

Earth, Water, Air, and Aether:

Mobitecture as a 'vessel' for Understanding Adaptive Architecture in our Ever-Evolving World.

A dissertation presented to the Faculty for the Built Environment in part to fulfil the requirements for the Master of Architecture (Architectural Design) at the University of Malta.

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June 2025



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ACKNOWLEDGEMENTS

This dissertation represents the culmination of a long, challenging, and profoundly rewarding journey, one that would not have been possible without the encouragement, guidance, and support of many remarkable individuals.

First and foremost, I wish to express my sincerest gratitude to my principal supervisor, Perit Simon Bernard Grech, whose guidance was instrumental throughout this process. His thoughtful insights and unwavering support helped me navigate the complexities of my research, bringing clarity to the evolving vision of this project. I am equally thankful to my co-supervisor, Perit Dr Alexia Mercieca, for her valuable contributions and mentorship throughout this academic endeavour.

To the eight professionals who generously participated in the interviews that form the heart of this research: thank you for sharing your time, expertise, and honest reflections. Your contributions gave this dissertation depth, direction, and meaning.

Above all, I would like to thank my mum and dad, whose unwavering love and support have been the foundation of this journey. Your constant belief in me, even during the toughest moments, means more than I can ever express. I am also deeply grateful to my family and friends who have stood by me through the highs and lows of this academic chapter. This past year has tested every part of me, and I truly appreciate those who endured my sleepless nights, long rants, and chaotic energy. Your patience and encouragement have helped carry me forward.

This work is not dedicated to one person, but rather to those who find themselves underestimated, overlooked, or discouraged yet still rise, persist, and create greatness despite the odds. In many ways, this dissertation reflects the spirit of perseverance and vision in the face of uncertainty. It embodies the motto I've long held close: "Greatness from small beginnings", Sir Francis Drake, navigator and sailor.

To all who journeyed with me,

Thank you.

ABSTRACT

In light of accelerated urbanisation, technological advancements, climate volatility, and the transformations of home and work that have arisen post-pandemic, architecture is called to evolve beyond static typologies. It must adopt characteristics of mobility, modularity, and resilience. This dissertation, titled "*Earth, Water, Air & Aether: Mobitecture as a 'Vessel' for Adaptive Architecture in Our Ever-Changing World*," critically examines the concept of mobitecture as an integration of mobility and architecture into a cohesive design philosophy and spatial strategy that responds to contemporary global dynamics.

Situated within a constructivist and interpretivist paradigm, the study employs a qualitative research approach, highlighted by semi-structured elite interviews with eight practitioners from diverse fields, including architecture, naval design, and spatial theory. Their insights were analysed using Braun and Clarke's thematic methodology, which revealed significant trends concerning mobility, identity, modularity, and ecological ethics.

A thorough literature review traces the evolution of mobitecture from nomadic vernacular prototypes, such as yurts and tipis, through Archigram's visionary mobile city concepts, the tiny house movement, and innovative portable structures, including wearable shelters and inflatable disaster relief modules. The thematic analysis identified seven global themes: Redefining Home and Identity, Modularity and Compact Living, Autonomy and Infrastructure, Ownership and Temporality, Spatial Ethics and Ecology, Legislative and Planning Constraints, and the Dynamic Interplay of Values, Aesthetics, and the Sea.

The findings expose a significant gap between theoretical potential and practical implementation, emphasising the necessity for interdisciplinary prototyping, policy reform, and user-driven reconfiguration strategies. The dissertation culminates in a consolidated framework that incorporates human-centred ergonomic standards (as outlined by Neufert), closed-loop energy and water systems inspired by yacht and aerospace design, rapid deployment techniques derived from nomadic precedents, and existential-regionalist principles to direct the creation of resilient, adaptable dwellings across land, water, air, and beyond.

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GLOSSARY

Adaptive Architecture

A design approach that facilitates the dynamic adaptation of buildings or structures to evolving environmental, functional, or social conditions.

Aether

"The fifth element" refers to the vehicular or atmospheric realm (aircraft, drones) where adaptive, mobile habitats could operate.

Biophilic

A design approach that seeks to reconnect people with nature in the built environment by incorporating natural elements, materials, patterns, and forms into architecture and urban planning.

Closed-Loop System

A design strategy that emphasises the cyclical use of materials, water, and energy, thereby minimising waste and reducing reliance on external inputs.

Critical Regionalism

An architectural philosophy that balances global modernist principles with local culture, climate, and materials to create contextually responsive designs.

Human-Centred Ergonomics

Designing and studying products or environments based on human characteristics, abilities, and behaviours to enhance comfort, safety, and efficiency.

Mobility

Being able to easily relocate or reconfigure a structure is key to tiny homes on wheels, houseboats, and other mobile dwellings.

Mobitecture

Combining the terms 'mobility' and 'architecture', it refers to design approaches and built environments that merge transportability with spatial functionality.

Nomadic Vernacular

Classic portable shelters like yurts, tipis, and Bedouin tents have inspired the design of modern mobile architecture prototypes.

Phenomenology

A philosophical framework that emphasises the significance of lived experiences and spatial perceptions, shaping the sensory and existential dimensions of architecture.

Tiny-House Movement

Small, compact living spaces that focus on simplicity, affordability, and flexibility, driven by social and architectural trends.

INTRODUCTION

0.1 Background and Context

In recent years, the understanding of 'home' and residential architecture practices has undergone significant evolution. Global factors, including rapid urbanisation, fast-paced technological advancements, changing socioeconomic conditions, and, particularly, the changes brought about by the COVID-19 pandemic, have challenged established beliefs. These developments have contributed to the emergence of a contemporary architectural trend called 'mobitecture.' This architectural style emphasises mobility, adaptability, and compact living. Unlike traditional, static approaches, mobitecture prioritises flexibility, ergonomics, and modularity, catering to an increasingly mobile and interconnected society while being conscious of resources. Humans have consistently prioritised securing shelter (Le Corbusier, 1927), but this need has evolved, adapting to the shifting requirements of its users.

This dissertation explores the concept of mobitecture, drawing on historical examples, contemporary theories, and futuristic designs to enhance the development of high-performance, efficient, and compact living spaces on land and at sea. It examines portable homes used by nomadic cultures (land) alongside compact yacht living (water), modern portable structures (air), and advanced vehicle habitats (aether). The research highlights how mobility-focused design significantly shapes human needs, environmental constraints, and innovative space utilisation. This study incorporates insights from architecture, ergonomics, and various design fields, including automotive and aerospace, to understand human-centred, adaptable architectural strategies for contemporary compact living.

The contemporary world faces a challenging combination of urban housing shortages, environmental pressures, and increasing lifestyle mobility. Consequently, architects and designers are turning to mobitecture, mobile and compact architecture, for innovative living solutions. Mobile homes, from tiny houses on wheels to living aboard sailboats, offer valuable insights into efficiency and adaptability, especially relevant during "mass population movement... housing crunches and the onset of Generation Rent" (Harriet Thorpe, 2022). This dissertation explores the design principles arising from these mobile architects, aiming to integrate them into understanding high-performance, efficient, and compact living spaces on land and water, and even conceptually extending into the air and the abstract realm of aether (symbolising the future or the digital space).

0.2 What is Mobitecture?

"Whereas architecture relates to the archetype of a place, mobitecture relates to the archetype of movement." (Richard Kleijn, 2021)

mo·bil·i·ty + ar·chi·tec·ture = mo·bi·tec·ture

"Mobitecture, " a term that comes from "mobile architecture, " describes structures specifically created for mobility, adaptability, and compactness. In contrast to conventional architecture, which focuses on permanence, mobitecture highlights transience and adaptability, catering to those lifestyles that necessitate or prefer mobility. This category includes portable, transportable, or temporary living spaces like tiny homes on wheels, houseboats, camper vans, modular prefabricated units, and even conventional nomadic dwellings such as yurts or tipis. At the core of mobitecture is efficiency, which maximises the use of limited space and resources while prioritising flexibility, resilience, and a focus on human needs. With roots in nomadic cultures, modern mobitecture merges traditional knowledge with cutting-edge technologies, offering sustainable living solutions that address today's fast-paced lifestyles, environmental challenges, and housing shortages.

Key Characteristics of Mobitecture:

1. **Mobility and Flexibility:** Mobitecture structures are made for easy relocation, adapting to the ever-changing aspects of modern life.
2. **Compact and Efficient Design:** These homes optimise limited space by integrating multifunctional features that improve liveability.
3. **Sustainability:** Focus is on sustainable materials and energy-saving systems, supporting global sustainability objectives.
4. **Technological Integration:** Contemporary mobitecture frequently integrates cutting-edge technologies to enhance functionality and the user experience.

0.3 What is Adaptive Architecture?

The concept of adaptive architecture, as articulated in this dissertation, represents a design philosophy and methodological framework in which architectural forms and environments responsively engage with environmental, social, and technological transformations. Within this paradigm, adaptive architecture incorporates principles of mobility, modularity, and flexibility, allowing living spaces to progressively adapt and reorganise in response to changing user requirements, climatic variations, and spatial limitations. Fundamental to the notion of adaptive architecture is the synthesis of human-centred ergonomic principles, sustainable closed-loop systems, and cutting-edge technologies that enable swift implementation and facilitate ease of reconfiguration. By leveraging insights from traditional nomadic habitats, maritime and aerospace design, alongside contemporary methodologies, adaptive architecture emerges as a forward-thinking strategy to address pressing issues such as climate variability, resource scarcity, and the shifting patterns of life in the post-pandemic era.

0.4 Motivation

The initial motivation behind this dissertation originated from a desire to bridge two longstanding passions: architecture and yachting. What commenced as a curiosity regarding naval architecture and the intelligent use of space on sailing vessels evolved into a comprehensive exploration of mobility, modularity, and adaptability within design. Yachts, with their efficiency, compactness, and capability to navigate diverse environments, present a compelling architectural analogy, serving as both literal and conceptual vessels.

As the research advanced, this curiosity expanded through an engagement with the field of mobitecture: a discipline that reimagines the architectural object as mobile, impermanent, and responsive. This engagement opened a realm of possibilities in which architecture is not confined to static walls or traditional foundations, but emerges as an evolving system capable of shifting across landscapes, climates, and contexts.

This exploration aligns with contemporary conditions, including the rise of digital nomadism, ecological uncertainty, and the increasing necessity for design to accommodate movement, temporality, and change. Thus, the dissertation serves not only as a personal inquiry but also as a response to broader questions concerning how architecture may function in an era defined by fluidity, where boundaries are perpetually shifting and the definition of 'home' is no longer singular or fixed.

0.5 Aim

This dissertation explores how architecture evolves when its boundaries become mobile, modular, and responsive, rather than fixed and static, in a world of constant change. The primary goal is to examine how mobitecture mobile architecture can serve as both a practical and philosophical framework for understanding adaptive design in an era of climate uncertainty, changing patterns of habitation, and the rise of digital nomadism.

At the core of this research lies the following overarching question:

"How can mobitecture serve as a framework for adaptive architecture when boundaries are no longer static but mobile, modular, and responsive across environments and dimensions?"

Throughout the project's early stages, this guiding question acted as a compass, especially when developing interview questions for key participants. As the research progressed, influenced by existing literature, discussions with experts, and a growing understanding of interdisciplinary factors, a set of more specific sub-questions began to emerge:

- *How do vernacular and avant-garde precedents inform the principles of mobility and modularity in contemporary adaptive architecture?*
- *In what ways do closed-loop systems and human-centred ergonomic standards shape the sustainability and liveability of mobile dwellings across land, water, air and "aether"?*
- *What ethical, legal and socio-temporal factors limit or enable the deployment of adaptive mobile habitats in diverse environmental contexts?*

These sub-questions not only strengthened the theoretical basis of the research but also provided opportunities for comparative analysis between architectural theory, real-world applications, and speculative futures.

0.6 Objectives

To reach the goal outlined in this dissertation, the following objectives will steer the research process:

1. **Explore the basics of human-centred design** as discussed by architectural theorists and practitioners like Le Corbusier's modular concept of a "machine for living," Ernst Neufert's ergonomic principles, and Leonardo da Vinci's insights, emphasising their relevance to contemporary, mobile, and compact living.
2. **Explore historical and contemporary mobile architecture** (Mobitecture) to understand how mobility shapes lifestyle and spatial design. This includes Archigram's theoretical designs, modern mobile homes such as tiny houses, houseboats, and camper vans, alongside traditional nomadic structures like Mongolian yurts and Native American tipis.
3. **Analyse contemporary lifestyle trends and cultural shifts** influenced by recent global events (like the COVID-19 pandemic, the rise of remote work, and digital nomadism), focusing on their impact on residential design and the increasing demand for adaptable, mobile, and compact living solutions.
4. **Using elite interviews to examine** previous research to recognise and evaluate contemporary design strategies and technologies utilised in modular housing, naval architecture, and micro-architecture.

Overarching Philosophical Inquiry

"What becomes of architecture when its boundaries transcend static permanence, embracing mobility, modularity, and adaptability across diverse environments, contexts, and human experiences?" (Author, 2025)

0.7 Outline of chapters content and methodology

Divided into five chapters, this dissertation presents a comprehensive examination of how mobility, modularity, and adaptability reconfigure architecture in both contemporary and speculative settings.

Chapter 0: Introduction

Defines the research context, objectives, and scope, introducing key concepts such as adaptive architecture and mobitecture. It also outlines the research questions and presents the reasoning behind the investigation.

Chapter 1: Literature Review

Thoroughly examines the theoretical frameworks and precedents that underpin this study. It explores themes including mobile architecture, dwelling philosophy, ergonomic design, and interdisciplinary analogies from yacht design, aerospace, and nomadic cultures.

Chapter 2: Methodology

Explain the rationale behind the qualitative research design and outline the use of elite interviews as the main method for gathering knowledge. The chapter examines the methodological framework, the structure of interviews, and approaches to thematic analysis.

Chapter 3: Observations and Discussion

Provides a thematic analysis of the interview data, combining insights from experts with findings from existing literature. This chapter explores the intersection of theory and practical professional experience in shaping a new perspective on architecture as an evolving concept.

Chapter 4: Conclusion and Reflections

Summarises key findings and reflects on the research's implications. It also outlines limitations and suggests potential directions for further study in adaptive architectural design.

These chapters work together to form a structured exploration, moving from conceptual foundations to methodological implementation, and then to applied analysis and critical evaluation.

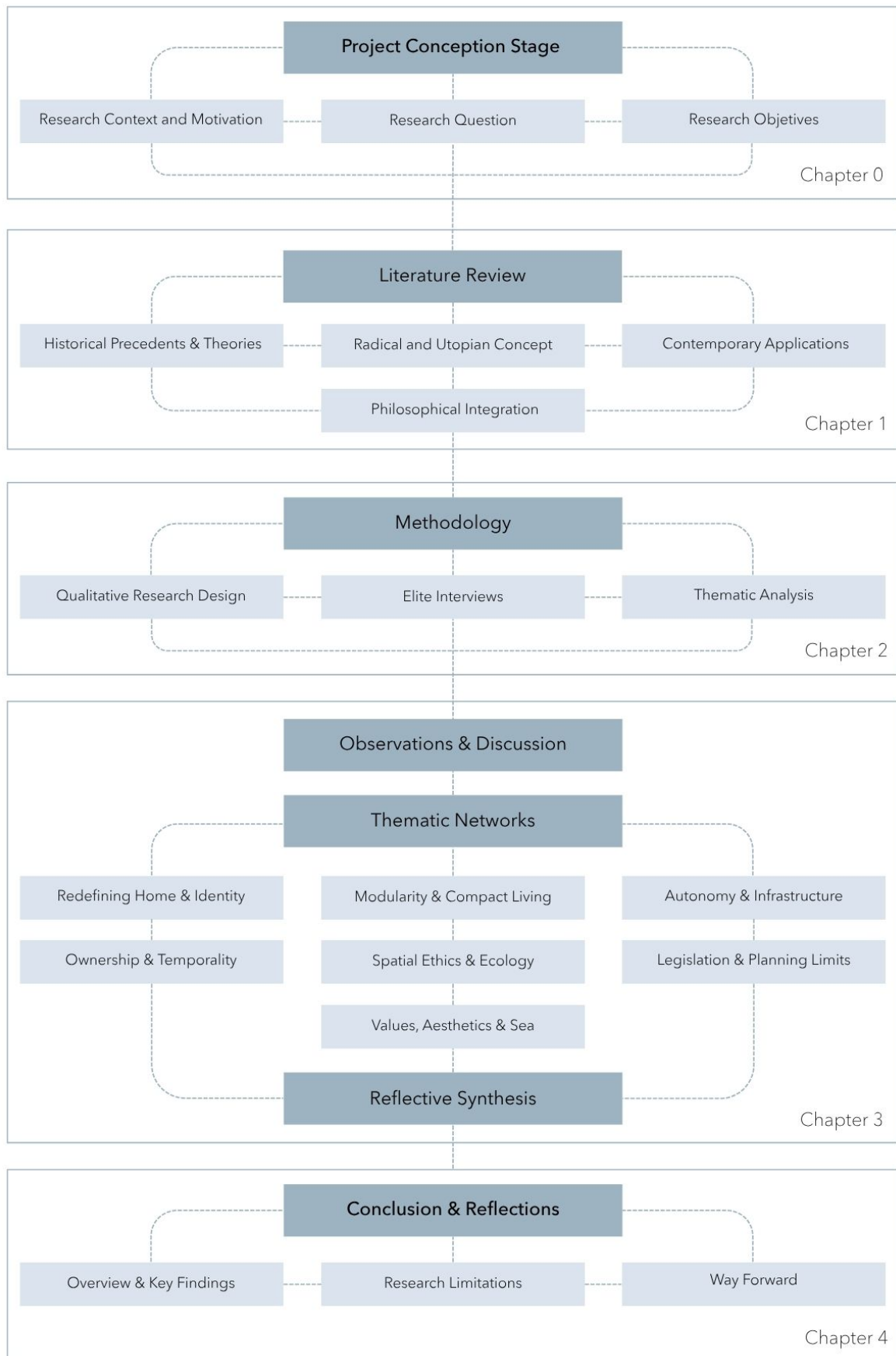


Figure 1. Dissertation Structure
(source: author).

CHAPTER 1 - EVOLUTION OF DISCOURSE

1.0 Introduction

Traditionally, the concept of "*home*" has implied stability and permanence, typically associated with houses that have solid walls and a firm foundation. However, pressures in the twenty-first century such as urbanisation, limited housing availability, climate change, and the rise of digital nomadism- are challenging this static view. As a result, architects are rethinking homes to be more movable and adaptable. The COVID-19 pandemic and other recent global developments have accelerated remote work and highlighted the need for flexible, self-sufficient living spaces (Inhabitat, 2021). Additionally, increasing environmental concerns demand housing solutions that minimise ecological impact and resource use (Morton, 2010).

This literature review examines the evolution of concepts under the umbrella of mobitecture, characterised by mobile, modular, and often minimalist designs that prioritise transience and performance. By integrating theoretical foundations, bold ideas, traditional practices, contemporary innovations, and philosophical insights, this review establishes a framework for examining high-performance, efficient, and compact living spaces on both land and water.

