002, s. 94).

Doğaya uyarlanma, insanın doğaya mutlak bağımlı olarak biçimlendiği edilgen etkileşimin; doğayı uyarlama, insanın doğaya bağlı fakat doğayı biçimlendirdiği etken etkileşimin üretim formasyonudur. Edilgen etkileşimin faili doğa iken, etken etkileşimin faili insandır. Üretim biçimlerine göre avcı ve toplayıcılık eylemiyle ortaya çıkan doğaya uyarlanma, neolitik çağdaki tarım eylemiyle doğayı uyarlamaya dönüşmüş ve doğayı uyarlama, besin dışı üretimin artarak çeşitlendiği endüstri eylemiyle birlikte gelişkin bir hal almıştır. Terminolojik olarak doğayla edilgen etkileşimin avcı ve toplayıcı formasyonu ilkel, doğayla etken etkileşimin tarım ve endüstri formasyonları ise uygar kolektivitelerdir. Düşün modelleri ve eylem pratikleriyle insanın, doğayı doğrudan ya da dolaylı dönüştüren jeomorfik bir unsur olması itibariyle ilkel ve uygar kolektiviteler arasında nicelik haricinde bir nitelik farkı yoktur (Saran, 1992, s. 131). Bu bakımdan uygar kolektivitenin yapı ve kurumları, ilkel kolektivitelerden antropolojik izler taşımaktadır (Şenel, 2001, s. 16).

Avcı ve toplayıcılıkla başlayıp tarımsal üretimle gelişen, besin dışı endüstriyel üretimle çeşitlenen üretim biçimleri; kolektivitenin doğanın düzeniyle, doğanın da kolektivitenin düzeniyle şekillendiği farklı düşün modelleriyle belirleyici olmuştur. Zira insanın doğayla uyarlanma örüntüleri; aynı zamanda doğa ve kolektivitenin anlamının, niteliğinin, içeriğinin, düzeninin, içsel ve dışsal ilişkilerinin bilişsel biçimlerini ifade etmektedir. Karşılıklı bir ilişki olan doğa ve kolektivite arasındaki bağ; kolektivitenin ve kolektif ilişkinin belirli bir türü/türleri aracılığıyla gerçekleşen (Hess, 1998'den akt. Karatani, 2017, s. 46) yapıcı ve yıkıcı etkilere sahip bir sistemdir. Kolektivitenin ve kolektif ilişkinin bu belirli türleri, üretim biçimleriyle ortaya çıkan kolektivite türleridir. Bu nedenle insanın doğayla ilişkisi esasen insanla, insanın insanla olan ilişkisi de esasen doğayla ilişkisidir (Marx, 2011, s. 170). Doğanın ve kolektivitenin düzeni; bu doğrudan ilişkinin ortak ürünüdür. Bu bakımdan doğayla uyarlanma örüntüleri, sosyopolitik uyarlanma örüntüleriyle bir bütündür. Siyasetin siyasal olmayan ögelere de nüfuz eden kapsamlı bir sistem olması (Eriksen, 2009, s. 249) gibi üretim faaliyetlerinin -ekonominin- de antropolojik niteliği, üretim biçim ve ilişkilerinin kolektivitenin koşullarından ayrı olarak yalnızca maddi koşullar içerisinde anlaşılamayacağıdır (Sahlins, 1974, ss. 182-183). Yapısal olarak deterministik olan üretim faaliyetleri, aynı zamanda sosyal sembolik değerleri de üreten kültürel (Sahlins, 1976, ss. 210-211), birikimli ve evrimsel bir sistemdir.

Kültürün evrimsel niteliği, gelişkin ve ilerlemiş kültürlerin artan bir güçle doğayı kontrol altına alabilmesi ve insanın, hakimiyeti arttığı nispette doğaya bağımlılığının azalmasıdır (Saran, 1992, s. 132). Bunun

nedeni, üretim biçimleriyle ilkelden uygarlığa insanın varlıksal gerekliliklerinin üretimi konusunda mutlak bir denetim kurabilmiş tek canlı türü olmasıdır (Morgan, 2021, s. 79). Böylece tarihsel gelişim sürecinde doğanın insan üzerindeki belirleyiciliği azalırken kolektivitenin doğa üzerindeki belirleyiciliği ağırlık kazanmaya başlamakta (Teber, 2010, s. 212); kolektivitenin düzen, işleyiş ve ilişkileri doğa üzerinde de etkin olmaktadır. Arkaik kolektiviteden modern kolektiviteye üretim biçimlerinin gelişimiyle sürekli artan bu etkinlik, doğa ve kolektivite ilişkisinin anlamını değiştirerek doğa ve kolektivite arasındaki bağı araçsallık ve egemenlik düzeyine taşımaktadır.

Avcı ve toplayıcı kolektivitenin uzun erimli plan yapmaya olanak sağlamayan üretimi, doğayla doğrudan ve basit bir ilişki biçimini ortaya çıkartırken; kolektivite de cinsiyet ve yaş gibi iş bölümüne dayalı, aile temelinde küçük ölçekli ve eşitlikçi bir örgütlenme biçimi olarak ortaya çıkmaktadır. Tarım kolektivitesinin bitki ve hayvanları ehlileştirerek artı değere olanak sağlayan üretimi, doğayla mekânsal ve biçimsel egemenlik üzerine kurulu bir ilişki biçimini ortaya çıkartırken; kolektivite de askerler, katipler, demirciler ve liderler gibi uzmanlaşmış iş bölümüne dayalı, akrabalık temelinde hiyerarşik örgütlenme biçimi olarak ortaya çıkmaktadır. Endüstri kolektivitesinin kompleks teknolojiyle besin dışı emtianın önem kazandığı üretimi, doğayla araçsal bir ilişki biçimini ortaya çıkartırken; kolektivite de kompleks iş bölümüne dayalı, merkezi siyasal ve iktisadi kurumları, sosyal denetim ve entegrasyonu gerektiren örgütlenme biçimi olarak ortaya çıkmaktadır (Eriksen, 2009, ss. 286-288). Doğa bilindikçe ve kolektivite geliştikçe kolektivitenin doğayla dışsal, bireyle içsel ilişki biçimleri karmaşıklaşmakta; yeni işleyiş mekanizmalarını gerekli kılarak daha fazla düzen ihtiyacını ortaya çıkarmaktadır. Kolektivite ve doğa için ortaya çıkan bu düzen ihtiyacı, kozmolojik ve siyasal bir sistemi gerekli kılarken bu sistem; mitoloji, din, felsefe ve bilim gibi farklı araçlarla ve farklı yapılarda normlarla modellenmektedir. Kozmoloji ve siyaset, mevcudiyetini var eden makbul olanların belirleyicisi kurallar üzerine inşa edilmektedir. Açık ya da zımni bir rızaya konu olan bu kurallar, normlardır (Eriksen, 2009, s. 89). Bu bakımdan üretim biçimleriyle ortaya çıkan bilişsel düzen(ler); bilinmezlikten bilinirliğe doğanın kozmolojik, ilkellikten uygarlığa kolektivitenin siyasal yapısında epistemolojik olarak değişen fakat ontolojik gerekliliği değişmeyen bir form mahiyetinde bulunmaktadır. Doğanın ve kolektivitenin normatif inşası, kozmoloji ve siyaseti formel yapılar olarak ortaya çıkartmaktadır. Bu formel yapılarda imgeleşen doğa ve kolektivite, yapının işlevsel mekanizmaları olan kurumlarla da simgeleşmektedir.

