

## **The Failed Potentials of Masdar City: Renegotiating the Present and Future through Climate Change Technologies in the United Arab Emirates**

Gökçe Günel. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*, Duke University Press, pp. 272 ISBN: 978-1-4780-0091-4

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What happens when “a technocratic dictatorship,” “an expensive toy,” and “spaceship in the desert” entangle together under moments of irony and contradiction to confront issues of climate change and energy scarcity, oscillating between the future and the present? In 2006, the government of Abu Dhabi aimed to create the world’s first zero-carbon city that promised an ambitious plan to promote clean and renewable energy to counter the environmental challenges of the Anthropocene. Marketed as “the city of the future and the role model for the world,” Masdar City was created by the government of United Arab Emirates (UAE) as an experiment to implement green technologies and infrastructures as a preparation for a more sustainable post-oil future. Throughout Gökçe Günel’s (2019) six chapters of *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*, she sheds light on the often complex politics of space that are interrogated by contradictory beliefs of environmental management that made an ambitious project like Masdar City a failed, ambiguous experiment. Günel, an anthropologist and assistant professor at Rice University, establishes how this “spaceship in the desert” that situates itself in “a perpetual future” and constructs the present as “a vacated category” produces both “space and time” through what she calls “technical adjustments.”

In the “Introduction: The Soul of Carbon Dioxide,” Günel provides the book’s outline and her methodology. It is also in this chapter that she expands on the notion of “technical adjustment,” and her plans to focus on a different ‘technical adjustment’ in every chapter to

evoke new ethical and moral realities of contextualizing networked ideas and policies that make Masdar City possible through tensions and frictions. Chapter One, “Inhabiting the Spaceship,” familiarizes the readers with Masdar by drawing on utopian/dystopian and “frontier” imageries and language to illustrate the city as self-experimental, self-sufficient, and high-tech. However, the promises and potential of the Masdar city ultimately depends on embodiment, as it is through the individual body of those who visit or live in the city and is through the movement and interaction of this body, that the city is made as a “dwelling” (Heidegger 1971).

Chapter Two, “Beautiful Buildings and Research Contracts” delves into how urban design that included attractive buildings, and research contracts contributed to the transition of Abu Dhabi into a knowledge-based semiocapitalism (Berardi 2009) that depends on collaborations with reputable educational and research institutes such as the United States’ Massachusetts Institute of Technology to negotiate geopolitics and cross-national boundaries. These collaborations allow for the UAE to project itself as innovative, whilst also allowing outside countries to initiate their own research and design goals with funding from the UAE.

The Masdar Institute of Science and Technology, which merged with two other universities in Abu Dhabi to become Khalifa University, was integral to the knowledge production that would transform the UAE into a country that would prioritize clean and renewable energy. There were plans for a new “energy currency” that Günel expands on in the third chapter, “Ergos: A New Energy Currency.” This new “currency” named Ergos is part of Masdar city’s efforts to form new subjectivities and reshape everyday lives through innovative technologies. Ergos would issue “a balance of energy credits as a means of defining and regulating an allocated energy budget” (Günel 2019: 33) to reduce energy consumption. Despite such ambitions, the development of this new “currency” reflected tensions between individual freedom and choice, and the pressing need for a collective, appropriate awareness and responsiveness to climate change.

Chapter Four titled, “An Expensive Toy,” reveals the shortcomings of another technology, a driverless personal rapid transit that ran on electricity, or PRT. Günel explains that this apparatus was designed to cover the entire city with plans to revamp social and transportation practices. However, its short length (approximately 800 meters) and its inability to create new levels of comfort and convenience made the PRT less than appealing to citizens, who questioned what this innovative technology could offer that existing “green energy” practices such as by

bicycle or on foot, could not. Both the PRT and Ergos failed to take into account that in case of techno-futurism, it is important and often necessary to create new social practices rather than infringing on current ones— especially as it is through these technologies that the bilateral relationship between the “human” and the environment is being built, maintained, and rebuilt in the Anthropocene.

It is in the fifth chapter, “Subsurface Workings” that we see the final example of a “technical adjustment” through a discussion of policymaking issues regarding the controversial carbon capture and storage (CCS). This was a “controversial climate change mitigation technology” (Günel 2019: 157) that placed carbon dioxide waste into the ground. Reminiscent of what Diane Vaughan (1996) calls “structural secrecy,” and of science and technology studies discussions of “objectivity paradigms,” (Kuhn 1962) “boundary work,” (Gieryn 1983) or “crisis of expertise,” (Eyal 2019) Günel investigates how risks, uncertainty, and trust integrate into the discourse of CCS technology as the risks in this technology were justified by expert environmental engineers and professionals in their Masdar proposal to the United Nations Framework Convention on Climate Change due to their claims of “knowing” how to manage them. The desires to mitigate climate change through a new technology whilst maintaining normalcy ultimately created a complexity in which moral judgements became skewed. This chapter also enlightens readers on the disagreements between the government, businesses, stakeholders that emerge from policymaking efforts, as the oil industry remains vital on a global scale when it comes to climate change policies.

The Epilogue titled ‘The Potential Futures of Abu Dhabi’s Masdar’ ends on a somewhat somber note, as Günel (2019) writes: “the plans for Masdar City in particular and the green economy in general shifted, becoming more ambiguous about their expectations for the future” (182). This ambiguity is a further reflection of the people who lived and interacted with Masdar as a utopian space of possibility and yet felt troubled by its dystopian qualities— in other words, as a primary example of what a new, eco-friendly, and high-tech city as an experiment both succeeded and failed to do.

As an anthropologist interested in science, technology, knowledge, and society, this book was both compelling and thought-provoking in its recognition that although the technologies of Masdar City might not have been successful solutions to the climate crisis per se, they are still important contributions to the continuing discussion of the relationship between climate change

and capitalism. It was comprehensive in its methodological and theoretical framework, and engage readers through a concise and structured argument prevalent throughout its six chapters. Günel encourages us as academics and as persons to rethink, renegotiate, and recreate our imaginations of the future through climate change technologies that do not preserve the status quo, but rather, alter it in the present.

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