The concept presented by Le Corbusier, stating that a home is a "machine for living" (Le Corbusier, 1923), is revisited at the beginning of the literature review. This idea notably influenced the development of ergonomic standards found in Neufert's Architects' Data (Neufert & Neufert, 2012) and the resurgence of studies on human proportions, which traced back to Leonardo da Vinci's Vitruvian Man (Kemp, 2011). Additionally, Simon Sadler's exploration of Archigram's mobile-city concepts builds on this modernist legacy, highlighting a shift towards adaptable urban systems (Sadler, 2005).

The examination of traditional nomadic structures, such as the Mongolian yurt and the North American tipi, reveals their effective passive climate-responsive strategies and deployment techniques (Rudofsky, 1964; Discover Mongolia, n.d.). This analysis serves as the basis for Rebecca Roke's modern classification of moveable buildings (Roke, 2017) and informs the practical applications seen in the tiny-house and van-life movements (Smith & Evans, 2018; FarOutRide, 2019). Additionally, the comprehension of space optimisation and self-sufficiency in compact living units is enriched by perspectives from naval and aerospace engineering (Larsson, Eliasson, & Orych, 2014; NASA, 2017).

This review examines the rise of resilient off-grid systems and hybrid live-work setups as a reaction to the COVID-19 pandemic (Inhabitat, 2021). It presents two case studies: Thomas Heatherwick's modular, mobile installations (Designboom, 2025) and the triptych of Natural, Artificial, and Collective Intelligence showcased at the 2025 Venice Architecture Biennale (La Biennale di Venezia, 2025). These examples highlight the integration of these concepts into global discussions. Additionally, philosophical frameworks provide insights into the existential and ethical dimensions of mobile living. Key concepts include

Heidegger's view of dwelling as an expression of "care" and rootedness (Heidegger, 1971) and Deleuze and Guattari's nomadology, which emphasises deterritorialization and rhizomatic flows (Deleuze & Guattari, 1987).

Below is a timeline showcasing significant milestones in the development of mobile, modular, and adaptable living, from Vitruvius's classical principles and Leonardo da Vinci's exploration of human proportion to Le Corbusier's Modernist approach to modularity, 1960s utopian visions of mobility, modern high-performance design, and Elon Musk's innovations, as well as Heatherwick's contemporary designs and the 2025 architectural Venice Biennale.

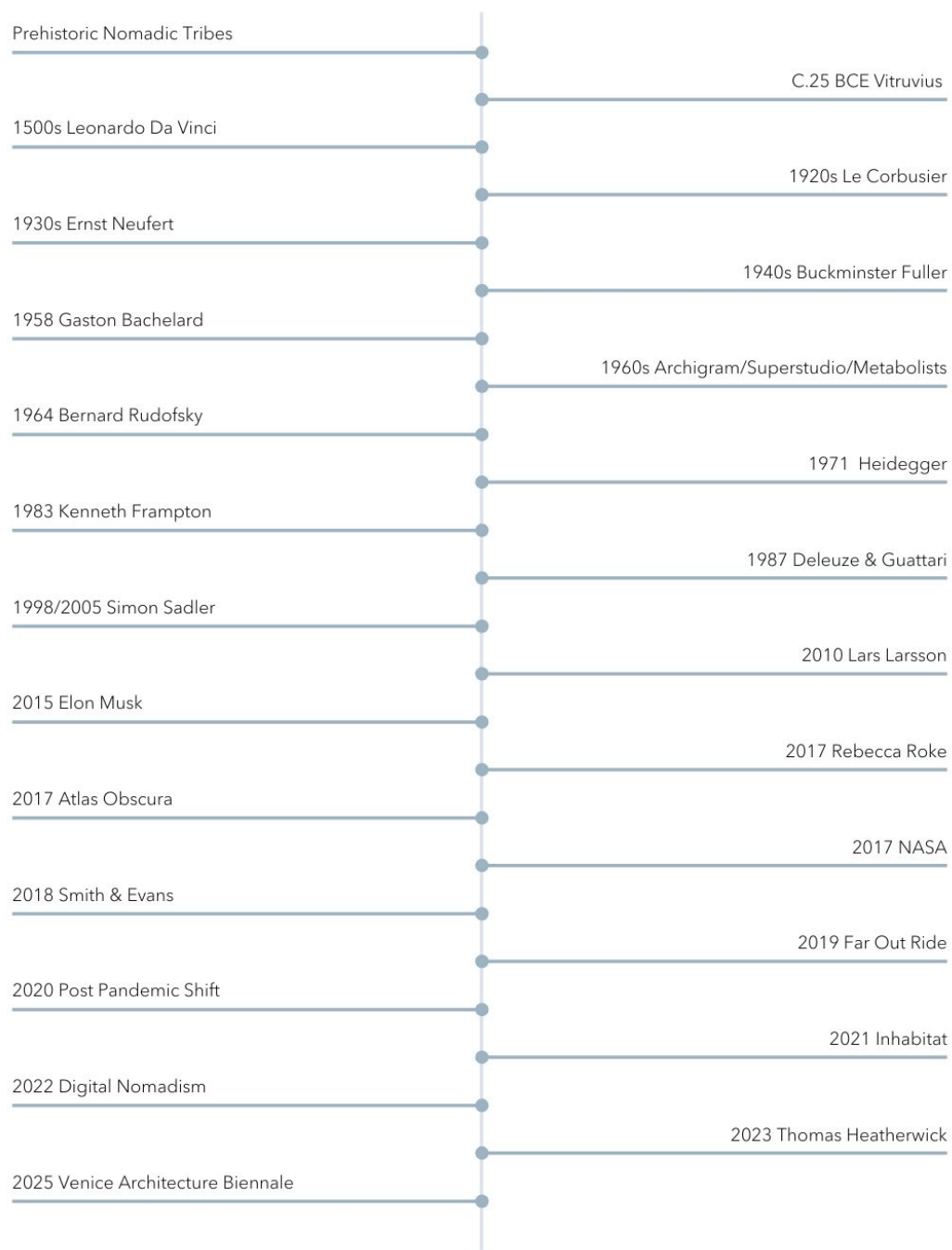


Figure 2. Timeline of Key Architectural Influences on Mobitecture
(source: author).

1.1 Foundational Architectural Theory (c. 25 BCE - 1936)

The home was initially conceived by architects as a system designed to effectively and harmoniously meet human needs, predating the trend of movable, modular homes. This section examines four key milestones in architectural theory: classical proportion, Renaissance humanism, Modernist functionalism, and the initial steps in ergonomic standardisation that underpin the contemporary focus on small, adaptable living environments.

1.1.1 Vitruvius and the Primacy of Human Proportion

Marcus Vitruvius Pollio, around 100 BC, laid the groundwork for modern architectural ideas in his influential book, *De Architectura* (Vitruvius, 15 BCE/1997). He emphasised the importance of three key principles that define a well-designed building: *firmitas* (solidity), *utilitas* (utility), and *venustas* (beauty). Vitruvius believed that these principles should be reflected in the proportions of a structure, closely aligning with the human body. He famously stated that "architecture arises from the proportionate relationships of the human form," highlighting the notion that our living spaces should be designed with human proportions in mind.

1.1.2 Leonardo da Vinci's Human Proportions

Leonardo da Vinci, a Renaissance polymath, profoundly impacted the study of anatomy and proportion, exceeding the influences of modernist manifestos and establishing a foundation for human-centred design. His work draws inspiration from Vitruvius's ideas in *De Architectura* (15 BCE), with the famous Vitruvian Man (c. 1490) showcasing the elegant interplay between human anatomy and geometric shapes (Kemp, 2011). Da Vinci's research underscores the significance of harmonising human physiology with architectural and spatial elements to promote comfort and an inherent sense of "rightness" in inhabited spaces.

These principles are foundational to ergonomic design, reminding today's architects that spaces designed with appropriate proportions can significantly boost psychological and physical well-being (Kemp, 2011). Da Vinci's teachings on proportion influence contemporary architectural choices, such as designing ergonomic furniture with seat heights of approximately 0.45 m. Additionally, circulation widths must accommodate natural human movement, which is crucial for planning in tight areas (Brown, 2020). By merging these ageless principles with modern materials and prefabrication techniques, designers can create mobile homes that are both practical and considerate.

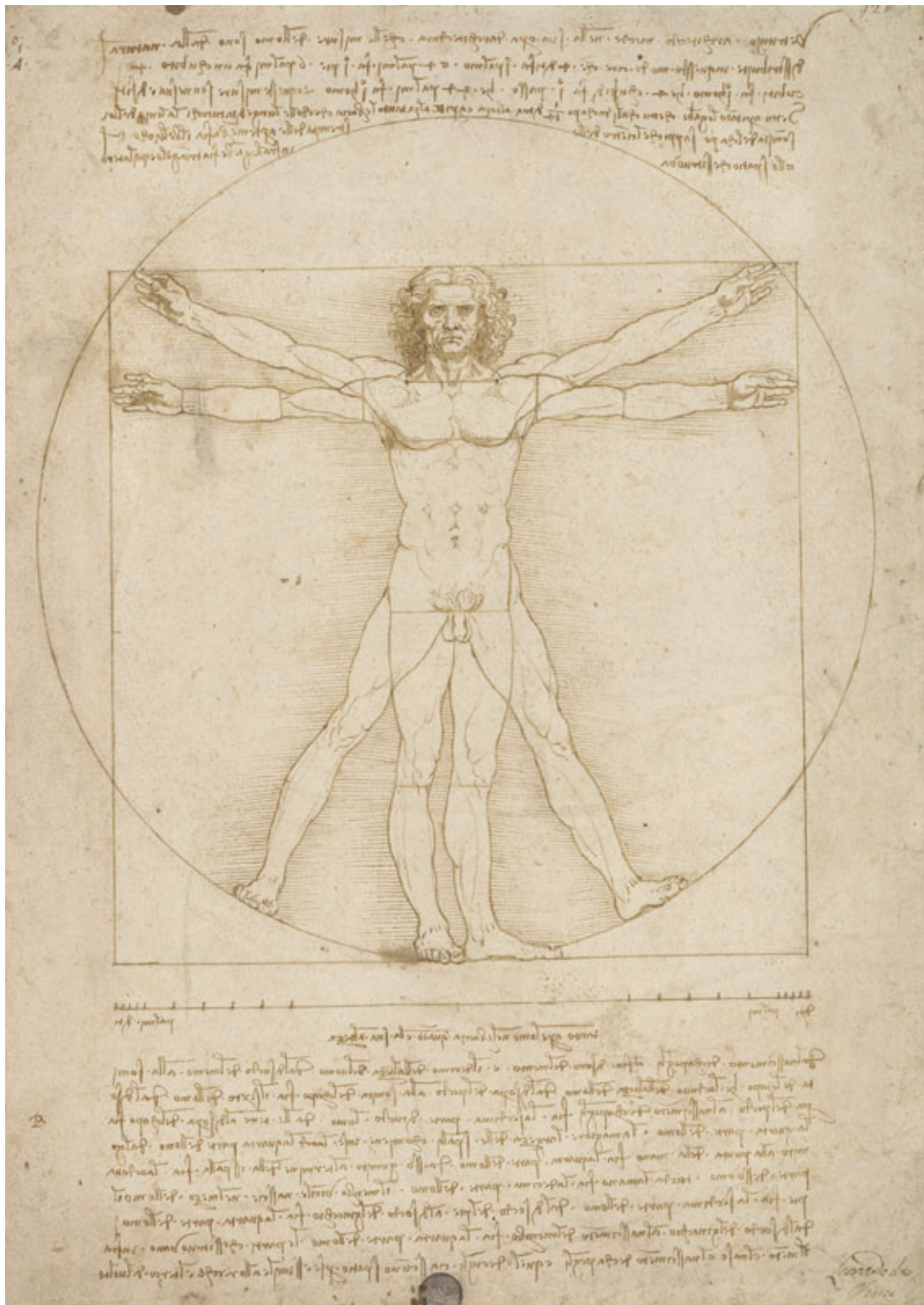


Figure 3 The Vitruvian Man by Leonardo da Vinci (c. 1490).
(source: Gallerie dell'Accademia, Venice (Kemp, 2011).

1.1.3 Le Corbusier's "Machine for Living"

Charles-Édouard Jeanneret, commonly referred to as Le Corbusier, transformed architecture in the twentieth century through his manifesto, *Towards a New Architecture* (1923). He contended that homes ought to be approached with the same functional precision as machines, stating:

"The house is a machine for living in" (Le Corbusier, 1923, p.68)

This metaphor highlights the importance of modularity, efficiency, and standardisation in home design. To liberate buildings from load-bearing walls and enable flexible interior layouts, Le Corbusier introduced his Five Points of Architecture, which consisted of pilotis (elevated supports), free façades, open floor plans, ribbon windows, and roof gardens (Le Corbusier, 1923).

The Modulor method, developed by Le Corbusier in 1950, refined human-scale proportions into an architectural measurement tool. He established a harmonious, ergonomic system for designing rooms and elements by using the golden ratio and an average human height of 1.83 meters. This technique is well-suited for the compact spaces of mobile or micro houses (Corbusier, 1950). His understanding of industrial production methods motivated him to create mass-produced, on-site prefabricated housing modules that foreshadowed current modular construction technologies (Twombly, 2013). Mobitecture emphasises adaptability and user-centred performance, drawing theoretical support from Le Corbusier's belief that architecture must respond to the dynamics of modern life, especially the need for flexibility and transformation.

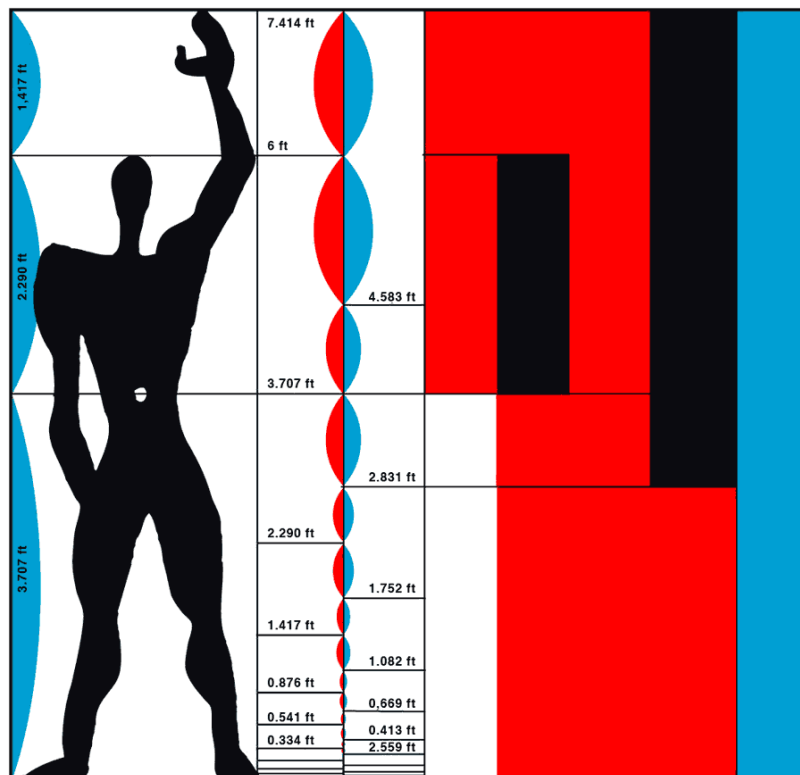


Figure 4. The Modulor, a contraction of "module" and "nombre d'or" (golden number)
(source: Thierry Allard, 2023).

1.1.4 Ernst Neufert and Ergonomic Standardisation

Ernst Neufert focused on sizing standard architectural components, whereas Le Corbusier considered modularity on a broader building scale. Neufert compiled anthropometric data along with functional needs for rooms, furniture, and circulation areas in "Architects' Data" (first published in 1936; most recent edition in 2012), providing architects with a vital resource for creating ergonomic and efficient spaces (Neufert, 2012). Compact homes can still facilitate essential daily activities without overwhelming occupants, thanks to Neufert's tables, which specify minimum clearances for various tasks. Given that every centimetre is crucial in a transportable unit, his methodology effectively made ergonomic design accessible by allowing architects to standardise components and improve spatial arrangements.

Neufert's measurements are frequently used by designers of compact homes, houseboats, and micro-apartments to enhance liveability within limited spaces, as evidenced by the ongoing popularity of this data (Smith & Evans, 2018). The Mobitecture theory is rooted in his emphasis on the essential connection between human scale and architectural design, which is vital to any human-centred approach.

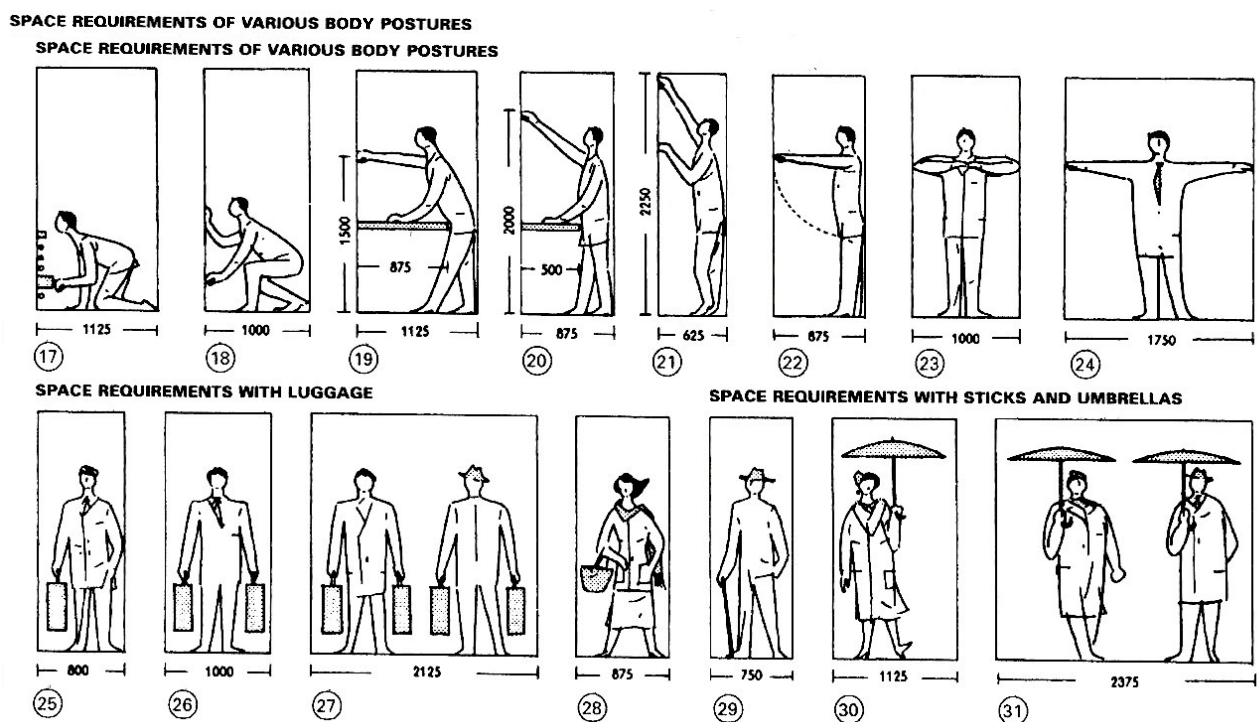


Figure 5. Space Requirements of Various Body Postures
(source: Neufert, E., & Neufert, P., 2012).