Bir düzen olarak kozmoloji ve siyaset; tarihsel koşullarda üretim biçimleriyle ortaya çıkan ve buna bağlı olarak yaşayış şekli, inanç, felsefe, teknik ve bilim gibi çeşitli kaynaklardan beslenen ve beslendiği bu kaynakları da üreten -bir paradigma olarak- kültürün, tümel bir düzenin ontolojik ve epistemolojik uzantısıdır. Zira kültürün doğayı kolektiviteyle tek bir kavramsal yapıda oluşturduğu, insan ile doğa ve birey ile kolektivite arasında benzer türden ilişkilerin kurulduğu bir sistemi vardır (Radcliff-Brown, 1931, s. 152). İnsanın doğayla kurduğu kozmolojik ilişki biçimiyle bireyin kolektiviteyle kurduğu siyasal ilişki biçimi birbirlerine nüfuz etmektedir. Kolektivitenin fenomenleriyle doğanın fenomenleri, bilincin şeyleştirdiği gerçeklikler olarak aynı düzlemde biraraya gelmektedir. Bu düzlemde kolektivitenin fiziksel olmayan fenomenleri, başka bir şekilde doğanın fiziksel fenomenlerinin niteliğine bürünürken (Durkheim, 2012, ss. 14-15); doğanın fiziksel fenomenleri de başka bir şekilde kolektivitenin zihinsel fenomenlerinin niteliğine bürünmektedir. Düzenin, kozmoloji ve siyaset üzerindeki normativizmi ile doğa ve kolektivitenin hem çatışmayı hem de uzlaşmayı içeren diyalektiği buradan gelmektedir. Bu durum, antropolojik tarihte kendisini göstermekte; öyle ki doğa ve kolektivite arasında antropomorfizm ve animizm gibi farklı şekillerde kültürel bir izomorfizma ortaya çıkmaktadır. Doğanın kolektiviteleşmesiyle ve kolektivitenin doğallaşmasıyla kozmoloji ve siyaset, simbiyotik bir düzen içerisinde yer almaktadır.

Tartışma

Kozmolojik ve siyasal düzen tasarımının işlevsel aracı; düzenin meşruiyet sorununu karşılayan, ilişkileri ve işleyişi belirleyerek her şeyin ona göre düşünülmesi gereken bir kavram (Akal, 2019, s. 15) -norm- olan yasadır. Şeylerin doğasından kaynaklanan zorunlu ilişkiler olan yasa(lar) (Montesqieu, 2017, s. 3); hem şeyleri şey yapan hem de şeyleri işler kılan ilke ve kuralların tamamıdır. Zira şeylerin doğasının nedeni, içerisinde bulundukları düzende tabi oldukları yasalardır. Bu doğrultuda yasa(lar); doğayı ve belirli bir doğa tipinin yanı sıra kolektiviteyi ve belirli bir kolektivite tipini mümkün kılan şartlardır (Pritchard, 1998, s. 32). Her düzenin düzene tabi olanları kapsadığı yasa(lar)dan oluşması doğrultusunda kozmolojik düzen doğanın, siyasal düzen de kolektivitenin yasalarından oluşmaktadır.

Kuramsal ideal düzen yaratısı, beslenebileceği bir kaos ya da ideal olmayan veya kendisi gibi ideal olan bir düzen örneklemi gerektirmektedir. Bu noktada verili ve aşkın bir yapı olarak doğa, -ideal olan ya da olmayan- bir düzen sahibi olduğu kabulüyle ideal düzen yaratısının kullanışlı bir yorumsama örneklemidir. Zira biyolojik bir canlı türü olarak diğer canlı türlerinin de tabi olduğu aynı doğa yasalarına tabi olan insan (Radkau, 2020, s. 31), aynı zamanda sosyal bir canlı türü olarak kendisi tarafından oluşturulan kolektivitenin yasalarına da tabidir. Yani hem doğanın hem de kolektivitenin bir parçası olan

insan, doğanın ve kolektivitenin düzen ve yasalarının kesişimindedir. Bu kesişimin neticesi, düzen ve yasalarıyla doğanın bilinebilmesi ve bir bilinç hali olarak var olabilmesidir. Böylece doğa ve kolektivite ilişkisinde doğal yasa ve doğal düzen, aynı bilinçte analojik olarak bulunmaktadır.

Doğanın düzen ve yasalarının bilinmesi, ideal ya da makul olanın kurulumunda kolektivitenin düzen ve yasaları için olumlanan veya olumsuzlanan bir örneklem işlevi görmektedir. Kolektivitenin örneklemi olarak doğa; fiziksel, zamansal ve mekânsal maddi bir sistem (Cevizci, 1999, s. 250) anlamından şeylerin özsel nitelikleri -şeylerin doğası- anlamına evrilmekte ve verili bir düzenden kurulan bir düzen elde edilmektedir. Verili bir düzen olarak doğa yasaları keşfedilirken, kurulan bir düzen olarak kolektivitenin yasaları da keşfedilen doğanın örneklem yasalarıyla icat edilmekte; doğa ile kolektivite arasında pozitif veya negatif yönlü imgesel bir ilişki kurulmaktadır. Böylece doğanın varoluş biçimi ve düzeniyle kolektivitenin varoluş biçimi ve düzeni arasında doğa ile kolektivitenin etkileşimsel ilişkisine dayanan, karşıtlığın ve bağımlılığın olduğu bir diyalektik ortaya çıkmaktadır. Kolektivitenin düzeni, bu düzenin işleyişini ve ilişkilerini belirleyen değerler, yasalar, kurumlar ve yapılar; kolektif düzende ortaya çıkan eşitlik, eşitsizlik, statü, iktidar, otorite, tahakküm ve egemenlik gibi kavramlar ve anlamlar; kozmolojik ve siyasal imgelemler doğrultusunda doğa ile kolektivitenin analojik bağlamından feyz almaktadır. Nihayetinde siyaset kuramına içkin olarak var olan doğa kuramı, tarihsel belirlenimlere göre değişkenlik gösteren ontolojik ve epistemolojik bir paradigma çerçevesinde kolektivite tarafından inşa edilmektedir (Descola, 1996, s. 82).

Şeylerin doğasını ve tarihini çözümlemek, onların normlarını ve normatif tarihini belirlemektir. Bu bakımdan antropoloji, bilimsel bir etkinliğin ötesinde insanın ve kolektivitenin doğasına dair felsefi bir etkinliğe de alan açmaktadır. İnsanın kendisini türeten etkileşimli bir varlık olması, fiziksel ve zihinsel dünyaların iç içe geçmesi anlamına gelmektedir. Doğa ve kolektivite arasında kültürle çizilen sınır; yalnızca bir ayrım değil, aynı zamanda hem doğanın hem de kolektivitenin bir parçası olarak iç ve dış arasındaki bir bağdır. Kültürün şeyleri nesnelleştirmesinin arkasında, zihinsel durumların somutlaşmış ifadeleri yatmaktadır (Plessner'den akt. Lerch, 2014 ss. 206, 200). Dolayısıyla ortaya çıkan antropolojik bilgi, fenomenlerin kendisinde olanla ilgili olmasından ziyade kolektiviteye nasıl bağlı olduğuyla (Latour, 1993, s. 4) kolektiviteyle nasıl var olduğuyla, kolektif hayatın bir boyutuyla ilgilidir. Bu nedenle antropolojinin insanı, kolektiviteyi ve doğayı açıklama ve bilme savı; paradigmatik bir insan ve kolektivite tasarımına mahal veren doğanın ve kolektivitenin *a priori* (Pritchard, 1998, s. 37) bir öz bilgisi, bu özün hakikat ve kökeninin yorumsamasıdır.

İnsana ve kolektiviteye dair bir köken ve doğa arayışı, bütün şeylerin doğasına yönelik ontolojik ve epistemolojik bir arayışın yansımasıdır. Öncelikle kendi dışındaki şeylerin bilgisine gereksinim duyan insan; davranışsal çevresini meydana getiren değerler, idealler ve standartlardan oluşan normatif bir yönlendirmeye ihtiyaç duymaktadır (Haviland, 2002, s. 193). Ortaya konulan ontoloji ve epistemoloji; kozmolojiyi ve siyaseti kapsayan, doğanın ve kolektivitenin tarihsel yorumsamasını içeren nesnellik görünümündeki kuramsal bir öznelliktir. Bu açıdan Aristoteles ve Platon gibi sistematik felsefenin satır başlarında yer alan pek çok kuram, nesnelleştirilmiş öznel değer ölçütleriyle kolektiviteyle birlikte doğanın da bilgisini ve tarihini ortaya koyma çabası içerisindedir. Bu çaba; kaostan doğaya ve insandan kolektiviteye uzanan antropolojik bir kökenle bütüncül bir düzenin evrimsel inşasını içermektedir.