1.2 Historical and Cultural Roots of Mobility (c. 1200 BCE – Mid-20th Century)

Long before industrialisation or grand speculative structures, human societies created mobile homes that suited their environments and lifestyles. These vernacular prototypes capture the core principles of mobitecture: rapid assembly, lightweight design, climate responsiveness, and social organisation.

1.2.1 Mongolian Ger (Yurt) (c. 1200 BCE – Present)

Eurasian pastoral nomads use a round, portable tent known as a Mongolian ger or yurt. A family can assemble or disassemble the entire structure in under three hours, allowing it to be transported on camels or carts. The tent's radial rafters (uni) and lattice walls (khana) support layers of felt that insulate against winter temperatures as low as -40°C and summer highs of $+40^{\circ}\text{C}$ (Discover Mongolia, n.d.; National Geographic, 2011). The ger's open-plan layout enables flexible zoning for meetings, sleeping, and cooking, and its design minimises wind pressure on the steppe (ArchDaily, 2020).

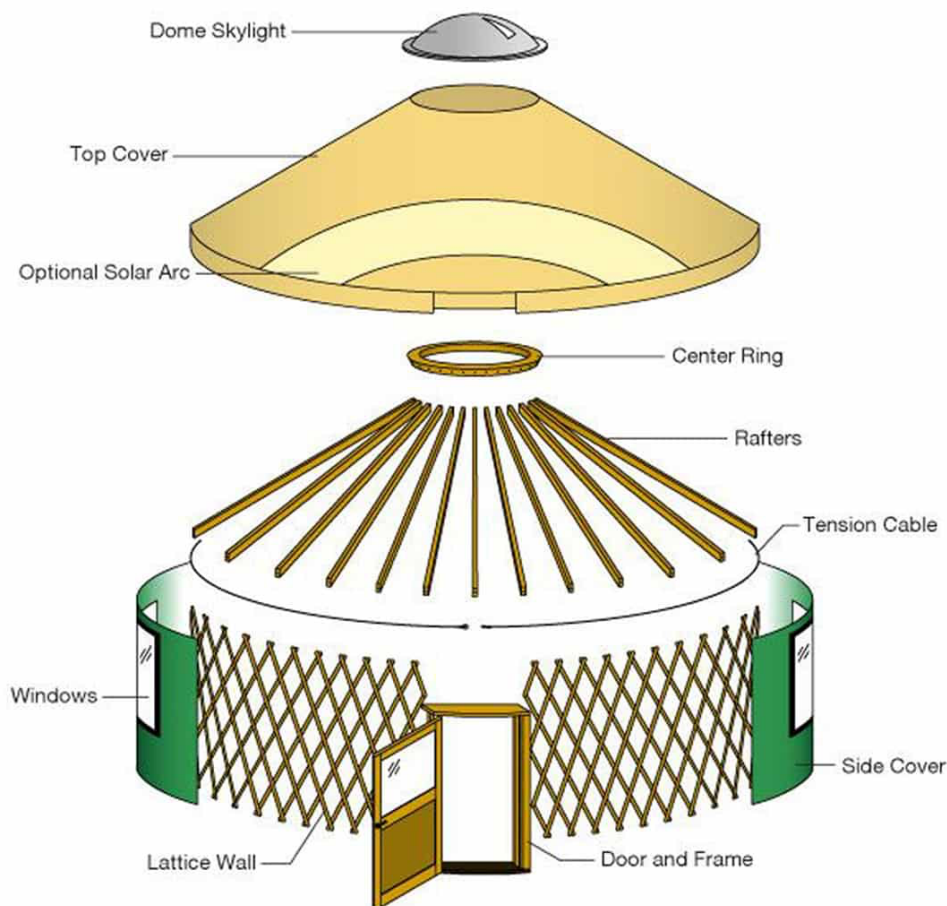


Figure 6. Assembly of a Mongolian ger showing lattice walls and build-up.
(source: Discover Mongolia, n.d.).

1.2.2 North American Tipi (17th Century – Early 20th Century)

The conical tipi served as a highly efficient mobile home for the tribes of North America's Great Plains. Its adjustable smoke flaps and ventilation systems allowed residents to control airflow and maintain internal temperatures during both the summer heat and the winter chill. Constructed from a framework of 12 to 22 long wooden poles arranged in a cone and covered with durable canvas or animal hides (ArchDaily, 2020), tipis were designed for mobility. During seasonal bison migrations, adept families could disassemble, pack, and transport a tipi in under 30 minutes, using the poles as travois frames for carrying their belongings. Besides its effectiveness in shedding rain and enduring fierce prairie winds, camps were typically organised in circular patterns to enhance social unity and support ceremonial practices.



*Figure 7. Crow women adjusting the tipi flaps for ventilation, early 1900s.
(source: Center of the West (2020)).*

1.2.3 Bedouin Beit al-Sha'ar (c. 1st Millennium BCE – Present)

The beit al-sha'ar, a large tent crafted from goat hair, has historically served in the deserts of the Arabian Peninsula to provide insulation at night and protect against heat during the day. Its loose weave enables cooling breezes to flow through at night while reflecting harsh sunlight, demonstrating a vital passive-cooling technique in desert environments (Stern, 1981). Modular panels can be added or removed to accommodate gatherings of extended family. With upright poles and adjustable ropes, a small team can set up or take down the tent within just a few hours. Inside, areas for socialising, cooking, and sleeping are defined by woven rugs and movable partitions, showcasing how textile architecture can create functional interior spaces without the need for permanent walls.

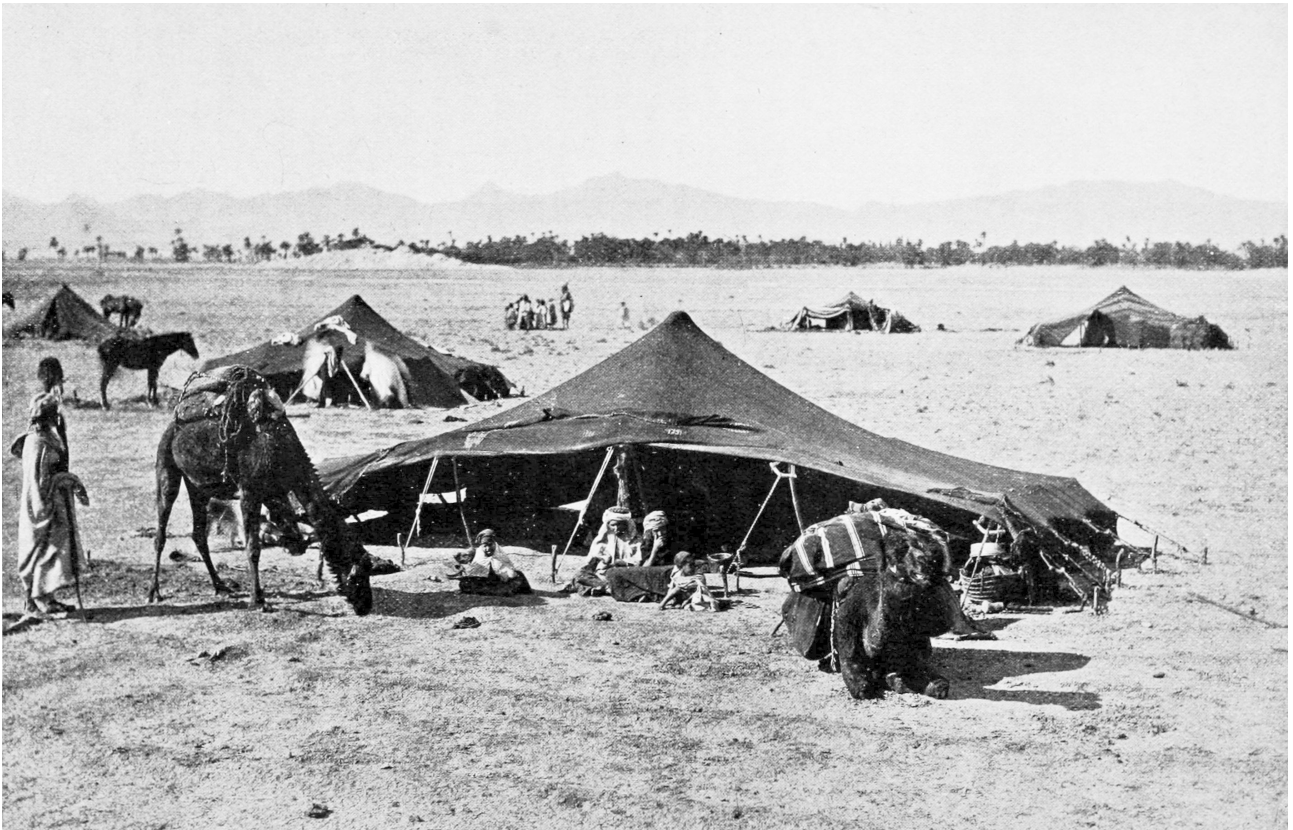


Figure 8. Bedouin Beit al-Sha'ar.
(source: *Popular Science Monthly* (1897–1899)).

1.2.4 Lessons for Contemporary Mobitecture

Despite their varied cultural origins, these traditional homes have several characteristics in common that influence contemporary mobile architecture:

- i. **Rapid Development:** The criteria for contemporary deployable shelters and tiny-home modules are defined by structures that can be assembled or disassembled in minutes to hours.
- ii. **Lightweight, Packable Components:** Human or animal mobility is enabled by lattice frames (ger), pole bundles (tipi), and fabric panels (beit al-sha'ar), all of which lessen transport weight.
- iii. **Passive Environmental Control:** In extreme temperatures, multiple layers, breathable materials, and adjustable openings ensure interior comfort without requiring bulky mechanical systems.
- iv. **Flexible Interior Zoning:** An open design coupled with temporary walls or fabrics can allow a single space to serve multiple functions, including sleeping, cooking, and socialising.
- v. **Cultural and Social Structuring:** Camp circles and tent formations exemplify settlement designs that enhance ritual and social connections, showing that creating a sense of place can coexist with mobility.

The principles of speed, modularity, environmental responsiveness, and social cohesion can be incorporated into modern architecture to create high-performance, adaptable living environments that respect ecological contexts and enhance human well-being.

1.3 Radical Visions and Utopian Mobility (1959–1969)

In the 1960s, visionary architects proposed the idea of highly flexible, migratory cities as a critique of post-war urbanisation and a celebration of new technologies predating the specialisation of mobile architecture. The concept of "Utopian Mobility" was championed by groups such as the Japanese Metabolists and London's Archigram, who imagined structures that could move, grow, shrink, and adapt as necessary. Although few of their designs were realised, the conceptual frameworks they introduced profoundly influenced subsequent mobile and modular architecture.

1.3.1 Archigram's Mobile Cities

When Archigram was established at the Architectural Association in 1961, it emphasised themes of impermanence and mobility, which were rare in mainstream architecture. Their *Walking City* (Herron, 1964) presented massive robotic dwelling pods that resembled shells and were supported by hydraulic legs. These pods were intended to move across the globe, docking at service ports for maintenance and supplies. Users could attach or remove interchangeable residential and commercial pods, similar to modules, to form a permanent "megaplex" in *Plug-In City* (Cook, 1964) (Sadler, 2005). This concept was further explored on a metropolitan scale through *Instant City* (Herron, 1964), which organised temporary public events with portable cultural pavilions that could be constructed atop the pylons of the Pompidou Centre in Paris (Sadler, 2005).

These plans prioritised a flexible system of components and processes over a rigidly designed metropolis. Archigram envisioned architecture as "living equipment" rather than fixed, monumental structures, drawing inspiration from diverse sources, including Pop Art, consumer electronics, and the burgeoning Space Age (Sadler, 2005, p. 42). Their colourful, hand-drawn illustrations encouraged a reevaluation of architecture's dynamics in relation to mobility, technology, and the individual user, even though the technology required for such constructions was not yet available.

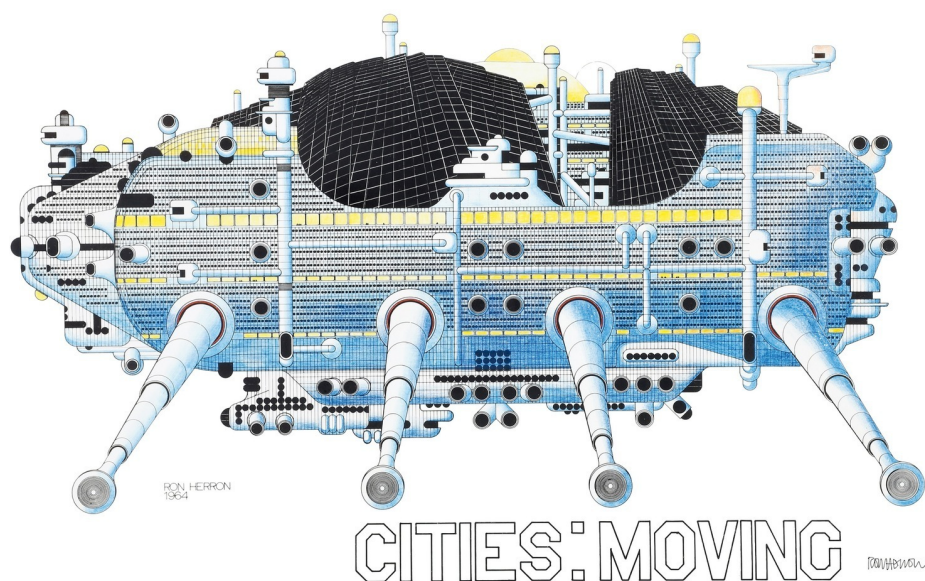


Figure 9. *Walking City* by Ron Herron for Archigram (1964).
(source: Sadler (2005, p. 88).

1.3.2 Simon Sadler's Critical Analysis

The most thorough academic examination of Archigram's contributions is presented in Simon Sadler's 2005 publication, "Archigram: Architecture without Architecture," which situates their work within the countercultural and technologically optimistic landscape of 1960s Britain. Sadler argues that Archigram's actual influence lies in their promotion of plug-and-play modularity and adaptable, user-centric design methodologies rather than merely their physical mobile structures (Sadler, 2005, pp. 5–7).

In his essay "British Architecture in the Sixties," Sadler (2010) elaborates on Archigram, explaining how the group's visionary mobility addressed socio-political changes like post-imperial malaise, the consumer boom, and the potential of automation. This perspective urged architects to view cities as dynamic organisms rather than mere assemblages of structures (Sadler, 2010). His research highlights how Archigram's city machines initiated a dialogue about architecture as a flexible service, capable of adapting to evolving user needs and conditions, even if they were never completed.

1.3.3 Utopian Mobility Beyond Archigram

The idea of mobile cities extended beyond Archigram. Japan's Metabolist movement (1959–70) introduced Large Marine Cities, envisioned as floating platforms capable of expanding organically by attaching prefabricated units to a central core (Tange, 1959). Kenzo Tange's Marine City proposed hyper-modular, self-sufficient designs for a future where land constraints necessitate migration to the ocean (Banham, 1976). Similarly, the Italian group Superstudio envisioned the "Endless City," where the line between interior and exterior dissolves in an infinite grid of prefabricated modules that envelop the planet (Superstudio, 1969).

Both utopian visions share a common concept: architecture is viewed as an endlessly expandable and flexible process rather than a fixed outcome. Even though they differ in dimensions and technologies, the walking pods of Archigram, the floating units of Metabolism, and the surface grids of Superstudio all propose an architecture that transcends geographical boundaries and is capable of evolving in response to people's needs and circumstances.

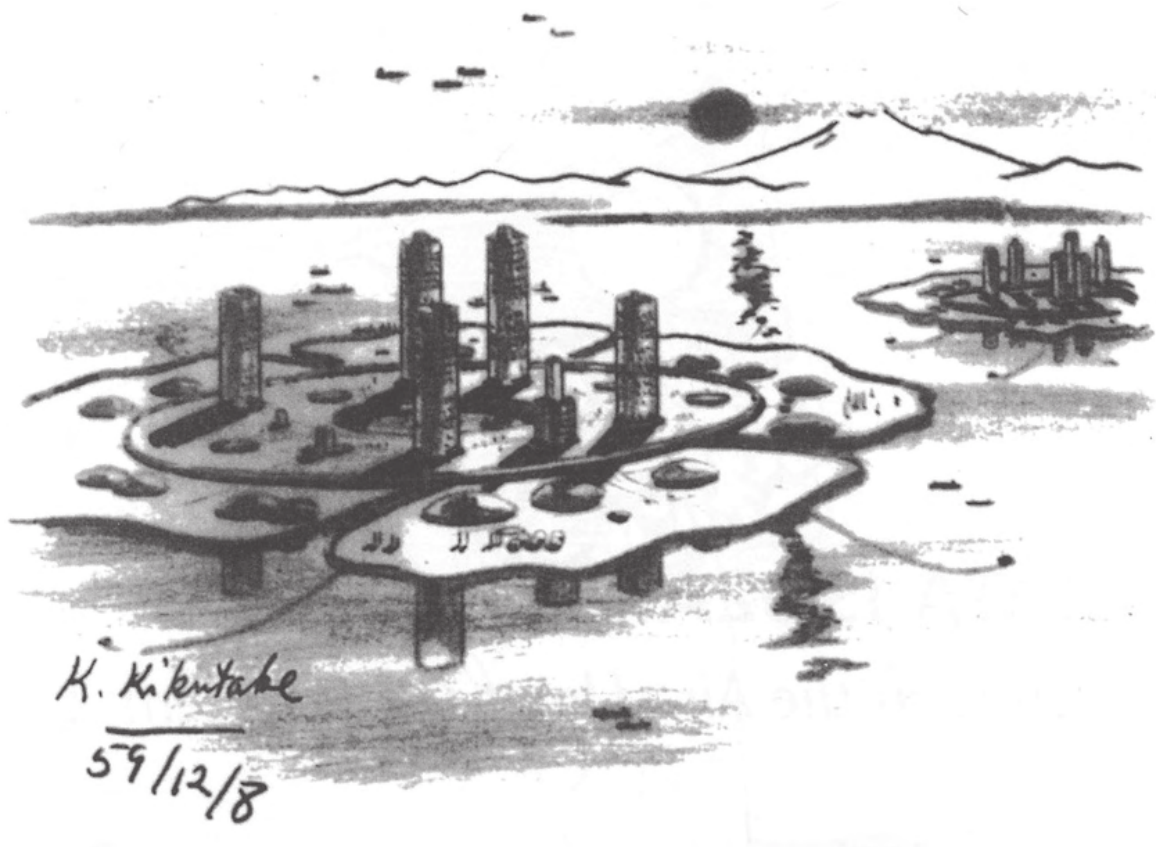


Figure 10. Kenzo Tange, Marine City concept (1959).
(source: Banham (1976, p. 72).

1.3.4 Lessons for Contemporary Mobitecture

The concept of utopian mobility, which includes plug-in modularity, ephemeral events, and user-driven assembly, significantly impacts contemporary mobile design, although real mobile megacities remain hypothetical.

- i. **Modular infrastructure** resembles Plug-In City in terms of the architecture of prefabricated chassis and service cores to which dwelling pods are connected (like modern tiny-house parks featuring shared utilities).
- ii. Towed tiny homes and vehicle-based residences intended for off-grid independence and road safety are examples of **robust mobility** that draws inspiration from Walking City's hydraulic legs.
- iii. Instant City features **ephemeral structures** that manifest as pop-up pavilions and shelters for disasters, designed for quick assembly and relocation.
- iv. DIY van-life conversions and co-housing initiatives, where inhabitants oversee the design and growth of their living spaces, hinge on **user participation**, a principle central to both Archigram and Metabolism.

1.4 Marine and Aerospace Design Influence (c. 1960s – Present)

Both at sea and in the sky, the art of high-performance, compact living has been perfected. Contemporary architecture draws significant inspiration from the systems-oriented, resource-efficient, and ergonomically designed interiors developed by naval architects and aerospace engineers.

1.4.1 Yacht and Naval Architecture

Yachts represent a seamless blend of self-sufficiency, multi-functionality, and spatial efficiency on a mobile platform. Each cubic metre of a yacht's hull is carefully designed to ensure optimal load distribution, storage, and human activity, as highlighted by Larsson, Eliasson, and Orych (2014). To maximise usable space, features such as built-in furniture, foldable surfaces, and hidden systems are utilised. Crews embarking on ocean voyages rely on closed-loop technologies, including waste-heat exchangers, solar panels, water makers, and greywater recycling, to sustain themselves for weeks, demonstrating that comfort and resource resilience can coexist.

Stephens Waring Yacht Design (2022) outlines five key lessons from boats that assist architects in designing lightweight, stable, and energy-efficient houses on land. These lessons include integrating structures with furniture and reducing the use of heavy equipment to enhance stability (Stephens Waring, 2022).

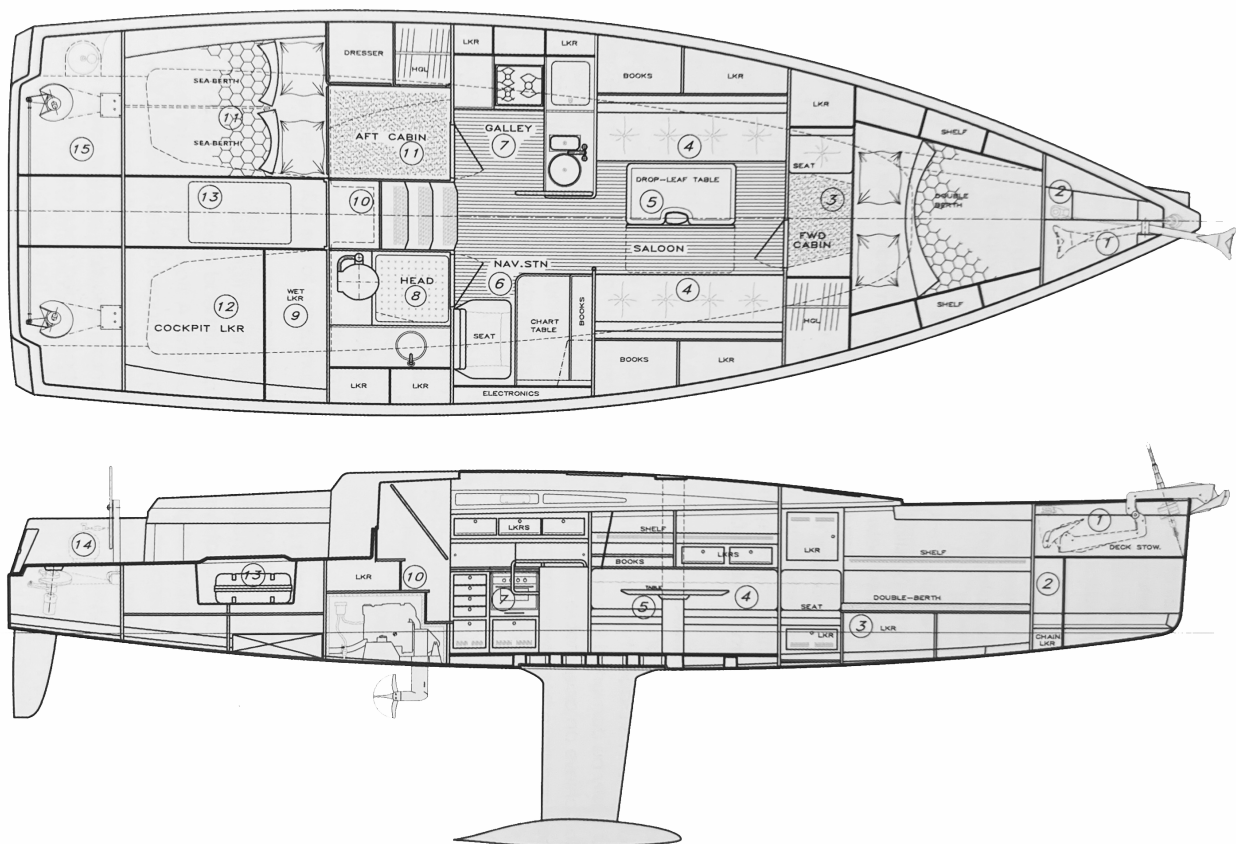


Figure 11. Interior of a cruising yacht.
(source: Larsson, Eliasson & Orych, 2014, p. 308).

1.4.2 Recreational Vehicles and Automotive Design

Recreational vehicles (RVs) adapt maritime principles for road travel. Designers implement space-saving solutions such as corner galley units, slide-out compartments, and multifunctional furniture that doubles as storage (FarOutRide, 2019), ensuring that cars are liveable and drivable. To accommodate the trends of tiny houses and van conversions, lightweight composites and low-centre-of-gravity designs are utilised, as the weight limits for chassis and road safety regulations share similarities with maritime stability requirements.

1.4.3 Aerospace Habitats and Microgravity Ergonomics

The International Space Station (ISS) housing modules, along with proposed lunar or Martian facilities, face significant constraints regarding mass, volume, and life-support systems. NASA's Human Integration Design Handbook (2017) provides detailed anthropometric guidelines for posture support, restraint mechanisms, and equipment arrangement in microgravity. This handbook stresses the importance of modularity, redundant systems, and compact user interfaces (NASA, 2017). Concepts such as system integration, fail-safe design, and ergonomic micro-zoning can benefit compact terrestrial and maritime structures that aim for high reliability and user comfort in confined spaces, even in varying gravitational conditions.



Figure 12. ISS habitation module interior, illustrating integrated life-support, storage, and workstations. (source: NASA, 2017).

1.4.4 Lessons for Mobitecture

The joint insights from automobile, aircraft, and maritime design are:

- i. **Integration of Structural and Furniture:** Supporting components serve dual purposes as seating or storage options.
- ii. **Systems-First Planning:** Living spaces should be designed in conjunction with electricity, water, and life support systems.
- iii. **Balance and Weight Discipline:** To ensure stability in motion, heavy components are positioned low and at the centre.
- iv. **Ergonomic Zoning:** Effective anthropometric design enables activities such as working, cooking, and sleeping to coexist harmoniously, even in areas as small as 10 m².
- v. **Redundancy & Resilience:** Systems designed for dual purposes, along with manual backup controls, ensure safety against malfunctions.

By applying these precise methods, architecture can design homes that are movable and modular while also being robust, self-sufficient, and highly liveable on land, in water, and in the air.

1.5 Contemporary Mobitecture (2000s – Present)

Modern architecture encompasses a wide array of portable, modular, and adaptable homes, drawing from both classic and forward-thinking designs. These innovations reflect progress in materials, manufacturing, and lifestyle requirements, spanning from wearable shelters to floating pods and compact mobile homes.

1.5.1 Rebecca Roke's Typology of Mobile Architecture

In *Mobitecture: Architecture on the Move*, Roke (2017) categorises modern mobile constructions into four types of mobility: wheeled, floated, transported, and airborne. Each type has key design requirements: self-sufficiency, rapid deployment, and lightweight materials. For example, floating homes utilise hull-inspired designs and marine-grade technologies to maintain stability and autonomy on water. In contrast, wheeled tiny homes are typically built on trailer chassis and feature retractable stairs and slide-out modules to maximise interior space (Roke, 2017).



Figure 13. Pop-Up Caravan, Tas-ka, The Netherlands, 2014.
(source: Roke (2017, p. 119).

1.5.2 The Tiny-House Movement and Digital Nomadism

The tiny-house movement gained popularity in the early 2010s, driven by factors such as cost efficiency, environmental awareness, and the appeal of simplicity. To enhance liveability, Smith and Evans (2018) explain that small homes, typically ranging from 10 to 40 m², include built-in furnishings, elevated sleeping areas, and versatile living spaces. Emphasising off-grid living and work-life balance, digital nomads have also embraced van and bus modifications that feature solar energy and satellite internet (FarOutRide, 2019; Inhabitat, 2021).



Figure 14. Converted camper van interior.
(source: FarOutRide, 2019).

1.5.3 Innovative Portable Structures

Designers are exploring extreme forms of movable living spaces alongside tiny houses and vans.

- i. **Wearable shelters**, such as the Walking Shelter, are portable options for travellers (Atlas Obscura, 2017).
- ii. **Rapid-deploy disaster modules** are inflatable emergency housing units that can be set up in under an hour after airdrop (Atlas Obscura, 2017).
- iii. **Floating domes** equipped with buoyant ring foundations and lightweight membranes serve as homes for swimmers on lakes (Roke, 2017).

While these initiatives expand the boundaries of mobility, they adhere to the same principles: multi-functionality, lightweight design, and user-centric adaptation.

1.5.4 Key Characteristics and Lessons

Contemporary mobitecture showcases several recurring design approaches:

- i. **Multipurpose Elements:** To maximise space efficiency, each surface and component often serves dual purposes, such as seats that convert into beds or staircases equipped with storage (Smith & Evans, 2018).
- ii. **Systems Integration:** To achieve authentic off-grid capability, it's essential to integrate waste solutions, such as composting toilets, and implement efficient water management through rainwater harvesting, as well as include renewable energy options like solar panels, from the design stage (Inhabitat, 2021).
- iii. **Modularity and Scalability:** Units are designed to connect; floating pods can dock to create waterborne communities, and clusters of tiny houses utilise shared amenities (Roke, 2017).
- iv. **Rapid Deployment:** Numerous contemporary structures can be assembled, disassembled, or relocated within hours, meeting the demands of emergency responders and the ideals of nomadic and utopian predecessors (Atlas Obscura, 2017).

Mobile architects today design high-performing, adaptable homes that bridge creative ideas with practical living solutions through a combination of these principles.

1.6 Architecture in the Post-Pandemic Era (2020 – Present)

The COVID-19 pandemic has significantly altered our perspective on home, accelerating trends toward self-sufficiency, remote work, and spatial flexibility. Lockdowns prompted millions to utilise their homes as workplaces, gyms, and schools, highlighting the limitations of conventional floor plans (Inhabitat, 2021). To create homes that can adapt to evolving needs and withstand future challenges, architects and designers are embracing mobitecture concepts, including modularity, mobility, and resilience.

1.6.1 Hybrid Live-Work Environments

The swift transition to remote work triggered the surge in demand for small homes with integrated offices. Designers are increasingly prioritising flexible walls, foldable desks, and multipurpose spaces that can be easily transformed for both work and relaxation (Smith & Evans, 2018). Thanks to the rise of shared co-working spaces, residents in tiny-house communities can now escape cramped living conditions without sacrificing their home's proximity (Roke, 2017). This dispersed work-live model illustrates how the pandemic's restrictions have sparked spatial innovation by blending the social elements of micro-villages with the freedom of digital nomadism.

1.6.2 Off-Grid and Resilient Living

Interest in off-grid solutions has grown due to supply chain disruptions and pandemic-related concerns about public utilities. Modern mobile homes increasingly incorporate solar panels, battery storage, and rainwater collection as standard features to support weeks of independent operation (Inhabitat, 2021). Once rare, composting and incinerating toilets are now commonly found in compact homes and van conversions, reducing reliance on municipal sewer systems (FarOutRide, 2019). This independence ensures that future lockdowns or infrastructure failures won't deprive residents of essential services, echoing models from naval and aviation sectors (Larsson, 2014).

1.6.3 Reintegration with Nature

The need for outdoor space grew significantly due to lockdown restrictions. In response, architects introduced modular decks, retractable façades, and fold-out terraces that blur the lines between indoor and outdoor environments (Roke, 2017). A notable example of self-sufficiency and biophilic design that emerged from pandemic-driven isolation is the implementation of pop-up greenhouse pods in compact living spaces, enabling residents to cultivate food throughout the year (Inhabitat, 2021). By integrating nature into small homes, designers address mental health concerns while promoting the ecological principles central to sustainable architecture.

1.6.4 Pop-up and Adaptive Shelters

The epidemic highlighted the urgent need for rapidly deployable shelters suitable for temporary housing, quarantine, and medical care. Architects have designed pop-up clinics and "safe-house" modules that can be unrolled or inflated within hours, complete with HVAC filtration systems and negative-pressure areas, drawing inspiration from military and disaster relief approaches (Atlas Obscura, 2017). These structures exemplify Archigram's instant-city philosophy (Sadler, 2005), realised through the use of modern materials and digital manufacturing techniques. They underscore the importance of adaptable architecture in crises, serving as prototypes for field hospitals, mobile classrooms, and quarantine units.

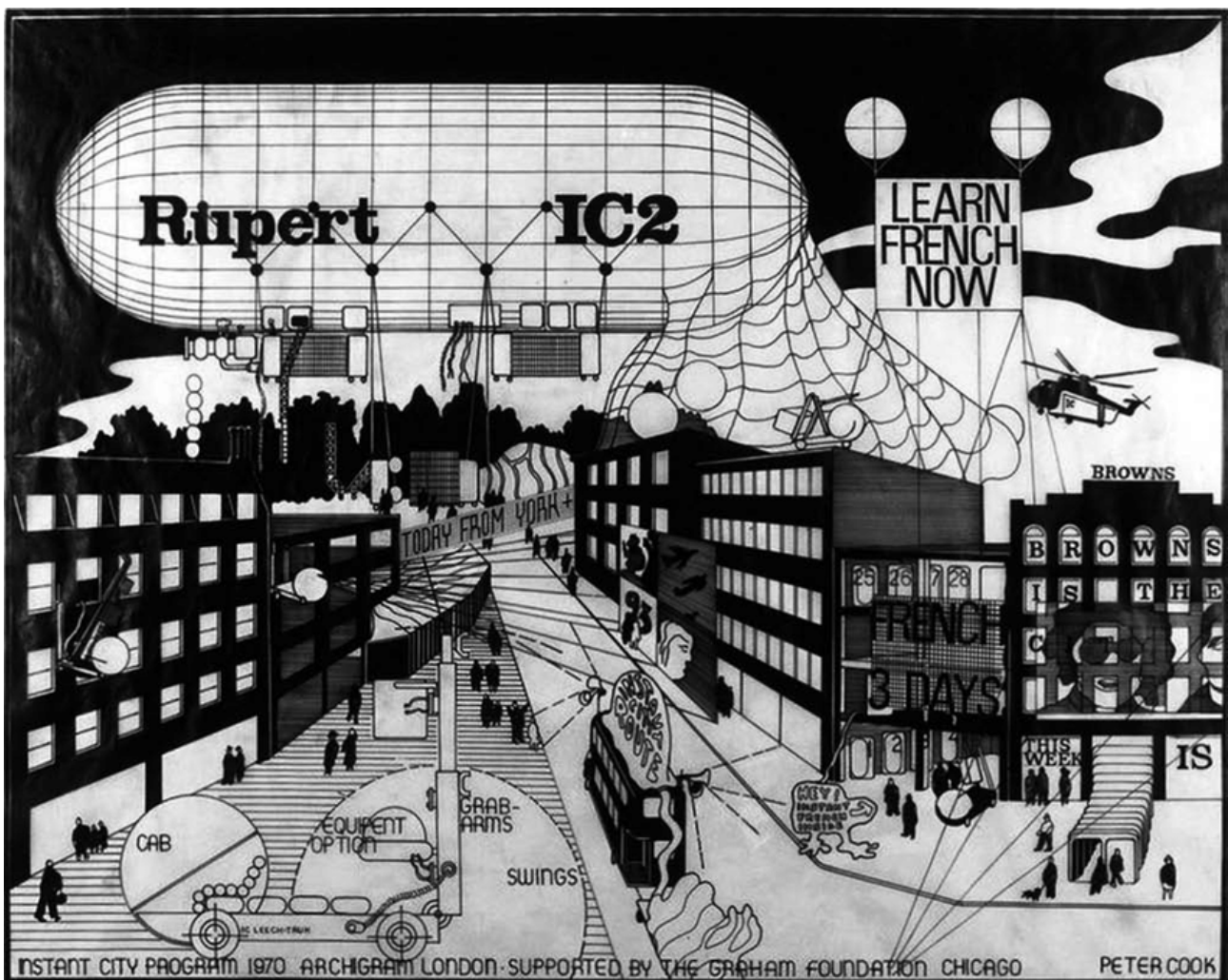


Figure 15. Instant City by Archigram, 1970.
(source: Archigram (1970)).

1.7 Future Visionaries (2015 – Ongoing)

Contemporary mobitecture extends beyond merely prefabricated homes to encompass entire mobility ecosystems, where cars, tunnels, and energy systems serve as new "sites" for living.

1.7.1 Rudofsky's Vernacular Revival: Architecture Without Architects

Bernard Rudofsky's mid-20th century survey identifies tent pavilions, wayside booths, and folding huts as types of anonymous, user-generated structures that arise from local needs (Rudofsky, 1964). His research illustrates that the most adaptable and resource-efficient designs often stem from informal, incremental building methods. Rudofsky's examples underscore the importance of mass customisation and prefabrication, which remain accessible even to non-experts in architecture. This implies that contemporary portable housing should concentrate on simplicity, resource reuse, and cultural continuity rather than exclusively on technical solutions.

1.7.2 Psycho-geography and the Situationist City

Simon Sadler reframes psycho-geography as a method for dynamic architectural design while navigating urban spaces (Sadler, 1998). The Situationists stress user-driven spatial mapping, challenging traditional pathways to reveal new possibilities. This perspective urges designers to create homes that enable spontaneous reconfiguration and exploration by incorporating movable elements with urban or rural journeys, resulting in adaptable architecture that aligns with lived experiences.

1.7.3 Non-Plan and Organic Incrementalism

Unregulated, gradual urban transformations in villages characterised by informal expansions and self-constructed additions were celebrated as a vital aspect of the Non-Plan anthology (Banham et al., 1973). This concept is reflected in contemporary van-life groups and tiny-house communities, which merge mobile units into loosely structured neighbourhoods that lack definitive central plans. This approach offers mobitecture a model for scalable, self-organising living arrangements, demonstrating how grassroots development can foster strong, adaptable neighbourhoods.

1.7.4 Elon Musk: Mobility as Habitat

Through his business ventures, Elon Musk has transformed infrastructure into dynamic platforms. By integrating modularity with closed-loop technology, SpaceX's Starship concepts include life-support modules designed for reuse across multiple planetary environments (Vance, 2015). Tesla's ecosystem of solar roofs, Power Wall batteries, and electric vehicles enable off-grid independence and movable living pods that can dock, undock, and reconfigure within a distributed energy grid, effectively turning homes into mobile energy centres (Vance, 2015). The future architecture will be defined as much by movement pathways as by fixed sites, illustrated by the Boring Company's planned tunnel loops, which unveil a subterranean layer of mobility where modular capsules can serve as temporary studios or micro-houses.