Kolektiviteye edimsel bir koşullanma oluşturan kurgu; doğası/doğa gereği, doğanın içinde ile doğasına/doğaya rağmen, doğanın dışında ve ötesinde olmak üzere temelde iki yönlüdür. Doğal veya yapay dilemmasındaki kolektivite kuramı; insanın ve kolektivitenin doğasının keşfedilmesi ve incelenmesi üzerine temellendirilen metodolojiyle ortaya çıkmakta ve mevcut olandan olması gerekene bir gelişmeyi hedef almaktadır (Pritchard, 1998, s. 35). Buna göre kolektivite; insanın kendiliğindenliğinin özsel edimi gereği doğayla bütünleştirildiği veya insanın doğa karşısındaki noksanlığının üstesinden gelindiği pragmatik bir iş birliğinin edimi gereği doğadan ayrıştırıldığı tasarımlardır. Bu tasarımların müsebbibi; insanın kendisini nesnelerle, nesneleri de kendisiyle özdeşleştirerek ya da ayrıştırarak doğayla farklılıklar ve benzerlikler üzerine bir ilişki kurması ve kurduğu bu ilişkinin anlamlarına vakıf olmasıdır (Mauss, 1974'ten akt. Descola, 2013, s. 103). Bu anlamlar içerisinde doğa, iyi ya da kötü değer atıflarına konu olurken (Stevenson, 1992, s. 103) doğa ve kolektivite ilişkisi vasıtasıyla hem doğanın hem de kolektivitenin düzeni kurulmaktadır. Bu düzende; insanın canlı türü olarak doğa içerisindeki kozmolojik varlığı, birey olarak da kolektivite içerisindeki siyasal varlığı normatif ve hipotetik olarak belirlenmektedir. Bu doğrultuda insan ve doğa, düzen tasarımıyla kozmolojik ve siyasal olarak üretilen özerk nesnelerdir. Böylece kozmolojik çerçevede insan olan ve olmayanla, siyasal çerçevede birey ve öteki olanla kolektif uyum ve uyumsuzluğun irdelenerek olası düzen tipolojilerinin geliştirildiği rasyonel bir sistematiğin yolu açılmaktadır (Descola, 2013, s. 86). Bu düzen tipolojilerinde; insan ve doğa ilişkisinin kozmolojik biçimiyle birey ve kolektivite ilişkisinin siyasal biçimi, birbirlerine dönüşen formel taklitlerdir. Bu nedenle siyaset felsefesinin tarih yazımı kozmolojiyle, doğa felsefesiyle başlamaktadır. Zira doğa, yaşamın ne olduğu; kolektivite de yaşamın

nasıl yaşandığıdır. Yaşamın nasıl yaşanacağını tasavvur edebilmek için öncelikle yaşamın ne olduğunu bilmek gerekmektedir.

Antropolojik bağlamda paradigmayla aynı fonksiyonelliğe sahip olan kültür; normlar vasıtasıyla doğayı ve insanı hem doğanın hem de kolektivitenin intizamında ehlileştirmektedir. Bu açıdan doğa ve kolektivite ilişkisinin antropolojik evrimi ve tarihi, evrensel ve mutlak kabul edilen aklın işleyiş biçimine ve ilkelerine bağlı olarak doğa ve kolektivite üzerinde bilinçli bir denetim kurma girişimidir (Morgan, 2021, s. 42). Öyle ki çeşitli örüntülerde antropolojik anlatı barındıran kozmolojide (Cassirer, 1980, s. 15) ve siyasette; farklı paradigmatik antropoloji yorumsamalarıyla farklı doğa ve kolektivite kuramları ya da farklı paradigmatik doğa ve kolektivite kuramlarıyla farklı antropoloji yorumsamaları yer almaktadır. Böylece ortaya çıkan doğanın ve kolektivitenin normatif düzeni; dogmatik bir potansiyelle konusu olduğu kurama göre farklılık göstermekte, hipotetik nüve ve tasarımlarından oluşmaktadır. Bu noktada antropolojinin evrimsel tarihi; yalnızca geçmişin statik bilgisi değil, aynı zamanda bugünün dinamik bilgisidir. Mevcut olan, geçmiş olanın statik bilgisi vasıtasıyla inşa edilebileceği gibi geçmiş olan da mevcut olanın dinamik bilgisi tarafından inşa edilebilir. Nihayetinde tarihsel antropolojik olarak ortaya çıkan şey; kendi koşulları içerisinde farklı ontolojileri, epistemolojileri, doğaları, kolektiviteleri, kültürleri, paradigmaları, kozmolojik ve siyasal düzenleri içeren; yapılardan, sistemlerden, normlardan ve kuramlardan oluşan; merkezinde insan olan ve varoluş şartları insan tarafından belirlenen (Bıçak, 2014, s. 85) topyekûn dünya/evren tasavvurlarıdır.

Sonuç

Çalışmanın amacı; kozmolojiyi ve siyaseti düzen nosyonuyla ele alarak doğa ve kolektivitenin ontolojik ve epistemolojik mahiyetini sorgulamaktır. Çalışmanın odaklandığı soru; doğa ve kolektivite kavrayışlarının felsefi, bilimsel ve antropolojik bağlamda birbirlerine ilişik ya da birbirlerinden müstakil olup olmadığıdır. Bu bağlamda nitel yönteme sahip olan çalışmada; felsefe, bilim felsefesi, siyaset felsefesi ve kültürel antropoloji literatürü incelenmiştir.

Bilim, felsefe, mitoloji ve teoloji gibi çeşitli kaynakları ve biçimleri içeren kozmoloji kavramı, doğanın ne ve nasıl olduğunu kapsayan biyofiziksel bir düzen anlatısıdır. Bu düzen anlatısı; doğanın bir unsuru olan insan türünün ontolojisini, epistemolojisini, düşünce, eylem ve davranış biçim ve niteliklerini de kapsamaktadır. Dolayısıyla kozmoloji, insanın da dahil olduğu evrensel bir düzeni ifade etmektedir. Bununla birlikte kozmoloji; insan aklından çıkma bir anlam olarak insanın, yalnızca doğayı değil aynı zamanda varoluşsal olarak kendisini de tanımlama biçimidir. Bu bakımdan kozmolojik düzen, biyofiziksel kural, kaide ve ilkelerinin keşfedilmesinden ziyade insan tarafından yaratılmasını ifade etmektedir. Bu açıdan kozmolojik düzenin, insanın varoluşsal düzen arayışının ve düzen kurma çabasının biyofiziksel bir yönü olduğunu söylemek yanlış olmayacaktır.

Toplumsalla var olan siyaset kavramı ise toplumun ne ve nasıl olduğunu içeren kolektif bir düzen anlatısıdır. Bu düzen anlatısı; kolektivitenin bir unsuru olan bireyin ontolojisini, epistemolojisini, düşünce, eylem ve davranış biçim ve niteliklerini de kapsamaktadır. Dolayısıyla siyaset, insanın toplumsal bireye dönüştüğü kolektif düzeni ifade etmektedir. Evrensellik iddiasındaki siyaset kuramlarının temel meşruiyet kaynağı ve referans noktası, insan doğası kavramıdır. İnsan doğası kavramı, kozmolojik düzen içerisindeki insan türünün ontolojik ve epistemolojik kavrayışına yönelik bir atfı barındırmaktadır. Bu noktada kozmolojik düzen tasarımı ile siyasal düzen tasarımları arasında birbirlerini besleyen bir ilişki ortaya çıkmaktadır. Çalışmada bu ilişki paradigmatik, kültürel antropolojik ve evrimsel diyalektik yönleriyle ele alınmıştır. Bu üç bağlam doğrultusunda yapılan incelemede doğa ile kolektivite ve kozmolojik düzen ile siyasal düzen arasında analojik bir ilişki olduğu analiz edilmiştir. Kozmoloji ile siyaset arasında zımni ya da aleni farklı biçimlerde ortaya çıkan analoji; tarihsel ve kuramsal olarak değişkenliğe uğramakla birlikte; doğayı ve kolektiviteyi içeren evrensel bir düzen tasarımı mevcudiyetini daima korumaktadır.