1.7.5 Modernism, Pop-Culture Spectacle, and the Viral House

The interplay between mass media imagery and machine aesthetics has shaped architectural aspirations, from Le Corbusier's admiration for ocean liners to the recent viral unveilings of the Cybertruck (Leach, 2005). The foundation for today's spectacle-driven movable homes, which rely on Instagram-worthy designs and technological fantasies, was established by modernist forms celebrated in glossy magazines. Consequently, mobitecture balances the demands of precise engineering with cultural expression: residences must comply with strict energy and ergonomic standards while also projecting an aspirational image suited to a media-saturated landscape.

1.7.6 Thomas Heatherwick: Materialising Mobility

Thomas Heatherwick's work plays a crucial role in the contemporary debate about architectural mobility. He is renowned for blurring the lines between architecture, infrastructure, and public space by combining industrial design with a large-scale architectural approach. The projects from his firm are especially relevant to the evolving language of architecture, as they consistently explore modularity, reconfigurability, and public involvement.

One notable example is Heatherwick's joint proposal with BIG (Bjarke Ingels Group) for Google's North Bayshore campus. In this proposal, office buildings are designed as large, movable canopy structures that can adapt to changing organisational and environmental needs rather than as fixed volumes (Phaidon, 2015). A more recent example of flexible architecture that responds to its surroundings is Heatherwick Studio's concept for renovating Seoul's COEX Convention and Exhibition Centre. This design features modular, stacked volumes that can be gradually expanded or modified for various uses (Designboom, 2025).

Heatherwick's civic-scale projects also showcase innovative mobility ideas. For instance, his designs for Shanghai's "1000 Trees" and Tokyo's Azabudai Hills feature modular green terraces and stacked components that merge architecture and nature into a tiered, vertical village structure. These projects demonstrate how flexible, environmentally responsible modules can be assembled to create vibrant, dense living spaces. Heatherwick's exploration of mobile infrastructure, such as his redesign of London's Routemaster bus, which featured improved spatial ergonomics and flexibility, further supports the notion that transport and housing can share the same typological continuum (Stirling, 2017). His use of temporary pavilions and deployable footbridges showcases a lasting interest in lightweight materials, tool-free construction, and public adaptability qualities reminiscent of more traditional nomadic typologies like tipis and yurts.

Heatherwick's work underscores the significance of making mobility a tangible reality, both as a cultural expression and a technical necessity. His modular designs, steeped in spatial and emotional depth, demonstrate how architecture can blend performance with a poetic experience.



Figure 16. Heatherwick's Google HQ canopy
(source: Iwan Baan, 2022).



Figure 17. Seoul's COEX Convention and Exhibition Centre
(source: ArchDaily, 2025).

1.7.7 Exhibition Platforms: Venice Architecture Biennale 2025

Carlo Ratti is the curator of the 19th International Architecture Exhibition, *Intelligens. Natural. Artificial. Collective.*, which offers a global platform for exploring mobility, adaptation, and collective intelligence in architectural discussion. The Biennale is structured around three key themes: Collective Intelligence, Artificial Intelligence, and Natural Intelligence. It will be held at the Giardini, Arsenale, and Forte Marghera from 10 May to 23 November 2025 (La Biennale di Venezia, 2025). Each thematic cluster examines how contemporary architecture can function within participatory, technological, and ecological contexts.

Buildings made with mycelium, modular plant systems, and bioclimatic designs that follow natural patterns are examples of bio-integrative techniques developed by the Natural Intelligence strand (Designboom, 2025). These methods prioritise passive environmental responses and low-impact, regenerative materials that are closely tied to architecture. In contrast, artificial intelligence focuses on utilising robotic manufacturing, algorithmic design, and machine-learning applications to enhance portable architectural modules in terms of energy efficiency, flexibility, and structural integrity (Wallpaper*, 2025). The third theme, Collective Intelligence, supports a decentralised approach to modular dwelling systems, which can evolve gradually with user input and emphasises co-designed housing, open-source building technologies, and community-led models (ArchDaily, 2025).

As curator Carlo Ratti (cited in Designboom, 2025) notes, the Biennale will act as a testing ground for emerging architectural trends that respond to "distributed intelligence." This concept views the home as a dynamic and responsive environment, rather than a fixed entity. This approach aligns with mobitecture ideas, which view architecture as a flexible system of components that adapt to shifting ecological, social, and technological contexts rather than a static structure.

1.8 Gaps, Synthesis & Philosophical Lens

To develop a unified approach, one needs to go beyond traditional discipline boundaries and deeply integrate mobile concepts into the philosophical framework.

1.8.1 Fragmented Domains: From Ergonomics to Futurism

Research on nomadic forms (Rudofsky, 1964), ergonomic standardisation (Neufert & Neufert, 2012), maritime systems (Larsson, Eliasson & Orych, 2014), and futurist mobility (Vance, 2015; Sadler, 1998) provides valuable case studies but lacks cross-referencing. Consequently, rather than a cohesive template for mobile structures capable of operating on land, water, and in the air, designers face a disjointed array of concepts owing to this lack of integration.

1.8.2 Heidegger's Care and the Phenomenology of Mobile Dwelling

Martin Heidegger's concept of residence, defined as an act of *sorge* (care) and guidance, challenges the assumption that mobility equates to being placeless (Heidegger, 1971). He argues that movable units should incorporate orienting features such as physical anchors, thoughtfully chosen views, or ceremonial thresholds to promote a sense of self-continuity across various environments. Genuine habitation requires understanding one's place through both the creation and occupation of spaces. For instance, a personal altar module or a movable hearth can serve as a "home-pole," permitting residents to feel anchored, even when they are temporarily away.

1.8.3 Bachelard's Poetics: Intimacy in Micro-Spaces

The *Poetics of Space* by Gaston Bachelard (1958) shows how light play, material textures, and private nooks create emotional residence. Therefore, micro-niches, curved walls, window seats, and alcoves that evoke comfort and recollection must be incorporated into compact modules, which are often less than 20 m². To ensure that mobility does not compromise the emotional aspects of home, tactile finishes (such as felted insulation panels or woven textile barriers) and changing lighting may transform a tiny volume into a lyrical haven.

1.8.4 Nomadology: Deleuzian Flows and Spatial Freedom

In Deleuze and Guattari's nomadology, concepts such as deterritorialisation, rhizomatic networks, and routes of flight are highly regarded (Deleuze & Guattari, 1987). In architecture, there is a need for interoperable modules equipped with standardised connection nodes and service cores that can create, disperse, and reassemble independently of fixed hierarchies. These modules can form linear chains or temporary clusters, mimicking the fluid arrangements of nomadic camps and enhancing spatial flexibility when compared to static settlements.

1.8.5 Critical Regionalism: Ethical Rootedness in Mobile Forms

Kenneth Frampton's concept of critical regionalism (Frampton, 1983) advocates for balancing global modernism with local climates, cultures, and materials, serving as an ethical guide against uniformity. By drawing on regional craftsmanship and vernacular traditions, mobile units should adapt their cladding, shading devices, and foundation interfaces to suit specific ecological contexts. To ensure that mobility enriches rather than erodes the local character, units in the Mediterranean, for instance, might incorporate solar chimneys and ceramic tile façades, while Himalayan units would utilise stone anchors and insulated materials.

1.9 Conclusion

Although many individual studies exist, discussions across disciplines remain fragmented. For instance, findings in cultural phenomenology seldom lead to modular protocols; connections between naval and aerospace systems engineering and psychogeographic process models are rare, and ergonomic guidelines are often ineffective when implemented as deployment strategies. To address these issues, a unified architectural framework should integrate human-centred ergonomic standards as outlined by Neufert & Neufert (2012), alongside clearly defined closed-loop energy, water, and structural systems inspired by yacht and spacecraft designs (Larsson, Eliasson & Orych, 2014; NASA, 2017), as well as rapid-deployment techniques based on traditional nomadic architectures as described by Rudofsky (1964).

Next, it should incorporate user-driven reconfiguration strategies based on gradual Non-Plan development models and psychogeographic *dérives* (Sadler, 1998; Banham et al., 1973), allowing residents to rearrange modules as their needs or conditions evolve. To ensure that mobile dwellings foster a true sense of belonging and encourage ethical engagement with local ecosystems, it is essential to integrate existential and regionalist principles. This includes Heidegger's concept of care for place and orientation (Heidegger, 1971), Bachelard's idea of intimate corners (Bachelard, 1958), and Frampton's critical regionalist emphasis on site-specific culture and materials (Frampton, 1983). Ultimately, to ensure that the resulting mobile habitats are both technically and ergonomically sound while being rich in experience and environmentally conscious, this integrated approach must be rigorously validated through empirical methods, such as performance monitoring, post-occupancy evaluations, and prototype simulations.

CHAPTER 2 - METHODOLOGY

2.0 Introduction

This dissertation examines how architecture can evolve to accommodate the interconnectedness, mobility, and unpredictability of modern life. Titled "Earth, Water, Air & Aether: Mobitecture as a 'vessel' for adaptive architecture in our ever-evolving world," it explores modular and mobile architecture, or mobitecture, as a design philosophy and spatial strategy reshaped by post-pandemic redefinitions of home and work, global nomadism, and climate change.

Using a qualitative research approach, the study engages with real-life experiences, speculative design, and architectural philosophy to capture subjectivity and depth (Denzin & Lincoln, 2011). Through expert views, the research aims to provide insights rather than measurable outcomes.

Eight participants, including naval designers, architects, and spatial theorists, were selected for purposive sampling, each offering unique insights on mobile and adaptive architecture. Semi-structured interviews encouraged open sharing of ideas, leading to thoughtful exchanges about the implications of mobility in design.

Interview topics were guided by literature review to ensure alignment with theoretical goals. A thematic analysis of the transcripts identified common themes and design philosophies, which will be explored in the discussion chapter to offer insights on the future of mobile and adaptive architecture.

2.1 Philosophical Approach and Methodological Justification

Constructivism and interpretivism underpin this investigation, forming a method focused on discussion, subjective experience, and meaning-making. This study examines how professionals perceive and address new spatial challenges related to mobility, flexibility, and modularity, moving beyond the view of architecture as static or purely technical.

Interpretivism posits that knowledge shapes context, culture, and personal experience (Denzin & Lincoln, 2011), while constructivism emphasises knowledge creation through collaboration and self-reflection (Charmaz, 2006). These frameworks suit the emerging field of mobitecture, which blends design philosophy, architecture, lifestyle, and sustainability.

Qualitative research methods were chosen for their ability to support open-ended exploration and address complex subjects. The objective was to understand how professionals and scholars perceive mobile architecture, embracing uncertainty and diverse perspectives. As Creswell (2013) notes, fields involving human experience and interpretation benefit from qualitative methods.

The research approach was flexible, allowing interviews to uncover unexpected themes. Participants often challenged definitions and proposed new ideas, enriching the study's philosophical and ethical dimensions.

Literature review was crucial in developing the qualitative approach. Themes and interview questions drew from theoretical sources, enabling discussions that mirrored or challenged existing debates. Meaning emerged through ongoing dialogue between academic literature and participant engagement.

This method emphasised communication, reflecting the collaborative nature of architectural work, which involves compromise, adaptability, and self-assessment. The research investigated the reinterpretation of mobility and flexibility in architectural contexts without seeking universal conclusions. These concepts evolved organically, understood within broader cultural, technological, and ecological contexts, facilitated by qualitative methodologies.

2.2 Research Design

This study used a qualitative method to explore open-ended ideas. After an extensive literature review, themes such as mobility, modularity, resilience, and the redefinition of home were identified. These themes informed the semi-structured interview questions for conversations with mobile architecture professionals.

Elite interviews were chosen as the primary research strategy to gain insights into the perception and application in daily life. This involved selecting individuals with specialised knowledge or influence (Richards, 1996). Participants from architecture, naval design, and spatial theory illustrated the multidisciplinary aspects of mobitecture, offering diverse views on how mobility and flexibility shape contemporary living spaces.

The interviews were flexible yet addressed key topics identified beforehand, allowing participants to share insights and introducing relevant concepts from existing research. Many discussions deepened when exploring themes like ownership, lifestyle changes, and the cultural value of permanence in construction. A notable conversation was with Simon Sadler, whose connection of historical narratives to contemporary issues enriched our discussion.

After the interviews, Braun and Clarke's (2006) thematic analysis was applied, meticulously transcribing each session. This process combined deductive coding from literature and inductive coding where patterns emerged from the data. Key themes formed the basis for the discussion chapter. This research method effectively linked theoretical ideas to practical use, enabling a responsive inquiry process that addressed academic contexts and the real-world challenges designers face in mobility through spatial design.

2.3 Participant Selection and Rationale

Purposive sampling identified key research participants who could provide insights on mobile and adaptive architecture. Influential topics from the literature included modularity, spatial efficiency, ecological design, and innovative views on permanence and ownership. The 25 prospective interviewees were initially identified using three main criteria: (i) professional expertise in mobility-related design fields such as architecture, naval engineering, or spatial theory; (ii) demonstrated influence through practice, publications, or teaching that directly related to themes of adaptability, modularity, or compact living; and (iii) potential to contribute an interdisciplinary perspective by bridging architecture with adjacent disciplines such as yachting, aerospace, or cultural theory. This ensured a broad pool that reflected both practical and theoretical approaches to mobitecture. From this group, eight individuals ultimately agreed to participate.

Despite the smaller group, the mix of academics and professionals was promising, and their input was invaluable. Participants were selected for various reasons: some were architects specialising in modular housing, while others provided theoretical insights on mobility, adaptability, and spatial identity. The addition of a naval architect enhanced the study by linking it to efficient, compact living in marine environments. Though small in size, the varied backgrounds enriched the understanding of mobitecture.

2.3.1 Background of Respondents

To contextualise the insights gathered, brief professional backgrounds of the eight respondents are provided below. These illustrate the disciplinary diversity of the participants and highlight potential influences on their perspectives regarding mobitecture.

- *Jennifer Siegal* - Founder and CEO of OMD Corp, Professor Emerita of Architecture at USC, and recognised pioneer in volumetric, off-site, and modular construction. Her focus on sustainability and kinetic environments reflects her longstanding expertise in adaptable systems.
- *Simon Sadler* - Professor in the Design Department and Art History Program at UC Davis, specialising in the history and theory of architecture since the mid-twentieth century. His work on Archigram, the Situationists, and counterculture situates mobility within broader political and cultural frameworks.
- *Harry Parnis England* - Naval architect with a BEng (Hons) in Yacht and Powercraft Design from Solent University. His background in yacht design informed discussions on efficiency, stability, and compact spatial organisation.
- *Keith Diplock* - ARB-registered architect, currently based in Malta and living aboard a boat. His dual experience in professional practice and liveaboard life provided valuable insights into autonomy, modularity, and lived mobility.
- *Sandro Valentino* - Award-winning architect and lecturer at the University of Malta, with expertise in design innovation and teaching. His focus on cultural and ecological design values contributed to the ethical and aesthetic dimensions of mobility.

- *Cyril Sancereau* - French artist and head of the Beneteau Foundation. His practice explores transient landscapes and the “in-between” moments of territory, bringing a cultural and artistic lens to spatial temporality and mobility.
- *Alessandro Grech La Rosa* - London-based architect with a focus on high-rise and micro-architecture, and an enthusiastic sailor. His combined professional and personal background provided interdisciplinary perspectives connecting architecture and marine design.
- *Ray DeMicoli* - Principal of DeMicoli and Associates Architects, passionate about yachting and Mediterranean design. His work and interests emphasise the poetic and aesthetic connections between architecture and the sea.

2.4 Interview Procedure

The semi-structured interviews aimed to strike a balance between a conversational tone and a focused approach to specific topics. This approach enabled me to steer discussions toward key ideas while still allowing participants the flexibility to explore topics they deemed important. Building on the literature review, we incorporated aspects such as mobility, flexibility, sustainability, and spatial identity into our framework. Before each interview, I researched the participants' backgrounds and bodies of work to ensure the questions were relevant and well-informed. Rather than sticking to a fixed set of questions, I employed theme-based suggestions that encouraged open conversation. This adaptability allowed the discussion to evolve in real time, enabling participants to share their thoughts freely and explore ideas that were personally or professionally meaningful. By doing so, I followed Rubin and Rubin's (2012) advice for in-depth interviews, which emphasises participant involvement, depth, and subtlety.

Interviews were conducted either in person or via Zoom, depending on the circumstances and participant availability. Each session typically lasted between 45 and 60 minutes. With the participants' permission, all sessions were recorded and subsequently transcribed for analysis. Prior to the interviews, participants were provided with a consent form and an information letter outlining the study's aims, their rights, and how their contributions would be utilised and protected (refer to Appendix A). I paid careful attention to ethical considerations, particularly regarding data protection and transparency. The interviews adopted a relaxed, conversational tone that encouraged spontaneity and trust. Many of the discussions became more reflective and in-depth. One notable example was my conversation with Simon Sadler, which developed into a more thorough exploration of architectural history, cultural shifts, and future prospects. When tackling philosophical and speculative topics, this type of conversation illustrated the value of embracing a flexible interview approach.

2.5 Data Analysis - Thematic Analysis

Using the approach proposed by Braun and Clarke (2006), I conducted a thematic analysis of the data after the interviews had been completed and transcribed. I chose this method for its flexibility and capacity to pinpoint key trends in qualitative data. Thematic analysis is especially suitable for exploratory research projects that aim to understand how

participants perceive and respond to complex concepts, such as mobitecture in this case, rather than testing specific hypotheses.

My analysis was divided into six key stages. To get a sense of the content, I began by reading each transcript multiple times and taking initial notes. Then, I pinpointed notable words, concepts, or observations in every discussion, using both deductive and inductive approaches to code them. Some codes emerged naturally from the interviews, while others were shaped by themes such as modularity, resilience, or the ambiguity of permanence, which had been highlighted in the literature review.

Next, I began grouping related codes to identify broader themes. To see how specific patterns emerged or changed depending on the participant's background or area of expertise, I often compared these themes throughout interviews. This helped me refine the categories and ensure they accurately reflected the content of the data. Throughout the analysis, I kept a reflective journal to record my decisions and interpretations, which made me more aware of how my own experiences and interests might influence my understanding of certain terms. The discussion chapter, which builds on the previous set of topics, examines how these professional perspectives support, challenge, or expand upon the claims made in the literature.

Building on one-on-one discussions, I developed a more thorough and structured understanding of how mobility is conceptualised, tested, and applied in different architectural contexts through thematic analysis.

2.6 Ethics and Consent

The ethical guidelines established by the University of Malta were adhered to during this research, and the FREC board accepted my application BEN-2024-00148. Before the interviews, I prepared a consent form and an informational letter, which were shared with all potential participants (refer to Appendix A). These documents outlined the research objectives, the criteria for participation, and the rights of participants, including their option to withdraw at any time and to request the deletion of their data before publication.

Every participant was told that their input would be used for academic research and that their interviews might be quoted in the dissertation. Although all participants opted to be named due to their high-profile professional roles, they were also given the option to remain anonymous. Before the interviews began, written or verbal consent was obtained from each participant, and they all agreed to have their interviews recorded and transcribed.

Both data security and confidentiality were carefully considered. Only my academic supervisor and I had access to the securely stored audio recordings and transcripts. Unless required for academic archiving, all content will be kept for a year after the research concludes, after which it will be erased entirely in line with data protection laws.