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“As if architecture” in Türkiye: Reflections on the Burj al Babas project*

Sinem Çınar[1]

Abstract

This study introduces the concept of “as if architecture” to describe a prevalent approach in architecture as practiced and understood in Türkiye. It reveals “as if” circumstances in the Turkish architectural setting by focusing on the example of Burj al Babas, an unfinished residential project in Mudurnu that draws attention both in national and international media. In this context, "as if architecture" is mainly characterized as an approach where architectural content has been stripped of its ethical principles, cultural norms, competence, and commitments. It is rather supplied with superficial and merely visual interpretations. Considering its impact on the fundamental principles of the discipline and its bold representation in the Burj al Babas example, this approach deserves study in the academic sphere as well. The theoretical framework of the study is developed from the adaptation of two concepts that reveal different manifestations of "as if architecture." They are "as if personality," a personality type first identified by psychotherapist Helene Deutsch, and “acting as if,” a social phenomenon that psychologist Doğan Cüceloğlu recognized in the Turkish context. Using examples from the Turkish architectural context, the study demonstrates and analyzes these two complementary modes of “as if” situations co-existing simultaneously in the Burj al Babas project. The research integrates both empirical and theoretical methods, involving a field trip to the case study for on-site examination and integrating interdisciplinary concepts to develop a theoretical framework for architecture. These concepts are subsequently correlated with additional instances to establish an "as if" scenario within Turkish architecture.

Keywords

As If, Burj al Babas, Mudurnu, Turkish Architectural Criticism

Introduction

Within the architectural landscape of Türkiye, the existence of "as if" architecture is a significant phenomenon worthy of scholarly scrutiny. This study explores the phenomenon of "as if" architecture within the Turkish context, focusing on the Burj al Babas Project in Mudurnu. Characterized by a blend of historical styles, the project has garnered widespread attention for its unique visual qualities. However, this study goes beyond surface aesthetics to examine the deeper implications of "as if" architecture within Turkey's architectural ethos.

Within this context, "as if architecture" refers to an approach that strips architecture of its ethical underpinnings, cultural significance, and technical expertise, substituting them with superficial symbolism borrowed from external imagery. In essence, "as if architecture" denotes a state characterized by the emulation and substitution of genuine architectural principles and practices. Given its potential to influence the core principles of the discipline of architecture, this approach deserves scholarly investigation as well. By focusing on Burj al Babas as an example, this study aims to formulate this issue as "as if" in architecture and to uncover "as if" scenarios in the Turkish architectural environment.

The "as if" examination within the architectural framework draws upon two complementary sources illuminating diverse expressions of "as if architecture." The first source originates in psychology and

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pertains to the concept of the "as if personality," introduced by psychoanalyst Helene Deutsch. To better understand how the idea of "as if personality" can be adapted to the discipline of architecture in terms of "as if architecture," an analysis will be undertaken to compare the Burj al-Babas project with the traditional architecture of Mudurnu. The second reference, termed "acting as if," is introduced by Turkish psychologist Doğan Cüceloğlu as a social phenomenon aimed at understanding the underlying factors contributing to the formation of "as if personality" within Turkish architecture. Examining "as if architecture" in the context of Türkiye will be built on these two ideas: "as if personality" and "acting as if." The research demonstrates the coexistence of these two phenomena through examples from the Turkish architectural landscape, boldly illustrated by the case of Burj al Babas. Additionally, it addresses the diversity of layers causing "acting as if" in architecture, along with possible consequences.

The research methodology of this article integrates both empirical and theoretical strategies. A field trip was conducted to perform an in-depth survey of the case study within its physical context. This included on-site observations and analysis of the surrounding area. The study involved a critical discussion utilizing concepts from various disciplines to construct a theoretical framework, which was then adapted to the field of architecture. By examining common themes and patterns, the research aims to build an "as if" scenario within the architectural context of Türkiye.

The Story of the Burj al Babas Project

Located in the Mudurnu town of Bolu city in northwest Türkiye, Burj al Babas is an unfinished housing project that draws attention both in national and international media (Figure 1). The name of the project is not Turkish but Arabic, translatable as “Babas Towers” - Burj meaning tower, and Babas is the name of a well-known spa in the region. The project included 732 similar villas with a variety of architectural styles, as well as Turkish spas, an entertainment center, and a shopping mall (“Project Catalogue,” 2016). The target market for the project was wealthy tourists from Gulf countries such as Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates, who were drawn to the climate, landscape, and spa towns of the region. This part of Türkiye has long been a popular destination for Gulf visitors, making it an ideal investment opportunity (Emen, 2018).

Figure 1. Burj al Babas

Source: Author.

A complicated history has been involved in the construction of the project, and it continues today. Around 2011, work on the 750 decares construction site started. Local opposition to the project grew at the same time. Criticism of Mudurnu residents pointed out that the architectural language was entirely out of place and the project would destroy the landscape. The reported destruction of 6.5 decares of forest site and the dumping of excavated earth on young trees have fuelled their temper. Despite the criticisms, the mayor of Mudurnu completely supported the project. While the construction was ongoing, 350 of the villas were sold. In early 2018, the inability of the company to collect debts from its customers led to a halt in the construction of the villas. The project has reached a complete standstill with the construction of its 587 villas completed. The construction company's bankruptcy caused the project to be suspended (Emen, 2019; McKernan, 2019). Today, it is an abandoned development with an uncanny atmosphere evocative of a surreal ghost town.

The project’s architectural style is interpreted as reminiscent of revivalist architecture found in French and German castles from the 17th century (“Burj al Babas”, 2021). The majority of the comments in online media compare the project to a Disney castle, whose precedent is claimed to be a late 19th-century castle -Neuschwanstein Castle in Bavaria, Germany (Thefairytaletraveler, 2015). Naci Yörük, the only architect whose name was mentioned as a consultant in the project, stated that the chateau-

style architecture of the project developed as a result of negotiations between the Arab customers and the investors. Emin Yerdelen, the owner of the investment firm, claimed that the references for the project were not taken from abroad but from two historical buildings in Istanbul, presumably in response to the criticism that the project was incompatible with the local context. The first reference is the Galata Tower, which the Genoese built in the Middle Ages, and the Maiden's Tower, which was initially a Byzantine structure and was rebuilt by the Ottoman Empire after an earthquake in the 18th century destroyed it (Gall, 2019; Emen, 2018). Due to the project's incomplete construction, the interior design has not yet been executed. Nevertheless, the project catalog preserves the fairy tale ambiance through eclectic renderings, depicting walls embellished with diverse textures and furnished with curvilinear, gold-colored furniture. The design promises a residence featuring luxurious amenities, such as bathrooms equipped with jacuzzis that offer access to healing thermal waters. (“Project Catalogue,” 2016)

The Global Phenomenon of Unfinished Housing Projects

Several abandoned large-scale housing projects worldwide exist, not just Burj al Babas, which has its unique landscape of endlessly repeating Disney castles. Ambitious large-scale projects with various objectives of urban development have been envisioned globally. However, these grand projects can confront certain limitations, leading to incomplete construction or abandonment post-completion. This often results from financial problems, political barriers, or unrealistic expectations (Saif, 2023). For example, Ordos Kangbashi in China was envisioned to house a million people. Still, as of the 2000s, it became a "ghost city" as it was largely uninhabited due to unrealized expectations and lack of demand. Half of the population in Ciudad Valdeluz in Spain was left following the 2008 financial crisis. The Sanzhi UFO Houses in Taiwan is another abandoned housing development whose construction was stopped due to economic and construction problems. Moreover, the Ryugyong Hotel in Pyongyang, North Korea, was intended to be the tallest hotel in the world, but the construction remained incomplete for decades due to economic reasons (Abandoned Spaces, 2024). These abandoned sites, which are powerful symbols of the failures of speculative real estate markets, attract media and public attention due to their uncanny atmospheres.