2.7 Reflexivity and Validity

Reflexivity significantly influenced this research. I was aware of how my personal experiences shaped my approach to the subject. My architecture background and interest in boating led me to focus on mobility, spatial efficiency, and flexibility. While my background aided in participant selection and crafting interview questions, it also required careful consideration to maintain objectivity.

I took detailed notes during and after each interview to promote openness and minimise bias. These notes tracked my initial impressions, developed ideas, and connected themes from our discussions. They kept me aware of my perspective's impact on the investigation, fostering a meaningful engagement with the subject while maintaining necessary detachment.

To enhance research credibility, I employed consistent methods throughout the interviews, including shared thematic prompts and follow-up questions. I reviewed the transcripts multiple times for accuracy, and coding was systematic to identify recurring themes. Interpretations relied on direct evidence from the data and were cross-referenced across participant accounts to highlight shared concerns and divergences.

2.8 Conclusion

This chapter outlines the methodological framework for exploring mobitecture qualitatively. Using semi-structured elite interviews and a literature-informed approach, the study gathered extensive data based on professional experience and expert insights. The constructivist and interpretivist paradigms fostered a dialogue-based knowledge development, where concepts emerged organically through discussion.

The decision to interview selected experts provided opportunities for transdisciplinary thinking that transcended traditional architectural research. Important patterns revealed through theme analysis will serve as the foundation for the discussion chapter, which will analyse them in light of the literature review.

However, there are limitations that will be explored in the final chapter. This methodology offers a solid foundation for examining how mobile, modular, and adaptive architecture addresses the needs of a rapidly changing world.

CHAPTER 3 – OBSERVATIONS AND DISCUSSION

3.0 Introduction

This chapter draws on ideas gathered from in-depth interviews with leading architects, designers, and spatial thinkers at the forefront of mobile and modular design. A thematic analysis was employed to identify trends in how concepts related to architecture, identity, and adaptation were expressed across various contexts, including professional, philosophical, maritime, and terrestrial settings. These interviews serve as a forum where mobitecture is challenged, contested, and expanded, as well as a vital source of information. One of the discussion's key strengths arises from the interview with Simon Sadler, whose views on temporality, spatial politics, and architectural history provided a conceptual foundation for developing the themes. His insights significantly impacted the shaping of questions regarding the relationship between mobility, identity, and power. However, the perspectives of other participants, including Jennifer Siegal, Alessandro Grech La Rosa, Sandro Valentino, Keith Diplock, and Ray DeMicoli, offered essential insights into everyday experiences, practical innovation, and real-world limitations. These voices contributed to a nuanced understanding of mobitecture, enriching the debate with philosophical depth and practical clarity.

Rather than presenting results from individual interviews, a thematic approach was taken to uncover common themes and issues among the participants. These themes encompass a diverse array of geographical, ecological, cultural, and technical objectives, developed through a combination of deductive and inductive coding techniques. The key subjects examined include aesthetics and spatial intimacy, various ownership models, planning constraints, modularity and adaptability, autonomy in infrastructure systems, and the redefinition of domesticity. Section 3.1 presents the framework for the findings, providing a clear visual representation of the analytical process and outlining how the interview data was structured into core, organising, and global themes. This thematic network constitutes the conceptual framework for the chapter. Section 3.2 then critically examines each key issue, drawing on the interviews and comparing them to the literature discussed in previous chapters. The discussions revisit key concepts from theorists such as Le Corbusier, Bachelard, Heidegger, Deleuze, and Guattari, demonstrating how the respondents' actual experiences and professional perspectives either support or challenge these pre-existing frameworks.

This chapter aims to do more than summarise professional views. Instead, it seeks to understand and contextualise these developments, illustrating how mobile architecture is evolving both theoretically and practically. From this perspective, mobitecture is perceived as a nuanced and flexible design philosophy that adapts to the ever-changing nature of existence, rather than merely being a fleeting trend or style.

3.1 Thematic Networks

Applying the framework developed by Braun and Clarke (2006), the thematic analysis of elite interviews revealed notable patterns throughout the dataset that closely align with the objectives of the dissertation. From this study, a structured network of themes emerged, comprising core codes grouped under organising categories, which in turn uncovered more overarching global themes. This tiered structure provides a logical progression from specific observations to broader conceptual insights.

The thematic network diagram below illustrates how diverse professional experiences and insights have converged over time. This convergence has led to the establishment of significant theme clusters focusing on identity, adaptability, mobility, ecological responsibility, and design ethics. Each global topic is supported by several organising themes, which stem from recurring trends identified in the interviews.

Global Theme 1: Redefining Home and Identity

Redefining what it means to live is at the core of mobitecture. The idea that home is defined by permanency was continuously contested by participants such as Keith Diplock and Simon Sadler. Instead, they investigated the idea that movement might strengthen identity rather than weaken it. This subject includes concepts such as psychological anchoring, emotional belonging, and the liberating and grounding effects of nomadism.

Sub-themes include:

- Mobility as a lived philosophy
- Rootlessness versus rootedness
- Nomadism and emotional belonging

These observations align with Heidegger's notion that residence involves a process of direction and care (Heidegger, 1971), implying that mobile architecture should enable both the creation of meaning through place and the provision of shelter.



*Figure 18 Redefining Home and Identity Diagram.
(source: author).*

Global Theme 2: Modularity and Compact Living

Numerous interviewees stressed the importance of maximising space while maintaining functionality. Among those participants, Alessandro Grech La Rosa and Jennifer Siegal highlighted the design intelligence inherent in modularity, which enables the transformation of space into a flexible and dynamic environment rather than a static one.

Sub-themes include:

- Efficiency through constraints
- Modular design as adaptive logic
- Reconfigurable spatial systems

This shows how constraints can foster creativity and adaptability in architectural design, aligning with Le Corbusier's modular theory and Neufert's ergonomic principles (Neufert, 2012).

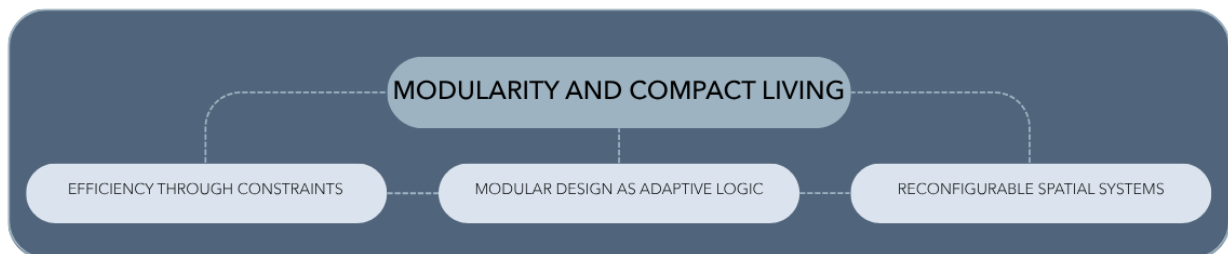


Figure 19 Modularity and Compact Living Diagram.
(source: author).

Global Theme 3: Autonomy and Infrastructure

Participants such as Cyril Sancereau and Keith Diplock stressed the need for self-sufficient systems, especially in off-grid and marine settings. They see autonomy as a key aspect of design resilience, rather than just being independent of utilities.

Sub-themes include:

- Off-grid systems
- Integrated energy and water systems
- Self-sufficiency as a design driver

Research on closed-loop systems and robust design, influenced by yacht and aircraft architecture, directly supported the findings (Larsson et al., 2014; NASA, 2017).

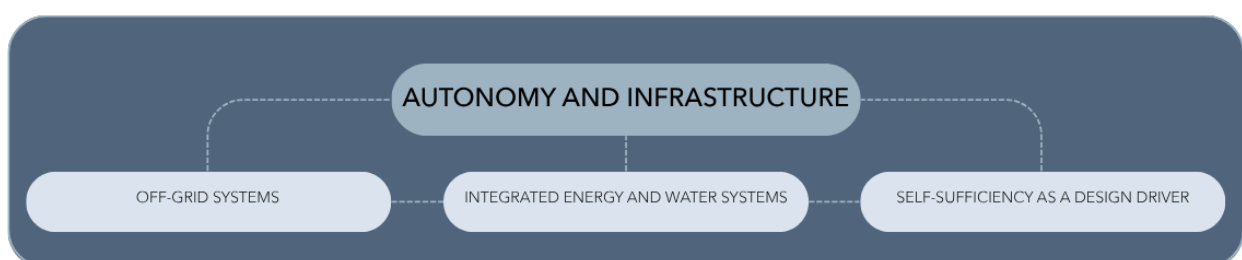


Figure 20 Autonomy and Infrastructure Diagram.
(source: author).

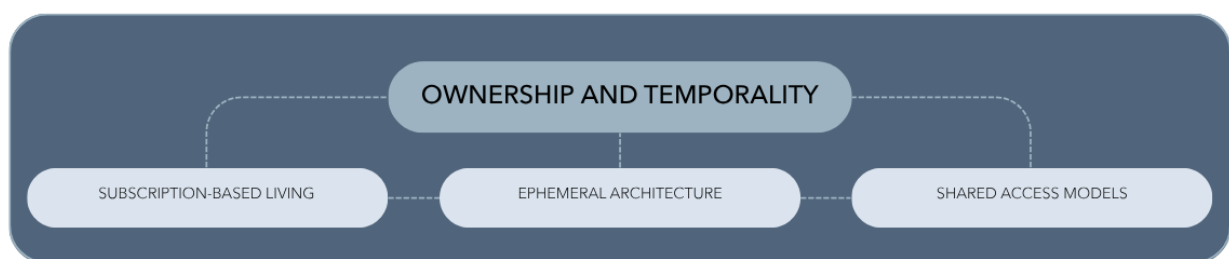
Global Theme 4: Ownership and Temporality

Ray DeMicoli and Simon Sadler were among those who challenged the traditional architectural emphasis on permanence. In response to broader societal trends toward temporality and flexibility, they proposed alternative models of shared access, adaptive occupation, and flexible ownership.

Sub-themes include:

- Subscription-based living
- Ephemeral architecture
- Shared access models

This theme encourages architects to reassess the ethical, economic, and legal implications of residency in the context of modern housing issues and digital nomadism.



*Figure 21 Ownership and Temporality Diagram.
(source: author). Global Theme 5: Spatial Ethics and Ecology*

While the compactness and mobility of mobitecture have environmental benefits, they also raise moral concerns about resource use, environmental integration, and ecological footprint. Participants such as Jennifer Siegal and Sandro Valentino have explored this issue, highlighting the importance of material responsibility and circular design.

Sub-themes include:

- Environmental responsiveness
- Minimal footprint living
- Circular design principles

In this context, mobitecture reflects the regenerative principles inherent in natural intelligence and sustainability philosophy (Designboom, 2025).



*Figure 22 Spatial Ethics and Ecology Diagram.
(source: author).*

Global Theme 6: Legislation and Planning Limits

Mobitecture frequently faces opposition from institutions despite its conceptual potential. Interviews reveal that people are frustrated with outdated zoning laws, the lack of terminology for movable forms, and legislative oversights that hinder innovative spatial strategies.

Sub-themes include:

- Institutional blind spots
- Lack of vocabulary in planning policy
- Zoning barriers to mobility

These difficulties were articulated by Jennifer Siegal and Harry Parnis England, who suggested that systemic change is essential for genuine adaptation.

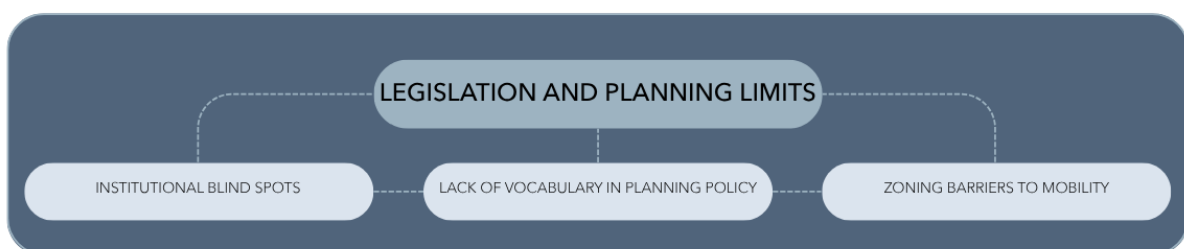


Figure 23 Legislation and Planning Limits Diagram.
(source: author).

Global Theme 7: Values, Aesthetics, and the Sea

Several participants, especially those with expertise in aquatic fields, drew on deeply personal views. Alessandro Grech La Rosa and Ray DeMicoli used water as both a teacher and a backdrop. Their comments highlighted the impact of natural forces, humility, and aesthetics on space design.

Sub-themes include:

- Marine influence on architecture
- Humility in design
- Cultural narratives of movement

This theme fosters a more emotional and narrative-based understanding of mobility, drawing lyrical connections to Bachelard's (1958) reflections on the intimacy of space.



Figure 24 Values, Aesthetics & Sea Diagram.
(source: author).

3.2 Discussion

3.2.1 Redefining Home and Identity

For centuries, home has been closely linked to tradition, proximity, and permanence. However, in today's world of mobility, transience, and global migration, these associations are undergoing profound re-evaluation. One of the most striking themes to emerge from the elite interviews is that home is no longer a static concept but rather a dynamic state of flux, shaped by geographical rhythms, emotional ties, and a shifting identity. Jennifer Siegal reflected thoughtfully on this shift: *"Every human being deserves a home. There's no question. Like, the whole idea of, you know, displacement, homelessness, it's appalling... it's not about, you know, who dies with the most money. It's really about, you know, the community in which we want to be growing and raising our children in and the society, that we should strive to coexist within."* Her assertion reinterprets the concept of home as one of shared values, emotional security, and social belonging, rather than merely a place to stay.

This aligns with Gaston Bachelard's observations in *The Poetics of Space* (1958), where the house evolves from a simple refuge into a private space for memory and dreaming. As long as mobility allows this intimacy to continue, Bachelard's concept of "topoanalysis" of the house as a psychological anchor also applies to mobile forms. As a result, architecture changes the notion of home rather than denying it. Notably, this transformation was captured by Sandro Valentino, who stated, *"As long as you find home within yourself, then you can be anywhere....if you find comfort within yourself, I suppose, then home can be anywhere."* This reflects Heidegger's (1971) idea that dwelling is a fundamental way of existing in the world, shaped by presence and care (*Sorge*), rather than simply being a place to reside. In a similar vein, Simon Sadler remarked, *"We're all kind of migrants now, and we build our identity as we go along,"* shifting the discussion toward the sociopolitical implications of mobility. This idea aligns with the Deleuzian notion of deterritorialisation, which suggests that identity is shaped through flows, transitions, and movements across different contexts rather than being anchored to a single location (Deleuze & Guattari, 1987). Consequently, mobitecture shifts from being merely the architecture of existence to becoming the architecture of transformation.

Ray DeMicoli said, *"It's almost like the sea is home; it moves, it changes, but it's constant in its own way."* This perspective serves as a powerful metaphor that emerged during the interviews. Here, the sea symbolises a unique blend of stability and movement, both literally and metaphorically. It evokes the concept of architecture as a vessel: a dynamic reservoir for life that is adaptable and fluid, while simultaneously preserving a sense of continuity. This flexible notion of home also affects individual freedom and shifting family arrangements. As Keith Diplock observed, *"Some people genuinely feel most at home when they are in motion. There's a rhythm to it, a sense of autonomy, and often a welcome solitude."* In line with Braidotti's (1994) theories on the nomadic subject, individuals find a sense of belonging not in a fixed dwelling but in the rhythms of change and unpredictability. Research exploring mobility as a spatial ethic backs up these findings. As McAlpine and Wood (2020) argue, *"A dwelling is no longer defined by bricks or coordinates, but by a relational geography of interaction, routine, and adaptability."* This

approach, which is a characteristic of Mobitecture, relies on site-responsive, modular, and temporary designs. Such thinking is reflected in customs such as living on boats, in vans, and in prefabricated shelters- all of which were mentioned frequently in the interviews and literature review.

Building on Siegal's political perspective, she stated: *"I'm extremely interested in the idea that, you know, borders, countries, the whole idea of... creating these invisible lines on the earth is a fallacy, and that should be rethought"*. In this context, mobitecture is an act of resistance to imposed geopolitical boundaries, instead promoting architectures of flow, crossing, and relational placement. These evolving ideas are also rooted in historical context, as evidenced in the literature. The relationship between mobility and identity has been intertwined throughout history, from the nomadic lifestyles of people living in yurts and tents to the futuristic visions of Archigram's Walking City (Herron, 1964) to the modern-day van-life and off-grid pods. However, the emergence of remote work, digital nomadism, and global relocation in the post-pandemic era represents a new development. The work of Elon Musk and Thomas Heatherwick (Section 1.7) illustrates how architecture is now expected to support lives on the move, encompassing digital, psychological, and physical aspects.

While mobility can foster identity and freedom, it also risks creating instability. Mobile dwellings may weaken long-term community cohesion and can be perceived as precarious by those accustomed to permanence. As Sadler himself noted, the romanticisation of rootlessness can obscure the social costs of displacement. Thus, the notion of mobility must be critically balanced with the psychological need for continuity and belonging.

Ultimately, the evidence suggests that identity is rebuilt rather than lost through travel. As Bachelard (1958) observes, *"the house shelters day-dreaming, the house protects the dreamer, the house allows one to dream in peace"*. Even if that house is drifting, moving, or unfolding, dreaming is still essential to anchor memory and identity in space.

3.2.2 Modularity and Compact Living

Modern living demands a shift in architectural approach, prioritising mobility, sustainability, and efficiency. The rise of modular and compact living is a key outcome, both conceptually and practically. This theme emerged consistently in the elite interviews conducted for this study, highlighting its significance in the broader discussion on mobile and adaptive design. By reinterpreting modularity, it becomes a theoretical and moral framework for rethinking our use of space. Many of the interviewees believe that small living promotes greater spatial intelligence and design discipline. Keith Diplock effectively summarised the potential and challenges of designing small spaces in a concise way. *"When we begin to explore micro units or compact dwellings, the stakes of design shift. Every element needs to work harder. A table isn't just a table it must function as a dining surface, a workspace, perhaps even convert into part of a sleeping arrangement. The bed base might fold away; a panel might detach and become something else entirely. Everything must serve double or even triple duty, without compromising quality of life."* This reasoning backs up the long-standing view held by academics like Habraken (1972) that adaptation and flexibility for users should be built into the structure from the start, rather than being tacked on as an afterthought.

As Harry Parnis England notes, this philosophy is just as crucial to yacht design and naval architecture. He said: *"Everywhere is storage. All the floors is storage... services, things like water pumps, pipes, air conditioners, how accessible are they... If you don't have access, when things go wrong it's going to be extremely expensive to fix"*. This statement highlights the importance of multifunctional spatial systems and a long-standing issue in static architecture: the separation of form and function. In contrast, mobile and modular environments demand that every centimetre be justified, often multiple times. Simon Sadler's views reinforced the idea that compactness is linked to clarity, rather than deprivation. He stated: *"What's good about something that's more compact is that it's not necessarily lesser... I really enjoy that these things can be containerised, miniaturised, almost capsule-ised. It's often kind of more liberating... You're not being deprived of anything."* In this context, being little becomes a place of possibility rather than a distillation of experience. Building on this, Cyril Sancereau highlighted the choreography of compact living: *"It's a lot harder to design a tiny house than to design a big house. You have to be clever. You have to really understand the way people move, the way people live"*. His explanation aligns with the literature on architectural phenomenology and spatial ergonomics (Bachelard, 1958), where routine and mobility are crucial to the living experience. It also backs up the claim that minimalism and mobility are fundamentally spatially poetic, rather than just practical.