Worldwide Interest in Burj al Babas

Today, local, national, and international media, photographers, and producers of music videos are drawn to the picturesque landscape of the abandoned settlement of Burj al Babas. The site was the background for a short film directed by conceptual designer Alexandre Humbert. He reimagined the location as "Sleeping Beauties," a theme park where visitors can pay a nominal entrance fee to take pictures of abandoned dwellings (Humbert, 2020). Moreover, Meduza shot a video clip for the song "Lose Control" in the Burj al Babas project. Since its debut on October 24, 2019, it has received more than 125 million views on YouTube (Meduza, 2019). The site, having drawn many visitors interested in exploring abandoned ruins, has undoubtedly turned into a cult attraction. As of May 2024, more than 4730 video results appear on Google searches, including many vloggers’ trips to the site.

The exhibition "Ghost Stories: Carrier Bag Theory of Architecture," showcased at the Pavilion of Türkiye during the 18th International Architecture Exhibition, La Biennale di Venezia 2023, featured Burj al Babas as a prominent exhibit. Curated by architects Sevince Bayrak and Oral Göktaş, the Turkish pavilion criticized the obsession with construction for economic aims by highlighting the prevalence of empty and abandoned buildings across the country. Drawing inspiration from Ursula Le Guin's essay "The Carrier Bag Theory of Fiction," the exhibition advocated a shift in focus towards understanding the narratives of neglected structures rather than glorifying successful projects. Burj al Babas was a poignant example of such unused and abandoned developments. (Türkiye Pavillion, 2023)

As the unfinished and abandoned atmosphere of these villas is combined with the endlessly replicated image of a castle, the extraordinary feeling of a surreal, dark, even postapocalyptic world—a view to which we are not accustomed, seems to be the reason for this project's widespread interest. However, this study is not concerned with understanding the stylistic confusion of the project. Nor will it analyze the aesthetic reasons behind its arousing interest and astonishment worldwide. This place merits discussion not only for its confused visual and aesthetic qualities but also because it sheds light on a complex and deep state in architecture as it is understood and implemented in Turkey. In this study, this state will be conceptualized as 'as if' architecture, with its theoretical framework rooted in the concepts of 'as if personality' and 'acting as if,' which will be thoroughly explored in subsequent discussions.

“As If” Personality

“As if personality” was initially described in psychology as a personality type by German psychoanalyst Helene Deutsch in 1942. In her seminal study published in "Some Forms of Emotional Disturbance and its Link to Schizophrenia," Deutsch describes that people with “as if personality” may appear completely normal on the outside (2007, p. 326). These people do not complain of any disorder and seem to have "normal" relationships with those around them. Closer examination reveals, however, that their relationships lack warmth, that all emotional manifestations are formal, and that any interior experience is utterly absent. Deutsch likens people with “as if personality” to performers who are "technically well trained" (Deutsch, 2007, p. 328) but cannot give the character any sense of life. She claims these people acted "as if" they had genuine emotions and interpersonal relationships. However, the "as if" person lacks an inner drive and a connection to their authentic self. Without the chance to grow a sense of self, imitation becomes the new normal. The seemingly natural way of interacting with the world is a copy of others -“as if” personality fully identifies itself with outside things. Only external sources serve as the authority for moral judgments. The absence of a warm or caring relationship on an emotional level or not having any reliable attachment figures in their life, like having distant and uninvolved parents, may weaken the vitality required to seek to live a meaningful life and cause the evolution of “as if personality” as a defense mechanism in further stages of life (Deutsch, 2007, pp.325-344).

Deutsch mentions treatment for emptiness and reaching the authentic self cannot be quickly succeeded (Deutsch, 2007, p. 344). Solomon (2004) notes that treating emptiness and reaching the authentic self is an unwarranted journey, yet awakening consciousness can reveal positive results. Although the expectation of total recovery is too optimistic, psychic gains are recognized as greater life freedoms.

From “As If” Personality to “As If” Architecture

Explanation of "as if personality" provided by Deutsch lends a reassuring viewpoint to the discussion of "as if” in architecture. It is plausible to assert that an architectural work consists of distinguishing elements that contribute to its character and help define its identity, much to how a person's personality is described as the sum of her patterns of behaviors, thoughts, and beliefs. All ideas in response to the social, cultural, physical, functional, and aesthetic demands of the design context make up the whole relationship system. The architect tries to respond to the multidimensional and complex requests of the design problem through spatial design principles that make up the totality of the work. It would not be inaccurate to state that an architectural work's character or personality may be compromised by the lack of consideration put into its design or its incapacity to consider multiple factors. The sense of emptiness at the core of the self, which Deutsch recognizes in "as if personality," is not all that, unlike the absence of the system of ideas or thoughts that makes up an architectural work. Similar to how an “as if” person creates themself through identifications from external sources, an architectural work can tend to find different identities and attach them to substitute the original sense of internal emptiness. This emptiness is masked through the identity it borrows from outside and does not belong to it. This way, it starts to “pretend” like an “as if personality.”

Burj al Babas is a bold example of how the state of “as if personality” can manifest itself in the architectural environment. Additionally, it is anticipated that the "as if" condition of Burj al Babas will become more apparent after addressing how Mudurnu's traditional architecture interacts with its physical and cultural environment through its still relevant design principles.

Traditional Architecture of Mudurnu

The historic town of Mudurnu is situated on the forested lower slopes of Mount Bolu. The hills, valley slopes, and Mudurnu Stream surrounding the district are the determining factors in the formation of the town's physical structure and urban texture (Figure 2). In Mudurnu Town, the natural terrain and urban fabric are dramatically reconciled by the town's linear settlement along the Mudurnu Stream (Halaç et al., 2021). The town has a rich history. It has been a shelter for countless civilizations, such as the Phrygians, Lydians, Persians, Romans, Byzantines, Seljuks, and Ottomans. Although Mudurnu carries traces of different traditions, it preserves its character as a typical Ottoman town with a 700-year history.

Mudurnu is designated a "Historic Guild Town," a distinction emblematic of its rich cultural legacy and enduring commitment to traditional artisanal practices. Characterized by a profound reverence for heritage, the town sustains deep-rooted customs and communal spirit, notably exemplified by rituals such as the Merchants' Friday Prayer and the tradition of preparing bread to honor the dead. To keep an authentic tradition alive for centuries, Mudurnu has managed to carve itself a place on the UNESCO Tentative List for World Heritage Sites (Permanent Delegation of Türkiye to UNESCO, 2015). Additionally, the town Joined the Cittaslow Network in 2018 (Olivetti, 2018; Cittaslow, 2024). The sustained tradition, the preservation of the traditional architectural fabric, and the urban texture

characteristic of an Ottoman town, alongside the restoration and reuse of several buildings as hotels, promote cultural tourism in Mudurnu. Additionally, the presence of thermal springs, forested areas, and streams provides ample opportunities for nature-based and health tourism in this settlement (Türkiye Kültür Portalı, 2024).

Figure 2. View of Mudurnu Town

Source: (Dosseman, 2019) Retrieved April 1, 2024 from https://commons.wikimedia.org/wiki/File:Mudurnu_in_2019_2834.jpg CC BY-SA 4.0

The architecture of this historic town exhibits many key design characteristics, including tectonic language, which draws its principles from structural and constructional principles, and consideration of topography, landscape, and climate as design factors that influence the spatial organization and the articulation of mass and façade. Traditional Mudurnu houses, like all other traditional settlements in Anatolia, exhibit unique features driven by climatic and topographic conditions. As their structural system, the ground floors are mostly built of adobe and stone masonry, and the upper floors are timber framing whose spaces in between are filled with adobe or stone and usually covered with timber (Koçan, 2012). (*see* Figure 3).

Figure 3. Front Facade of a Traditional Mudurnu House

Source: Dosseman (2017a) Retrieved April 1, 2024 from https://commons.wikimedia.org/wiki/File:Mudurnu_buildings_in_2007_7294.jpg CC BY-SA 4.0

The plan schemes of traditional houses were also arranged according to the characteristics of the local climate. The front facades of the buildings were designed to face the view. Due to topographical constraints, Mudurnu buildings were not created by spreading across the land but by utilizing the slope and adding more floors. In buildings that adapt to the slope with different levels, the functions of the floors change, and the primary living floor varies accordingly. (Karatop et al., 2021) As a reflection of differences in spatial arrangement, the projections on the mass can change their position and shape to the extent of the possibilities of the structural system. This attitude enables diversity and variation in the overall urban tissue through mass and façade articulations by maintaining a consistent architectural language. In other words, traditional Mudurnu architecture draws its design ideas and solutions from its own physical and cultural context, and it does not require any external concepts or answers that do not belong to it. Since it possesses intellectual integrity, it does not need to resemble anything else.