By linking modularity to emotional and personal agency, Sandro Valentino introduces another layer: *"It teaches you how to live with less, and living with less is actually living with more."* It ultimately comes down to value and priorities. This insightful remark reflects a growing cultural awareness, where having fewer material belongings makes it possible to appreciate space, time, and oneself more. The minimalism embedded in architecture is a deliberate reevaluation of what's truly important, not a lack of necessity. Jennifer Siegal's research provides valuable insights into the accuracy and scalability of modular systems.

She explained, *"In modular architecture, I'm able to produce large scale chunks of space in controlled environments and built, in a much faster, more precisely crafted, time frame, less material waste, and more control. I take those large chunks of space, usually, it's steel frame modular buildings, and those pieces form a bigger whole."* By utilising these substantial segments, typically steel-frame modular structures, Siegal constructs a unified, larger entity. In this context, modular prefabrication presents significant architectural and technological benefits. Additionally, Siegal's approach aligns with recent studies on off-site construction as a response to urban and ecological challenges (ArchDaily, 2020).

There's growing consensus among architects, designers, and naval engineers that modularity is essential for the future of architecture, not just for mobile structures, but for any design that prioritises sustainability, adaptability, and human-centred functionality. This convergence of perspectives supports the idea that modularity should be a fundamental design approach and way of life in architecture. It enables buildings to evolve alongside their users while cleverly adapting to the limitations and circumstances of different contexts. Ultimately, modular and small-space living doesn't mean a return to austerity; instead, it's a deliberate rebalancing of architectural principles. By eliminating waste and encouraging movement, modular architecture reclaims design as an ecologically conscious and spatially empathetic profession. It challenges architects to rethink how buildings function, not just how they appear, and how they can facilitate resilient, dynamic, and spatially meaningful lives.

However, modular and compact living is not without limitations. Some users experience "space fatigue," where the constraints of small-scale environments can lead to stress and reduced comfort. Prefabricated modules, while efficient, also risk becoming overly standardised, potentially eroding architectural diversity and cultural specificity. These pitfalls highlight the importance of designing modular systems with flexibility, variation, and user customisation in mind.

3.2.3 Autonomy and Infrastructure

At the heart of the architecture discussion lies the interplay between autonomy and infrastructure. Mobility in architecture, as explored in the literature, encompasses more than just physical movement; it also signifies independence from traditional power, water, waste, and connectivity infrastructures. The idea of self-reliant architecture becomes both a technological imperative and a philosophical pursuit in a society increasingly defined by political constraints, environmental uncertainty, and energy scarcity. The elite interviews, which highlighted that autonomy was viewed as both achievable and vital, provided strong support for this perspective. Keith Diplock expressed the significance of recognising personal resource usage, stating, *"One of the things I've come to appreciate from living aboard is the clarity around resource consumption. On a boat, you can physically measure exactly how much energy or water you're using each month. These metrics are tangible. I believe they should be a more central driver in how we think about domestic design. Not just how we live, but how much we consume and how little we might need."* His insights were shaped by his experiences of living on a sailboat. This perspective resonates with Illich's (1973) concept of "convivial tools," which advocate for systems that diminish dependence on centralised management by enabling users to comprehend and regulate their own consumption.

"Modern technology makes it possible to live incredibly efficiently. Solar power, for instance, changes everything. There's a moment of quiet satisfaction when you're anchored out, wondering if everything's running smoothly, and you check below: the batteries are full, the fridge is humming, and the systems are stable. That's a good day. That's a glimpse of self-sufficiency." He mentioned, showcasing his practical appreciation for off-grid devices. Solar energy is incredibly useful, especially when you're out at anchor. Mobile infrastructure enables users to manage their own resource cycles, underscoring the need for real-time environmental feedback that challenges traditional architectural models reliant on hidden utilities. Jennifer Siegal discussed the technological advancements that facilitate this level of autonomy. She expressed, *"I'm extremely interested in alternative, infrastructures, and the evolution of, you know, water, and how it's pulled now from different types of sources, from air, the kind of recycling of waste, black water, grey water, and how that can be kept on the property and then reused in different ways within the building systems."* Siegal's insights underscore a significant transformation in architectural design, shifting from a passive to an active approach and evolving from mere connectivity to a sense of control. Today, architecture focuses on developing an integrated micro-ecology rather than simply linking to existing grids.

This autonomy encompasses not only technical aspects but also ethical considerations. Diplock cautioned against the misconceptions surrounding green consumerism, stating: *"That said, we have to be cautious there's a lot of greenwashing in the sustainability space. Real efficiency doesn't always come from buying the newest thing; it comes from understanding what you actually use and need."* His critique aligns with wider debates in sustainable architecture that call for a shift from superficial sustainability to genuine behavioural accountability. By incorporating self-contained systems, Mobitecture creates an environment that allows for such accountability to flourish. Siegal highlights the

disparity between contemporary infrastructure and residential architecture by comparing buildings to automobiles: *"Our boats, our cars, our planes, all of our systems of transportation are so much more, they have an embedded intelligence within them, much more than our houses do."* This critique resonates with Banham's (1965) advocacy for a "well-tempered environment," wherein architecture is envisioned as a responsive mechanism rather than a static structure.

A key principle of mobitecture is its focus on creating infrastructure that is adaptable to the residents' movements instead of confining them. Siegal illustrated this idea by reflecting on the past: *"Originally, shelter was all about, you know, mobility and not staying in one place... the early hunters and gatherers, were just that. They were always moving and thinking about building systems that would provide that shelter, but less rooted to permanence and less rooted to the ground."* Her observation connects to the history of nomadic living, which includes structures like Bedouin tents and Mongolian gers, known for their adaptability, lightweight design, and independence. The ability to disconnect shelter from its geographic location challenges conventional planning standards and architectural design. *"The shelters could unplug from that infrastructure and move to another location... to kind of move a shelter with you as you evolve,"* Siegal made clear. This concept mirrors the ambitious visions of Archigram, which included projects like the Walking City and Plug-In City, where modular and adaptable infrastructure was a key focus. Today, this idea is gaining considerable traction, particularly in the context of digital mobility and climate resilience.

The social dimension of autonomy was prominently discussed during the conversation. While mobility serves to decentralise the traditional logic of infrastructure, the implications of infrastructure remain a significant public concern. Engaging in off-grid living necessitates a sense of responsibility; however, it also empowers individuals. *"When I eventually move back to a land-based home, the first system I would want to install is one that allows me to monitor the resource flow of electricity, water, and waste. Only by seeing the complete picture can we begin to design homes that truly tread lightly."* Diplock articulated, outlining his strategy for achieving self-sufficiency. In conclusion, the concepts of autonomy and infrastructure within the context of mobitecture encompass more than solely technological advancements; they inspire a more profound reexamination of human interaction with space, energy, water, and waste. From prefabricated self-sufficient pods to off-grid sailing ventures, the interviewees consistently indicated that infrastructure should serve to liberate architecture, rather than constrain it. Therefore, Mobitecture envisions a future where infrastructure functions as a variable in design, rather than a limitation, enabling architecture to intelligently and adaptively respond to new environments, climates, and populations.

3.2.4 Ownership and Temporality

Within architecture, the notion of ownership has traditionally been associated with security, stability, and permanence. Typically viewed as a long-term investment, homeownership ties an individual to a specific location, structure, and even their sense of identity. However, this connection is being re-examined through the lens of architecture and conversations with key interview subjects. When architecture becomes temporal, modular, and transportable, what becomes of ownership? What does it mean to "own" a space that is in motion? In his examination of the political and philosophical dimensions of dwelling, Simon Sadler highlights a significant tension: *"Dwelling, being rooted in a spot, is something that architecture has always... tried to do, to try to allow people a sense of security of ownership, of permanence... But then, if we were to say we should all be rootless cosmopolitans wandering around the world, well, there are costs to that."* Sadler's remarks resonate with Heidegger's notions of dwelling as a manifestation of existential rootedness, yet they also underscore the environmental and social ramifications associated with increased mobility.

The complexities surrounding ownership and the motif of temporality are crucial to understanding contemporary issues. On one hand, the concepts of mobility and the desire to escape the confines of traditional homeownership are increasingly romanticized. On the other hand, there lies a profound anxiety about displacement, devaluation, and impermanence. As Jennifer Siegal states, *"The value of land becomes more than the value of the building, we tend to strangle the land to retain our ownership."* In this context, migration introduces elements of ambiguity and transience, while land is seen as a symbol of control and heritage. Mobile architecture sees ownership shift from a fixed plot of land to more flexible assets, such as modular units, vans, or boats. However, this raises emotional and financial concerns. These assets tend to depreciate over time, and their temporary nature challenges the traditional social markers of success linked to buying property. The architecture of mobility suggests a move away from architectural permanence and towards creating an experience instead.

Sadler's analysis of migration, homelessness, and temporary shelter indicates that spatial ownership may often be situational or transient. He stated: *"So that a lot of the research on mobile architecture, if you like, is generated by the problem of refugees, of people that are stateless, people needing temporary housing, temporary shelter."* This statement underscores a critical distinction: for some individuals, mobility represents a lifestyle or privilege, whereas for others, it signifies a state of precarity and displacement. Consequently, while mobility architecture provides spatial freedom, it is essential to also examine its ethical implications, particularly regarding who is compelled to move and who is afforded the choice to remain.

The notion that persistence equates to value represents a significant point of debate within the context of real estate. In environments with limited space, the conventional real estate market tends to favour durable, permanent structures. Conversely, mobile and modular designs are often perceived as inferior or merely temporary solutions. Nevertheless, as Siegal highlights, this assumption overlooks the advantages of speed,

flexibility, and sustainability inherent in modular systems. *"I think, two different ways of thinking about building. This idea that, everything is customised... I think it's a fallacy. It's just not true... you're already limited by the length, width, and height of something that can be moved and transported."* These technological constraints actually become the exact circumstances that give rise to mobile architecture not limitations, but design criteria. Moreover, they support temporality as an active design principle, rather than a passive outcome. Here, temporality refers to iteration, change, and evolution, as well as time.

Here, we see a shift from the traditional view of home as a single, permanent entity to one of constant reinvention. The work of thinkers like Bachelard (1958), who describe the house as a process of living and a continuous adaptation to its surroundings, body, and context, rather than a fixed creation, supports this perspective. Mobitecture's modular and impermanent nature makes this approach particularly evident. Simon Sadler's broader political framing provides a significant cautionary perspective: *"Architecture is a sort of prison. It is a way of routing claims to territory. It's a way of settling, colonising. It is a route of nationalism."* In this critique, the relationship between architecture and land, as well as the notion of permanence, become intertwined with systems of exclusion and control. Conversely, mobitecture creates an opportunity for more fluid and borderless interactions with space; however, it too must grapple with its own ethical implications.

Ultimately, the relationship between ownership and temporality in architecture highlights deep-seated tensions between local identity and global mobility, permanence and progress, and the need for security and the desire for freedom. The interviews demonstrate how new forms of spatial engagement are questioning traditional notions of value rooted in permanence and land ownership. While mobility complicates ownership, it also introduces new, sustainable, and adaptable living arrangements that are more suited to a rapidly changing world.

3.2.5 Spatial Ethics and Ecology

As the climate crisis intensifies and urbanisation accelerates, the need for architects to re-examine the spatial ethics embedded in design practice is becoming more pressing. Interviews conducted for this study suggest that ecological responsibility, mobility, and flexibility are not merely technological challenges, but moral imperatives. Mobitecture offers a critical perspective through which designers can reassess their ecological obligations, thanks to its capacity for lightness, dynamic adaptability, and autonomous functioning. In her work, Jennifer Siegal emphasised that sustainability is a foundational aspect of her architectural practice: *"Sustainability has always been at the heart and the goal of every piece of work that I've done and created over many years. I'm extremely interested in alternative infrastructures, and the evolution of, you know, water, and how it's pulled now from different types of sources, from the air, the kind of recycling of waste, black water, grey water, and how that can be kept on the property and then reused in different ways within the building systems."* Her insights illustrate the necessity for architecture to transcend mere form-making and to incorporate closed-loop systems as well as principles of environmental stewardship on a building scale.

Siegal emphasises materiality and environmental learning, drawing profound inspiration from nature. She states, *"A simple idea of a flower, you know, opening up to absorb the rays of the sun as needed and shutting down to reserve its energy in the night is... a wonderful example of, you know, the way in which we as human beings can learn."* This sensitivity to biomimicry aligns with the discourse on regenerative architecture, where design evolves by learning from nature, responding to it, and ultimately working to restore natural systems instead of merely alleviating damage. Additionally, Simon Sadler discussed the dual aspect of mobility and its effects on the environment: *"There are environmental costs to the craving for mobility."* His statement encapsulates the fundamental paradox of mobile design: whilst mobility offers flexibility and freedom, if it is not used judiciously, it can also accelerate environmental deterioration.

Throughout the interviews, the issue of finding a balance between human needs and ecological limits, as well as between mobility and a sense of place, emerged. Siegal had previously described this conflict as: *"If you look at any ancient human dwellings, they weren't static."* They genuinely led simpler lives, possibly using sticks and skins, and moved around so as not to harm the ground over time when planting crops. The value placed on reversibility and low-impact construction in indigenous and nomadic dwelling traditions aligns with her definition. Thus, it's possible to view mobitecture as a return to ecological wisdom rather than a futuristic innovation. In a separate discussion, Cyril Sancereau highlighted the often-overlooked sustainability of heritage buildings, stating, *"You keep it for generations, and you don't throw it away. And so, actually, the sustainability is better with that. Than with the new one or wooden one or whatever you want."* This perspective suggests that the sustainability of heritage structures is inherently superior to that of new constructions or alternative materials. Sancereau's observation underscores the notion that sustainability relies not only on technological advancements but also on the longevity of materials and the preservation of cultural heritage. Furthermore, while architecture naturally evolves over time, it faces an ethical challenge

regarding the appropriate lifespan of a structure and the consequences of its eventual obsolescence.

The concepts of justice and inclusivity are integral to the ethical dimension of architecture. *"A tent is a mobile architecture that is trying to root itself to a place,"* Sadler stated, highlighting the invisibility experienced by displaced individuals. In this context, mobility arises as an essential response to crisis rather than a matter of choice. Sadler's perspective prompts architects to critically assess which individuals are afforded the freedom to relocate and which are not. These power dynamics must be carefully considered in the realm of ethical architecture, especially when it pertains to mobile structures. Ultimately, the necessity for architecture to evolve from static structures to dynamic systems: *"We intuitively occupy space sort of systemically and through layers of speed and time... But mostly we don't really deal with that when we design."* This critique highlights the importance of incorporating ecological and systemic thinking into both architectural education and practice, emphasising that this integration should manifest not only in theory but also in tangible design interventions that are responsive to climate, context, and human behaviour.

Put simply, the issue of spatial ethics and ecology in architecture points to a fundamental shift in architectural ideals. This demands a rethinking of permanence, a move away from excess, and a focus on adaptability and stewardship. Beyond being a place to live, architecture also provides a framework for moral engagement with the land, others, and the environment. The interview conclusions underscore the urgency of this shift, suggesting that mobility should be a spatial ethic for the Anthropocene, rather than a means of escape. Yet, mobility also presents environmental contradictions. While mobile dwellings often minimise material use and land footprint, their transport may depend on fossil-fuel systems, raising questions about true sustainability. The pursuit of autonomy can lead to reliance on costly technologies that are inaccessible to vulnerable populations, creating inequalities in who benefits from sustainable mobility. This duality underscores the need to critically assess both the ecological benefits and hidden costs of mobile architecture.

3.2.6 Legislation and Planning Limits

Despite mobitecture presenting bold alternatives to traditional, fixed-site living, regulations are one of its biggest hurdles, rather than design or construction. Many parts of the world still have planning regimes that prioritise immobility, standardisation, and permanence. The interviews highlighted that the objectives of modular, mobile, and responsive architectural solutions remain fundamentally incompatible with legal and bureaucratic frameworks.

Jennifer Siegal directly addressed this issue when she stated: *"The shelters could unplug from that infrastructure and move to another location... But no one wants to give up their little piece of land. Right? So politically, the idea of like, picking up your building and moving it someplace else. That's a very difficult conversation."* This quotation underscores the entrenched nature of land ownership as both a political and cultural framework, which often complicates the perception of movement, rendering it seemingly more perilous than liberating. Consequently, the notion of architectural relocation evolves into a social and administrative challenge rather than merely a technical one. She proceeded to critique the disparity between the advancements in technical domains and the inadequacies of our existing housing stock and regulatory frameworks. She stated, *"They haven't really evolved at the rate and as they need to, and are not responsive. They tend to be these kind of dumb, big boxes that, you know, are just blowing and wasting tremendous amounts of energy."* Furthermore, it is evident that many planning standards remain rooted in outdated notions of what constitutes "proper" construction, despite the emergence of prefabrication, modular design, and adaptable building systems in contemporary architecture.

One significant finding from the interviews indicates that the architectural merit of the structure itself is often eclipsed by the value attributed to the land. Siegal stated: *"The value of land becomes more than the value of the building, we tend to strangle the land to retain our ownership."* Even when mobile or temporary architecture is technically superior or more sustainable, it is perceived as economically inferior within this context. Given that land-based capital accumulation remains the prevailing paradigm, bureaucracy tends to resist the acceptance of non-permanent structures. It's a structural issue, not merely a matter of conservatism within the architectural profession. As Siegal noted, *"There's a tremendous amount of fear from the government about allowing these things to happen because then, where are the taxes going? Where's the revenue going? How are they managing people if people are allowed to live in different ways?"* These concerns reflect wider anxieties about how mobility challenges existing tax, planning, and governance systems.

These findings show that the problem isn't that mobile architecture isn't technically possible. On the contrary, it's both feasible and effective, as Siegal's own projects demonstrate. The real issue lies in the planning frameworks, which are designed to mimic traditional infrastructure. What's needed is a thorough re-evaluation of what architecture entails, particularly for those at risk, alongside policy reforms. Countries like Malta, where overdevelopment and a lack of land have resulted in a rigid, speculative market, exemplify

this issue. In such areas, traditional property models are often reinforced through planning, making it difficult to introduce temporary or experimental alternatives. The interviews underscored that this rigidity is not only restrictive but also unsustainable from both environmental and social perspectives. The discussion also touched on possible future developments despite these challenges. Siegal mentioned theoretical and historical examples, such as Archigram's "walking cities" and "plug-in cities", where human adaptability was prioritised over the legal system. *"Archigram, back in the late sixties, early seventies, in a lot of their fantastical theoretical propositions talked about, plug-in cities or walking cities or... communities that really depend on maybe more of a permanent infrastructure of some type, but that the shelters could unplug from that infrastructure and move to another location"*

These speculative ideas are becoming increasingly relevant in the modern era, not just as romanticised fantasies but also as practical design strategies seeking legal recognition. To make a significant contribution to the field, architecture must address legislation alongside materials, energy, and environmental concerns. Planning should adopt a more flexible approach, allowing architecture to adapt to modern demands rather than restricting mobility. In conclusion, the limitations imposed by planning and regulation highlight a long-standing tension between mobility and the dominant spatial governing frameworks. Given their historical assumptions about land, ownership, value, and permanence, these systems are inherently biased. A change is needed for mobitecture to flourish, one that rethinks architecture as an inclusive, adaptable, and open discipline, alongside revising codes. Beyond regulatory resistance, mobitecture faces cultural scepticism. In many societies, mobility is associated with precarity or marginalisation, such as refugee housing or informal settlements. This stigma may limit wider adoption, even if the architectural solutions are technically robust. Thus, the success of mobitecture depends not only on design innovation but also on shifting cultural attitudes and institutional frameworks.

3.2.7 Values, Aesthetics, and the Sea

Symbolic, fluid, and infinite, the sea has long sparked a rich architectural imagination. It becomes both a place and a metaphor. This theme investigation showed how living near the sea inspires more profound thoughts on identity, beauty, memory, and creative freedom, alongside practical or spatial strategies. The elite interviews revealed a deep poeticism about the connection between architecture and water, exposing the aesthetic and emotional undertones of mobile design. Ray DeMicoli vividly described this aesthetic connection, stating: *"I just loved buildings where the skirts of buildings were washed by water and the reflections, so the whole trajectory of how I ended up with Portomaso was rooted in this sense of love of Venice and understanding the beauty of harbours, you have still water and lovely reflections."* His work conveys a particular architectural yearning where form blends with fluidity, and light, reflection, and motion become integral to the spatial experience. Architecture aims to create a larger sensibility that works in harmony with nature's rhythms, rather than attempting to control or dominate them. This is reflected in the desire to work with water, rather than against it. By doing so, water becomes a canvas for experimentation and emotional connection, rather than a barrier to a more poetic experience.

The interviews conducted reveal that proximity to water fundamentally alters our spatial perception through sensory engagement. Rather than perceiving space as a static entity, it is understood as a dynamic realm shaped by embodied experiences. This notion aligns with the concept of phenomenological space in literature (Pallasmaa, 2005), where architecture is perceived through the senses of the body, transcending mere visual observation. Additionally, Ray DeMicoli correlates this sensory involvement with a heightened creative mindset: *"Your sense of adventure then takes you to architecture which is really great. You have to be more daring. You're not happy with just whatever someone tells you. You want to push boundaries."* Thus, the sea serves as a catalyst for architectural risk-taking, fostering an environment where the unknown is welcomed, and aesthetic norms are actively challenged.

Simon Sadler echoed this sentiment by drawing attention to the often-overlooked impact of travel and movement on our perception of architecture. *"Sailing ships were sort of experimental communities at sea... Experimental reconfigurations of social class, interaction, generation."* His approach broadens the aesthetics of architecture to encompass social choreography, beyond its visual form. The ship is transformed into a dynamic typology, serving as a community and vessel that merges context, society, and structure. This fluid aesthetic challenges the traditional and static canon of architecture. As Sadler observes, *"architectural history would do well to be reimagined spatially around questions of travel and mobility."* In this perspective, beauty in architecture is defined by responsiveness, ephemerality, and movement across various contexts, rather than by monumentality or permanence. Consequently, rather than being fixed, aesthetic value becomes relational.

These discussions illuminate Malta's unique cultural identity as a maritime nation. Historically, the sea has served as a vital conduit for transformation and exchange. This

intricate cultural layering is manifested in the islands' architectural heritage, as well as their linguistic and culinary traditions. Architecture, through its engagement with the sea, draws upon the rich cultural legacy of the Mediterranean. This relationship between architectural development and maritime identity was notably articulated by Alessandro Grech La Rosa, who stated: *"All architecture... up until other means of transport beyond ships... the only way that our architecture developed other than the vernacular... was through influences from people arriving from far away... we were an island, we were affected."* In this context, water plays a crucial role in shaping architectural culture, transcending its conventional function as a mere backdrop. Its inherent fluidity symbolises the dynamic exchange of concepts, materials, and interpretations that constitute the history of design.

On the whole, the sea serves as both a conceptual and aesthetic backdrop, as well as a physical setting for architecture. It embodies values of mobility, transparency, and adaptability that are growing increasingly vital in a society grappling with social and ecological upheaval. As the interviewees suggest, designing for the sea involves finding beauty in motion, embracing uncertainty, and prioritising aesthetic appeal as a means of adaptation. When architecture interacts with water, it transcends its purely functional role, becoming refined, culturally rich, and emotionally resonant.

3.3 Reflective Synthesis: A Vessel for Transformation

This dissertation aims to explore a seemingly simple yet profound question: How does architecture transform when its parameters incorporate mobility, flexibility, and adaptation across diverse settings, situations, and human experiences, transcending conventional notions of static permanence? What began as a convergence of personal interests has evolved into a comprehensive investigation of human living, travel, adaptation, and creativity in an ever-evolving world. A foundational aspect of this research is the significant influence of naval architecture, particularly concerning the precision and rationale behind boat design. These mobile vessels prompted critical discourse on how terrestrial architecture might integrate principles of mobility, constraints, and modular systems. Designed with a focus on comfort, efficiency, and performance under dynamic conditions, this framework provided both the conceptual and methodological underpinnings for the investigation's extension into the realm of mobitecture.

The theoretical groundwork was established through a comprehensive review of existing literature, drawing on the ideas of Heidegger, Bachelard and Deleuze, as well as contemporary architectural futurism, modular design, and off-grid systems. Then, I refined this through in-depth interviews with key figures, which revealed a complex network of interconnected ideas, criticisms, and values centred around a shared interest in flexible, mobile, and sustainable design. Although each participant brought their own unique perspective, seven major themes consistently emerged across different backgrounds and disciplines. These themes provided a framework for a systematic exploration of various aspects of architecture, but they were never isolated. Instead, they merged together to form a broader line of thought that challenged established architectural conventions and expanded their potential.

The core of these reflections lies in a fundamental shift in values. Based on the insights gathered from interviews and supported by theoretical frameworks, it is evident that architecture is no longer confined to the traditional Vitruvian principles of solidity, commodification, and aesthetic pleasure. Instead, the concept of mobitecture prioritises resilience over mere static enjoyment, communal resourcefulness over individual ownership, and adaptability over rigidity. This paradigm reframes the architectural process as one characterised by continual transformation and dynamism. Furthermore, this study illuminates the tension between innovation and regulatory constraints. The projects and practices referenced in the interviews demonstrate a pre-existing creative and technical capability for developing sustainable and mobile design. Nevertheless, prevailing cultural norms, planning regulations, and legal structures present significant barriers to change, thereby unveiling the inherently political nature of architecture. Consequently, the design of mobile, temporary, and communal spaces emerges not only as a creative endeavour but also as a form of resistance against systems that prioritise possession, control, and stagnation.

The interviews highlighted a significant theme of humanism within the discourse. The aesthetics of mobility, particularly those related to water, were characterised not merely as elements or forms but as poetic, sensory, and emotional experiences. The sea frequently

served as a metaphor symbolising depth, openness, beauty, and unpredictability. Engaging with the sea during the design process emerged as a means to embrace change, navigate uncertainty, and discover a sense of freedom in adaptation. Furthermore, this experience has profoundly transformed my understanding of architectural identity. What initially began as a curiosity regarding the influence of boat design on architecture has now crystallised into a manifesto asserting that architecture must evolve to accommodate a society defined by shifting boundaries, mobile lifestyles, and climate volatility. This evolution must be achieved through fundamentally human, adaptable, and intelligent systems, rather than through mere spectacle.

While this study doesn't claim to have all the answers, it does offer insights into a theoretical, sensory, and thematic approach to understanding architecture as a vessel. A container for existence, mobility, adaptation, and ultimately, transformation. Mobitecture is more than just a fleeting trend or fashion statement; it represents an architectural code for a changing era.

CONCLUSION

4.0 Overview

After completing six years of architectural studies, my journey culminated in this dissertation, which investigates the intersection of my two greatest passions: architecture and yachting. Initially centred on naval architecture, my interests quickly broadened as I engaged in deeper research that introduced me to the concept of mobitecture, or mobile architecture. This idea significantly transformed my original goal, steering me toward a wider exploration of adaptive architecture and its underlying philosophical principles.

My study explored how architecture's flexibility and mobility respond to the rapidly changing world, particularly in the context of major global events such as the COVID-19 pandemic, the growth of digital nomadism, and the increasing need for robust and sustainable living spaces. The in-depth conversation with Simon Sadler during the elite interviews highlighted how resilient and adaptable architectural typologies can address today's pressing global challenges. By revisiting philosophical ideas, especially Heidegger's concepts of residence and rootedness, I re-examined our fundamental notions of home and place.

4.1 Observations

4.1.1 Aim

Looking back on my initial goal, it's clear that the study successfully used mobitecture as a key framework for understanding adaptive architecture. By examining historical examples, modern innovations, and philosophical contexts, I achieved my aim of evaluating architecture's adaptability across land, water, and potentially air and beyond.

4.1.2 Objectives

Objective 1: Studied how adaptive architecture reacts to the changing landscape of the modern world. This was done by conducting in-depth investigations of mobility-driven design typologies, such as tiny homes, yacht interiors, and modular buildings inspired by naval and aerospace architecture, alongside the philosophical frameworks of Heidegger, Bachelard, and Deleuze.

Objective 2: Critically analysed elite interviews aligning with themes from the literature. The thematic analysis, particularly the observations made by Keith Diplock and Simon Sadler, was very beneficial in revealing the advantages and disadvantages of theoretical research.

This study highlights key themes, including redefining home and identity, modularity and compact living, autonomy and infrastructure, ownership and temporality, spatial ethics, ecological considerations, legislative and planning boundaries, as well as the interplay of values and aesthetics. Architects and designers from diverse fields frequently emphasise the contradiction between the concept of mobility and traditional notions of architecture

and the home. A central philosophical idea from this study is captured in Sandro Valentino's insightful statement: "Home is within oneself, thus enabling a sense of belonging anywhere."

Notably, this dissertation reveals a substantial gap between theoretical potential and practical implementation. Lessons from naval design demonstrate the feasibility of effectively adapting such concepts to terrestrial architecture, where ergonomics and functionality are crucial, highlighting the need to integrate multipurpose areas and services.

4.1.3 Limitations

Several limitations impacted the comprehensiveness of this research. While the qualitative approach provided rich contextual detail, it limited generalisability, making it hard to extend the findings beyond the specific circumstances studied. The sample size for elite interviews was also restricted by practical issues, such as availability and response rates, which limited the range and depth of perspectives gathered. Moreover, the dissertation's theoretical focus meant that physical prototyping and real-world applications could not be applied alongside the theoretical understanding, which would have significantly enhanced the validity and empirical basis of the findings. Lastly, difficulties in securing interviews with the initial specialists identified constrained the diversity of viewpoints, affecting the thoroughness of the research's conclusions.

In addition to these methodological and practical limitations, cultural barriers also present significant challenges to the adoption of mobitecture. Deeply ingrained associations of permanence with security, ownership, and social prestige can lead to resistance against mobile or temporary dwellings. These cultural perceptions limit the acceptance of mobitecture, even when the designs themselves are technically viable and environmentally responsible.

4.2 Scope for Further Research

This study offers numerous opportunities for further research that could support and build on its findings. Conducting practical studies to assess the feasibility of mobitecture through physical prototypes or pilot projects, particularly in terrestrial and marine settings, represents a significant area for investigation. These real-world studies could help validate theoretical concepts and reveal unexpected benefits and challenges. To better understand how adaptable, mobile architecture can address a range of human needs, future studies might adopt a more interdisciplinary approach, incorporating insights from fields such as sociology, urban planning, and digital technology.

There is also an opportunity to investigate the legal and regulatory frameworks that currently hinder or do not support mobile architectural typologies. Research into lobbying and policy development could substantially enhance the integration of architecture into urban planning initiatives. Furthermore, interactive community-based initiatives, experiential design residencies, and practical seminars would provide essential hands-on

insights by enabling users and architects to engage directly with mobile living systems. These interactions could foster more user-centred, empathetic design approaches. Ultimately, future studies should strive to bridge the gap between theoretical design and practical application, promoting a more resilient and inclusive understanding of home and habitation in a rapidly changing world.

Beyond technical and regulatory dimensions, future research should also address cultural narratives surrounding mobility and permanence. In many contexts, mobile dwellings are stigmatised as inferior or precarious, while permanence is equated with stability and success. Exploring these cultural barriers and how they might be reframed as opportunities for new forms of belonging, identity, and resilience could provide valuable insights into the broader integration of mobitecture within society.

4.3 Author's Note

Writing this dissertation has been an incredibly personal and enlightening journey. By combining my two passions into a rigorous academic study, I've gained a deeper understanding of architecture's potential. The elite interviews conducted with Simon Sadler, Jennifer Siegal, Sandro Valentino, Harry Parnis England, Keith Diplock, Alessandro Grech La Rosa, Cyril Sancereau and Ray DeMicoli, provided invaluable advice and insights. The literature review offered a comprehensive theoretical and historical framework that further anchored this investigation throughout the process.

I am deeply thankful for the opportunity to challenge established norms, re-evaluate core principles, and explore new architectural approaches. This research not only addresses urgent global concerns, but also reveals that mobitecture sparks a profound rethinking of our relationship with home, location, and space. Ultimately, this dissertation represents both a new beginning and a culmination, clearing the way for further research, experimentation, and innovation in adaptive architecture for our ever-changing environment.

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APPENDICES

Appendix A: Ethics Board Information Letter and Consent Form



Information letter

Dear Participant,

My name is Andrea Azzopardi, and I am a student at the University of Malta, presently reading for a Masters in Architecture. I am conducting a research study for my dissertation titled *"Earth, Water, Air, and Aether: Lessons from Mobitecture for High-Performance, Efficient, Compact Living Spaces on Land and Sea."*; this is being supervised by Simon Bernard Grech. This letter is an invitation to participate in this study. Below you will find information about the study and about what your involvement would entail, should you decide to take part.

The aim of my study is to investigate how principles of Mobitecture, modular design, and human-centric ergonomics can redefine the concept of "home" as adaptable, efficient, and mobile, addressing the needs of a modern, globalised, and increasingly nomadic society. Your participation in this study would help contribute to a better understanding of how human-centric design, modular architecture, and mobility can shape adaptable, efficient, and sustainable living spaces that meet the needs of a modern, globalised society. Any data collected from this research will be used solely for purposes of this study.

Should you choose to participate, you will be asked to sit for an elite interview with the researcher, where we will discuss topics related to your field of expertise. The interview will focus on insights that can contribute to the literature review of my dissertation, including questions about specific case studies and concepts relevant to modular design, mobility, and human-centric architecture. This will take you approximately 45-60 minutes to complete.

Data collected will be recorded using a voice recorder and later transcribed. The transcriptions will be included in the appendix of my dissertation. All recordings and transcripts will be treated confidentially and stored securely. Access to the data will be limited to myself and my academic supervisor. Raw identifiable data will be encrypted and stored offline on an external hard drive or flash drive, or a secure UM server (not the UM Google Drive). Any material in hard copy form will be placed in a locked cupboard. Only my supervisor and myself will have access to this data.

The findings which emerge from this research may be published (e.g., in a dissertation, academic journals) and/or presented (e.g., during conferences, meetings).

Participation in this study is entirely voluntary; in other words, you are free to accept or refuse to participate, without needing to give a reason. You are also free to withdraw from the study at any time, without needing to provide any explanation and without any negative repercussions for you. Should you choose to withdraw, any data collected from your interview will be erased as long as this is technically possible (for example, before it is anonymised or

Proof of faculty FREC acceptance and participants' consent form sample.

published), unless erasure of data would render impossible or seriously impair achievement of the research objectives, in which case it shall be retained in an anonymised form.

If you choose to participate, please note that there are no direct benefits to you. Your participation does not entail any known or anticipated risks.

If you choose to participate, please note that your identity will be public throughout the dissertation.

Please note also that, as a participant, you have the right under the General Data Protection Regulation (GDPR) and national legislation to access, rectify and where applicable ask for the data concerning you to be erased.

All data collected will be securely stored and retained for a period of 12 months after the completion of the study. After this period, all non-useful recordings and transcripts will be permanently erased.

A copy of this information sheet is being provided for you to keep and for future reference.

Thank you for your time and consideration. Should you have any questions or concerns, you may contact myself or my supervisor on the details provided below.

Yours Sincerely,

Andrea Azzopardi
Researcher

Andrea Azzopardi



Simon Bernard Grech





L-Università
ta' Malta

Participant's Consent Form

"Earth, Water, Air, and Aether: Lessons from Mobitecture for High-Performance, Efficient, Compact Living Spaces on Land and Sea."

I, the undersigned, give my consent to take part in the study conducted by Andrea Azzopardi. This consent form specifies the terms of my participation in this research study.

1. I have been given written and/or verbal information about the purpose of the study; I have had the opportunity to ask questions, and any questions I had were answered fully and to my satisfaction.
2. I also understand that I am free to accept participation, refuse, or stop participation at any time without giving any reason or penalty. Should I choose to participate, I may choose to decline to answer any questions asked. In the event that I choose to withdraw from the study, any data collected from me will be erased as long as this is technically possible (for example, before it is anonymised or published) unless the erasure of data would render it impossible or seriously impair the achievement of the research objectives, in which case it shall be retained in an anonymised form.
3. I understand that I have been invited to participate in an elite interview in which the researcher will ask me questions related to my field of expertise and discuss relevant case studies to explore how principles of modular design, mobility, and human-centric architecture can inform the dissertation. I am aware that the interview will take approximately 45–60 minutes. I understand that the interview is to be conducted in a place and at a time that is convenient for me.
4. I understand that my participation **does not entail any known or anticipated risks.**
5. I understand that **participating in this study will not directly benefit me. However,** this research may benefit others by **providing insights into modular, mobile, and human-centric design principles, contributing to more adaptable and efficient living spaces in response to modern societal needs.**
6. I understand that by accepting to take part in the elite interviews, my identity will be published throughout the dissertation.
7. I understand that, under the General Data Protection Regulation (GDPR) and national legislation, I have the right to **access, rectify, and, where applicable, request for the data concerning me to be erased.**
8. I understand that all data collected will be **securely stored and retained for a period of 12 months after the completion of the study. After this period, all non-useful recordings and transcripts will be permanently erased.**
9. I have been provided with a copy of the information letter and understand that I will also be given a copy of this consent form.

10. I am aware that, by marking the first tick box below, I am giving my consent for this interview to be audio recorded and converted to text as it has been recorded (transcribed).

- ☐ I agree that this interview should be audio-recorded.
- ☐ I do not agree with audio recording this interview.

11. I am aware that, by marking the first tick-box below, I am asking to review extracts from my interview transcript that the researcher would like to publish (e.g., in a dissertation, academic journals) and/or present (e.g., during conferences, meetings), before these are published or presented. I am also aware that I may ask for changes to be made, if I consider these to be necessary.

- ☐ I would like to review extracts of my interview transcript that the researcher would like to publish and/or present, before these are published/presented.
- ☐ I would not like to review extracts of my interview transcript that the researcher would like to publish and/or present, before these are published/presented.

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12. I am aware that the interview will be held online; the researcher will use Zoom and will activate the *Require Encryption for 3rd party endpoints SIP/H-323* function. The researcher will audio record the session.

I have read and understood the above statements and agree to participate in this study.

Name of participant: _____

Signature: _____

Date: _____

Andrea Azzopardi



Simon Bernard Grech