Comparison Between the Traditional Architecture of Mudurnu and the Burj al Babas

It is an entirely opposing experience to come across the Burj al Babas project after leaving the historical center of Mudurnu. Burj al Babas, located three kilometers from Mudurnu's historic center, contrasts with the surrounding landscape. The project, near a partially demolished forest, consists of identical villas, a mosque, and a large shopping center. The interwoven landscape of nature and buildings is replaced by unending rows of partially finished villas, indicating a lack of greenery (*see* Figure 4).

Figure 4. Aerial view of the Burj al Babas Construction Site

Source: Google (2024).

Mudurnu's urban fabric, crafted by traditional architecture, showcases variations in height, size, construction techniques, and materials, resulting in aesthetic quality and response to diverse lifestyles (*see* Figure 5). On the other hand, Burj al Babas does not demonstrate any concepts that would lead to distinctiveness within the fabric it generates. The elaboration of the design problem does not take the potential interpretations of the physical context, and as a result, the same type is repeated 732 times (*see* Figure 6).

Figure 5. Urban Fabric of Mudurnu

Source: Dosseman (2007b) Retrieved April 1, 2024, from https://commons.wikimedia.org/wiki/File:Mudurnu_in_2007_7311.jpg CC BY-SA 4.0.

Figure 6. View of Burj al Babas Project from the Main Road

Source: Author.

In Mudurnu traditional architecture, the architectural language assumes its tectonic quality from local materials' constructive and structural capacities. Formal aspects such as window sizes, cantilevers, spatial proportions, and roof geometry create their architectural language by acting within the possibilities and limits brought by the structural material (*see* Figure 7). In Burj al Babas, the structure is a reinforced concrete frame given a make-up of a historical building that would have been built with a masonry system like stone. The structural system is masked as the building pretends to be a historic structure or a castle, although it is not (*see* Figure 8).

Figure 7. Wooden Construction of a Mudurnu House

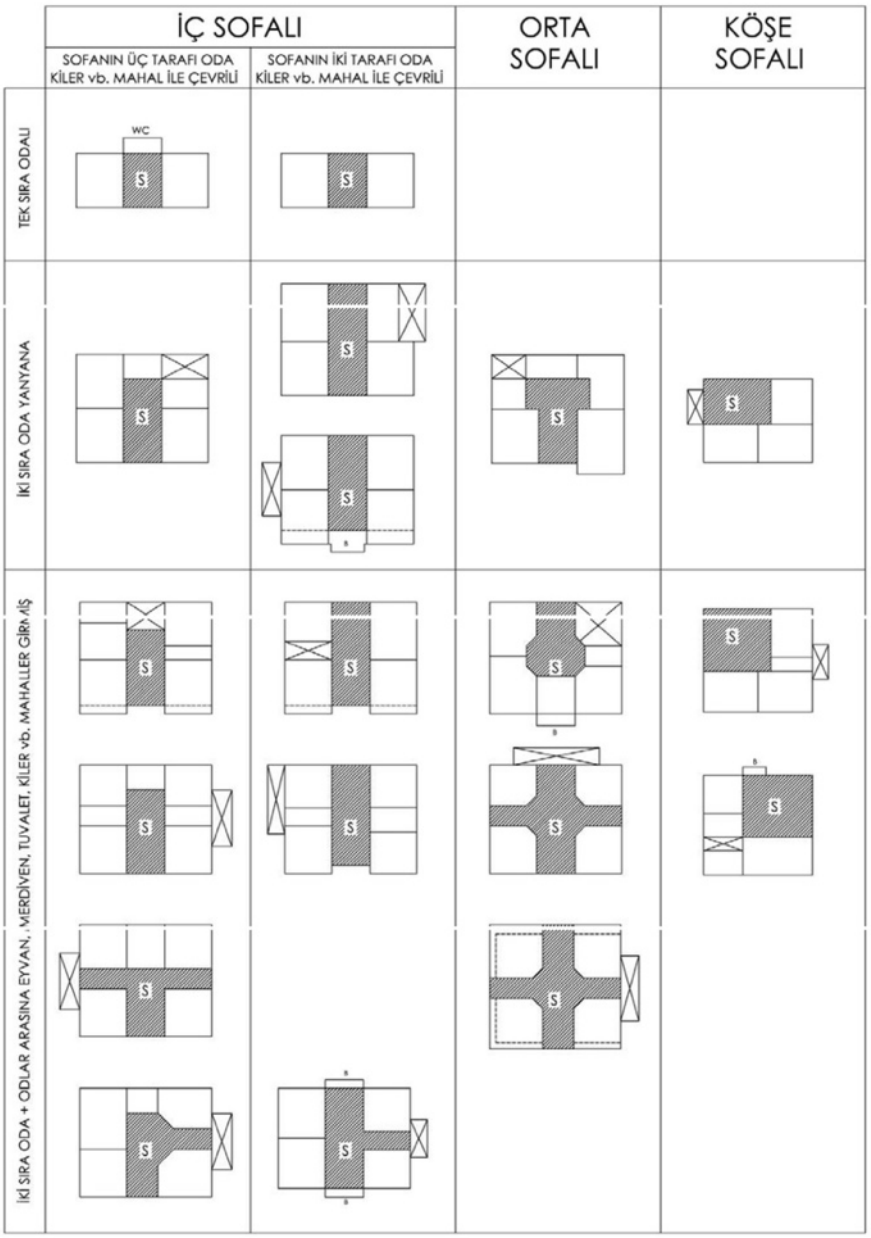
Source: Author.

Figure 8. The reinforced concrete structure of a typical villa in the Burj al Babas project

Source: Author.

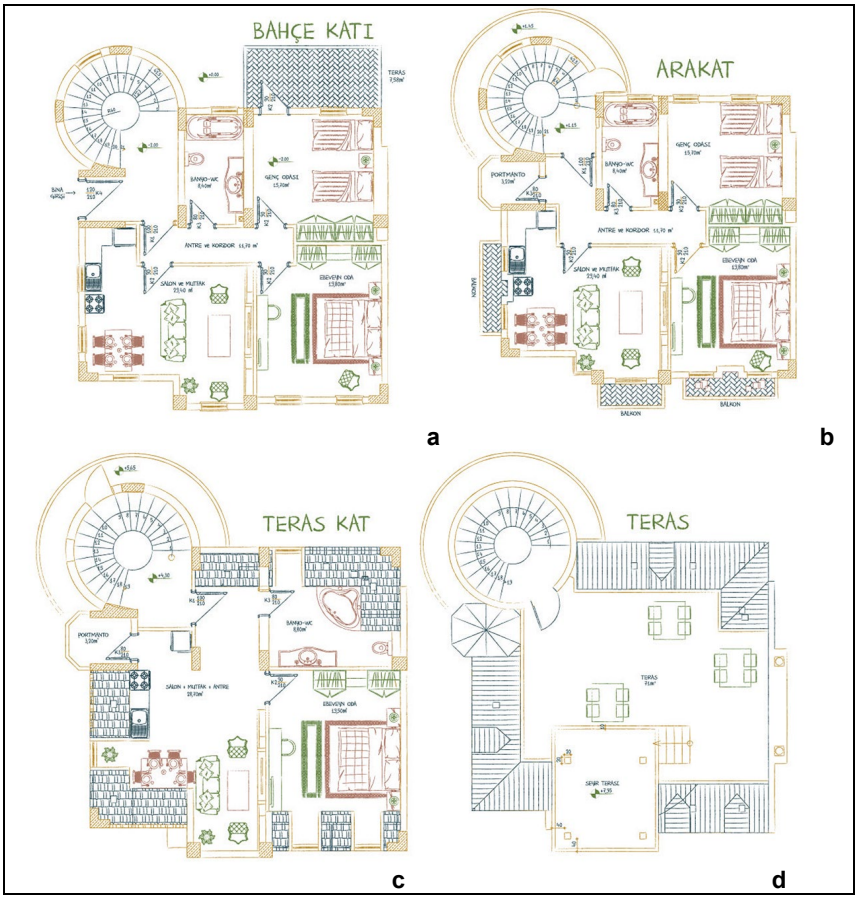
Additionally, the Burj al Babas lacks other principles examined in the Mudurnu traditional architecture, including the impact of topography and landscape in forming spatial arrangement and the interaction between mass and spatial organization (*see* Figure 9). The plans or spatial organization of Burj al Babas, despite the exterior image's reference to a castle or a palace, are far from expressing the atmosphere it aims to evoke. Low ceiling heights, narrow entrance characteristics, treating the living area and all other spaces as separate rooms, and layering floors repeatedly indicate a lack of spatial elaboration. The contradiction between the facade impression and the spatial arrangement is accentuated regarding the relationship between the indoors and outdoors. The terraces delineated by the mass articulations intended to evoke a castle are incompatible with the usage of the interior space, and there is no access from the living area to the garden (*see* Figure 10).

Figure 9. Plan Typologies In Traditional Mudurnu Houses



Source: Babalı (2007, p. 66).
[The sofa, acting as both a circulation and a communal space, connects with all rooms, and its layout displays variations in response to its site, topography, and landscape.]

Figure 10. (a, b, c, d) Floor Plans of a Typical Villa in the Burj al Babas Project



Source: Floor Plans (2016). Retrieved April 1, 2024 from https://www.burjalbabas.com/assets/images/katplani.pdf

[All spaces, including the living space and staircase halls, are regarded as rooms and separated through corridors.]

Prevailing Approaches of “As If” in Türkiye

The comparison between the "new" Burj al Babas Project and the "old" architecture of Mudurnu exemplifies the condition of "as if personality" in architecture, which points to the attitude of attaching images plagiarised from other sources to make up for the absence of essential architectural design characteristics. The Burj al Babas project exhibits the "as if" condition, which is not unusual in Turkish architecture.

Ideological Representations and Historical References

The "as if personality" notion in architecture often manifests primarily through historical references in Türkiye. These historical references mainly suggest visual imitations of Ottoman and Seljuk architecture and have evolved into a typical architectural style in various projects, from public buildings to big-scale housing projects. The ideological and political attitudes of the past two decades have contributed substantially to developing this strategy. An urban revolution, as noted by Batuman (2018, p. 4), has been underway in Türkiye under the current government, which has been in power since 2002, transforming all political forces into urban forms and leading to efforts to establish an "Ottoman-Seljuk" architectural style as a symbol of the “new Islamist national identity.” (2018, pp. 157-162).

This new architectural language in those buildings demands attention for its unrestrained eclecticism. Domes, arches, eaves, projections, ornamental patterns, oriels, pediments, and portals can be used without any particular order. Regardless of their contextual, functional, structural, and constructional rationales, these historical references are primarily employed as adhesive elements on facades. By altering the scale, proportions, structural and constructional principles, the architectural features of the two- or three-story traditional Beypazarı houses are transferred to an 11000 m2 reinforced concrete building with five floors at the town hall of Beypazarı, Ankara (*see* Figure 11). In the mass housing constructed by TOKİ (Housing Development Administration of the Republic of Türkiye) in Mudurnu-

located between the historic town center and the Burj al Babas project, architectural features like projections, pediments, and timber braces are applied as decorative elements on façade repetitively regardless of their formal and constructional principles (*see* Figure 12).

Figure 11. Beypazarı Town Hall, Türkiye

Source: Author.

Figure 12. A Typical TOKİ Housing Block in Mudurnu, Türkiye

Source: Author.

The effort of the governing party to convey its “Islamist and national ideology” (Batuman, 2018) through architecture is being discussed in academic and professional circles. In addition to their historicist standpoint, those criticisms mention issues like their efforts to demolish significant modern architectural landmarks and replace them with mosques; legal and undemocratic urban interventions; and the problematic built environments brought on by the Housing Development Administrative (TOKİ) (Baki, 2020; Bayırbağ, et al., 2022; Batuman, 2018; Bilgi, 2017; Çavuşoğlu et al., 2014; Ghulyan,2019; Karatepe, 2020; Orhan, 2016; Sargın, 2020; Tansel, 2019).

Most of these discussions, which link their architectural critique to the current government's politics, generally overlook the point that it is not only their organizations and municipalities that utilize architecture as an ideological tool and restrict it to historical references. The condition exemplified by Burj al Babas and other Turkish cases demonstrates that it is not solely contingent on the attitudes of the ruling party, and even other secular and social-democratic political entities share a similar mindset regarding architecture. Mudurnu major as a CHP (The Republican People’s Party) member, declares his unquestioning support for the Burj al Babas project and his commitment to completing it despite the claims that it will damage the physical and historical environment of Mudurnu (Emen, 2018). Additionally, the Town Hall of Marmara Ereğlisi is a blend of classical architectural elements with a Western civilization-inspired past (Figure 13). The mayor from CHP praises the building despite media scrutiny (“Marmara Ereğlisi,” 2018). Similarly, the mayor of Kuşadası from the same political party promotes the new Town Hall building, which has distorted and anonymized historical references (Okayer, 2021) (“Chp Chairman,” 2022) (*see* Figure 14). It is conceivable to assert that authorities or administrators who subscribe to competing political ideologies frequently use architecture to spread their political statements using varying historical references.

Figure 13. Marmara Ereğlisi Town Hall, Türkiye

Source: Marmara Ereğlisi (2018). Retrieved April 1, 2024, from https://www.cnnturk.com/turkiye/marmara-ereglisi-belediyesinden-yeni-binayla-ilgili-aciklama?page=1

Figure 14. Kuşadası Town Hall, Türkiye

Source: CHP Chairman (2022). Retrieved April 1, 2024, from https://theegeeye.com/chp-chairman-kemal-kilicdaroglu-opens-kusadasi-municipality-new-service-complex/

The Modernization Paradox

It may be time to revisit Kenneth Frampton's seminal work "Prospects for a Critical Regionalism" at this stage, given that the problem definition acquired from Ricoeur still applies to the Turkish setting. Paul Ricoeur identified the path to modernization as a significant issue facing developing countries in 1961 (Frampton, 1983, p. 148). A challenging procedure is needed to attempt to participate in global development without breaking the ties to the culture and the traditions that underpin their national identity. Because participating in scientific, technical, and political rationality is required to try to be a part of modern civilization, doing so may also require giving up old customs and traditions. For this reason, it is paradoxical to be modern while seeking to conserve the past culture, and Ricoeur is sure that not every culture can endure and manage the "shock of modern society." (Frampton, 1983, p. 148) Türkiye undoubtedly struggles to achieve cross-fertilization. Ricoeur proposed creating a hybrid "world culture" that integrates local culture and universal civilization. It is challenging to assert that this cross-fertilization, achieved through a thorough investigation of tradition and a reinterpretation of regional culture to incorporate the cultural, scientific, and technological influences of external sources, was established as a mindset in Türkiye.

Kenneth Frampton's concept of critical referencing distinguishes it from unskilled copying, and it focuses on underlying values and principles (1983, p. 149). Imitation is the quickest and most straightforward approach to establishing identity as a marketable component, enhancing product value (Güzer, 2007). Architectural elements from the past have established identities, making the general public easily accept and consume historical imitations (Özaslan et al., 2011). Frampton's theory is supported by the Ottoman style's popularity in Türkiye, which is prevalent in public buildings, hotels, office buildings, and housing projects.

Compulsion of Developers

In the context of Turkish architecture, "as if personality" refers to more than just historical and traditional imitation. It can also be seen in the modern-looking new building types that globalization has brought about. Many office buildings, shopping centers, and housing projects, despite being marketed as "contemporary" and "modern," fail to achieve public space or three-dimensional spatial relationships,

as their main aim is to provide the most marketable area possible. They try to compensate for the absence of spatial qualities and tectonic expression with two-dimensional surface qualities, such as combinations of sun breaks, curtain facades, and false skins composed of light concrete (Çetin, 2020).

“Acting As If”

Doğan Cüceloğlu's description of "acting as if" is highly useful in comprehending the context that lays the groundwork for "as if" architecture in Türkiye. Turkish psychologist Cüceloğlu describes the phenomenon of "acting as if" in his book "Mış Gibi Yaşamlar" (2005), which translates as "Pretend Lives." He notes that this assumption of duties occurs on various scales, ranging from personal relationships to the functioning of the legal system in Türkiye. Like Helene Deutsch, Cüceloğlu describes the “as if” condition as an inauthentic state, a falsity, a copy, not having the sense of being genuine, different from what it claims to be. In a discipline, “acting as if” is described as fulfilling a task not as it should be done but doing it without attention and knowledge. Cüceloğlu mentions that every job, discipline, and study should reveal a consciousness of implementation in its environment. This consciousness includes “intention,” “knowledge,” “skill,” and “responsibility” to sustain it. If one of these conditions is missing, the performance attains an “as if” quality. As the “as if” actions increase, it transforms into a society of people living pretend lives. Cüceloğlu mentions the “as if societies” full of people with suppressed personalities who fear authority and respect only the stronger ones. Those people are obedient without questioning and indifferent to learning. They memorize, accept without question, and lead their lives according to what others say (Cüceloğlu, 2005, pp. 26-31).

The topic of "acting as if," which may be debated for every discipline and method of operation, is regularly experienced at all levels within the Turkish architectural environment. The architectural environment in Türkiye is subject to criticism and discussion on various fronts, including education, professional practice, professional ethics, and legal rights. In education, it is discussed that the number of schools has increased continuously over the years, but there are no qualified instructors and spatial conditions to meet this need (Tuna, 2016). The number of business environments does not keep pace with the growth in the number of architects. As a result, finding jobs for young architects becomes more complex every day (Korkmaz, 2019). However, the quality of the professional practice environment is also a crucial source of dispute. In constantly transforming contexts where urban policies are not implemented, they have to work within limits determined by the zoning regulations. Contradictions abound, including the tolerance of zoning violations and the acquisition of additional zoning rights by occupying public space. Regarding the relationship of buildings with their environments, urban identity, and public interest, architects, planners, and designers face significant ethical concerns. In a 2014 statement, the "Turkish Association of Architects in Private Practice" claimed that the current state of the architectural profession is experiencing the most problematic period in the history of the Republic in terms of ethical problems and professional identity (Serbest Mimarlar Dernekleri, 2014).

Discussing the “as if” situation in architecture is a multi-dimensional subject. As architecture is a discipline that is closely related to many other fields and decision-makers, it is directly affected by all kinds of “as if” situations occurring in society. Not only must architects maintain integrity with the factors of intention, knowledge, skill, and responsibility, but authorities, employers, and other disciplines working with architecture should also satisfy these conditions. This issue is more understandable as we focus on the example of Burj al Babas. The project is a consequence of a series of lacking values, such as consideration of nature and history, respect for skills and expertise, a work ethic that prioritizes the welfare of society over personal interests, and finally, the intellectual background for correct architecture and urbanism. The architect of Burj al Babas appears to have had minimal influence on design choices; instead, he seems to act more as a supplier of the employer's desired image.

Impacts of “Acting as If” on Nature and the Ecosystem

Regrettably, the consequences of "acting as if" scenarios can profoundly impact nature and the ecosystem. This was tragically demonstrated by the earthquake that struck the southeastern region of Turkey in February 2023, claiming the lives of 53,537 people. During this earthquake, 39,441 buildings collapsed, and 271,892 buildings became unusable (TMMOB, 2024). Notably, not only did older buildings succumb, but also many new buildings marketed as "luxury" and sold at high prices collapsed. It is an undeniable truth that the loss of such a significant number of lives stemmed from negligence across various stages of the building production process over the years, including development, design, project planning, construction, inspection, and usage.

Recent large-scale investment decisions, such as the construction of the third bridge and new airport in Istanbul, the opening of gold and other similar mines in forested areas, and the construction of hydroelectric power plants, were made without conducting adequate research into environmental and

ecological values, microclimatic conditions, and geological conditions. Coasts, forests, pastures, and plateaus were allocated to energy monopolies, mining companies, tourism investors, and construction companies. The construction industry devours the mountains, stones, and nature with marble quarries, brick factories, iron mining, and cement production to provide the building material (Balaban, 2012; Baysal, 2017; Elicin, 2014; Elvan, 2014; Erdoğan, 2007; Özsoy et al., 2015; Pata, 2018; Tayanç, 1999; Tonyaloglu et al., 2023; Ullah et al., 2023).

In Türkiye, institutional responsibilities and legislative requirements have not been reorganized to conform to international policy and the goal of pre-disaster risk reduction. Investment and settlement decisions can still be seen in disaster-prone areas, fault zones, liquefaction and landslide-prone areas, stream beds, alluvial grounds, and valuable agricultural fields. Considering the adverse effects of swift urban population expansion, along with the growing global threats (natural disasters, global warming, economic downturn, etc.), it is evident that the existing research and policies need to be updated and expanded upon (Arsel, 2012; Balamir, 2002, 2019, 2020; Balaban, 2019; Çoban, 2019; Ş. Balaban, 2019; Özveren et al., 2012; Tatoğlu et al., 2015).

Concluding Remarks

The Burj al Babas project, central to this study, is examined as an extreme case illustrating the "as if" scenario within the Turkish architectural context. It highlights deficiencies in the requisite knowledge, skills, values, and responsibilities inherent to the discipline of architecture and an absence of identity through an approach that diminishes it to non-authentic pasted images. This "as if" phenomenon, as discussed, warrants serious scholarly attention due to its profound impact not only on our mindsets and ways of life but also on ecology and all living beings.

In Türkiye, like in many other fields, discussing an "as if" situation in a sterile environment is not an option. It makes sense to discuss it thoroughly with all the institutions, disciplines, and cultures it interacts with. From the most potent mechanism to the individual human scale, multiple agents and players are involved in determining the quality of even a single architectural artifact. The government is undoubtedly the leading actor in these systems that control spatial development, acting through legal and political frameworks, urbanization, and transportation programs. The "Ministry of Environment and Urbanization" and the "Housing Development Administration" are two significant government organizations that specify the framework for implementation and spatial development. Local governments are the next effective and potent actors on the local level, especially urban municipalities with supreme power. The principal players authorized and in charge of carrying out urban development, encompassing both mechanisms of urban expansion and urban renewal, are metropolitan municipalities. Additionally, the housing market and the construction industry are effective in the process. The setting is standardized by technical advancements and is changed by the market's transformational economic force. Urban designers, architects, public institutions, and educators also effectively shape the environment. The condition of our built environment is also the result of citizens' demands for ever-newer homes, their preference for them over older ones, their dependence on cars, and their failure to demand or fight for fundamental urban rights.

Navigating the complexities of the "as if" situation within architecture necessitates a multifaceted and thorough approach, acknowledging the inherent challenges and potential limitations. Nevertheless, this study advocates that the initial steps toward resolution involve fostering awareness and engaging in critical thinking through constructive confrontation. It is paramount that architecture is considered within the context of its educational and practical environments, along with its relationships with all influencing disciplines and thought systems. Social and environmental responsibilities should be prioritized, and the discipline should be discussed within a vibrant critical-thinking environment. Moreover, fostering a culture of resistance and activism is crucial in challenging the proliferation of "as if" architecture and preserving the integrity of the discipline.

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Data Availability

Data available on request from the authors: Photographs taken by the author are available upon request: [Figure 1, Figure 6, Figure 7, Figure 8, Figure 11, Figure 12]

Data available in a public repository: In this study, several images have been used from various sources. The sources of these images are acknowledged in the captions or credits accompanying each respective figure. All efforts have been made to comply with copyright and usage permissions. For more information regarding the availability and usage permissions of specific images, please refer to the individual figure captions or contact the respective sources directly.

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