

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Evgenia Vamvakousi
Student number	6082556

Studio		
Name / Theme	Transitional Territories / Altered Nature. Poetics of Change	
Main mentor	Nikos Katsikis	Section of Urban Design, Department of Urbanism
Second mentor	Luca Iuorio	Environmental Technology and Design, Department of Urbanism
Argumentation of choice of the studio	Transitional Territories is the studio of my choice due to its unique approach to planning and design projects, and its academic and methodological perspective. The studio's interdisciplinary methods and critical lenses align perfectly with the topics that interest and excite me, since they require a deep understanding on how practices and policies have altered landscapes and nature, generating tensions on their resources, infrastructure, environment, and communities. Coming from a Greek island where land is increasingly developed and resources are scarce, I've witnessed the consequences of these issues. The seasonality creates a significant fluctuation in population flows, with high differences between summer and winter. Over the past years, the tourism development of Greek islands have altered their landscapes radically, disrupting the balance between nature and human. So my interest lies in looking at these islands' development from a different perspective - reflecting on the past and understand the current archipelago of mono-functional territories that continue to evolve without organization or consideration of local restricted capacities. In my view, this requires a novel shift in how we plan and design for these territories, calling for "approaches that go beyond solutionism" (Katsikis, 2024), treating them not only as units but in relation to the	

	<p>mainland, acknowledging their unique topographic, morphologies, and the network of islands around them.</p> <ul style="list-style-type: none"> - Katsikis, N. (2024) Introductory presentation in graduation studio Transitional Territories, 3.9.2024
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Graduation project	
Title of the graduation project	<p>Bound by water, limited by land</p> <p><i>Rethinking the metabolism of tourism-transformed island territories in South Aegean, Greece</i></p>
Goal	
Location:	Santorini, Cyclades archipelago, South Aegean, Greece
The posed problem,	<p>The South Aegean, and particularly the Cyclades archipelago, has undergone a major transformation due to the emergence of tourism, which arrives seasonally each year, disrupts the islands' systems, and highlights the interconnectedness of tourism influx and resource consumption in territories with limited capacities due to their delineated geography.</p> <p>Focusing specifically on the Santorini complex, the islands transitioned from having a closed, situated metabolism to an economy highly dependent on imports, to support its emerging tourism sector and the substantial resource demands. This balance was disrupted when tourism grew during a period of economic decline and societal vulnerability, exacerbated by events like the earthquakes of the 1950s. Gradually, this shift led to the complete substitution of other land uses that had previously sustained the local metabolism. In fact, without the current building regulation that are in place, the entire island could potentially be developed, since no other land use is competitive enough to resist the dominance of "luxury" clustering.</p> <p>A. Islandness and sustainability transition</p> <p>Island systems have unique geomorphological characteristics. They are delineated geographies, isolated geographically with limited land and resources capacities. These conditions position them as "special focal points for sustainability challenges" (Noll et al., 2022). Islands are excessively affected by climate change, heavily depend on fossil fuels, and face resource and space scarcity, economic dependency on tourism, seasonal pressure, and other challenges.</p> <p>This is why the implementation of many EU directives on islands can often face obstacles. Limited capacities and infrastructure, logistical challenges, difficulties in accessing</p>

	<p>materials or advanced technologies, and usually insufficient governance capacity often delay their ability to fully follow such directives.</p> <p>B. Fluctuated metabolism, import-oriented system and infrastructure</p> <p>The metabolic systems of islands are under high pressure due to the seasonal activities of tourism, requiring them to accommodate extreme demands every year.</p> <p>The growing resource needs of islands led the development of connectivity networks and import relationships with the mainland. Over time, the metabolism became detached from the land and landscape, creating an inverted city-hinterland relationship, where islands function as cities and mainland serves as their hinterland. In a way, all Cyclades share a common hinterland, but their hinterland is no longer their own land.</p> <p>C. Infrastructuralization, landscape and tourism</p> <p>As tourism-related development rises, additional infrastructure is required to meet the needs of both local community and visitors. Therefore, the islands by gradually displacing “less competitive” and profitable land uses, are ultimately being composed by tourism clusters that continue to sprawl and the infrastructure that needs to be developed to support their function. However, an aspect that is often overlooked is the lasting impact of infrastructure on the landscape.</p> <p>D. Carrying capacity and planning paradigm</p> <p>Planning for the Greek islands is currently high on the government’s agenda but is also a very controversial topic which has sparked a lot of debate lately. However, these debates have their limitations.</p> <p>On one hand, preserving the cultural landscape’s identity as it was in the past and keep it in a “museum-like” state is unrealistic for the current needs. On the other hand, there is the growing push for infrastructuralization, supporting the need to increase the island’s carrying with more infrastructure development.</p> <p>In my opinion, both approaches have limitations. The “preserving” mindset has its limits, as does the idea of infrastructural growth. It is important to consider that, on the one side these landscapes are largely anthropogenic, and in</p>
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	<p>the past they were fully utilized to support the local metabolism. On the other side, massive infrastructural projects have their limitations. When discussing about carrying capacity we should consider that the landscape's identity and value have their own capacities too.</p> <p>E. Regulatory apparatus</p> <p>Over the years, there have been policies that were conceived as means that would be able to manage and control urban sprawl but have been proved to be inefficient. The planning apparatus is struggling to keep up with the growing dynamics, failing to respond to the demands and challenges resulting in unchecked infrastructural growth, resource mismanagement, water scarcity, waste accumulation, and excessive construction.</p> <p>F. Competition and island mentality</p> <p>The communities of the islands tend to have a selective mindset, and between the islands competition prevails. What the Cyclades archipelago islands share is their geography and the fluctuations in their metabolisms due to population influx. While there are some administrative and service-related connections, there is no truly fruitful relationship taking place.</p>
research questions and	

	<p style="text-align: center;"><i>How can tourism-transformed island territories of the Cyclades archipelago re-think their metabolic systems and carrying capacity through alternative design paradigms to address fluctuating resource demands while re-inventing the landscape's identity ?</i></p> <div><div></div><div></div><div></div></div> <table><tr><td></td><td>A. Island metabolism and sustainability transitions</td><td>B. Archipelago</td><td>C. Infrastructure and landscape</td></tr><tr><td>analysis</td><td><p>A1. What are the challenges islands are facing due to their spatial-geographical features and the current planning apparatus?</p><p>A2. How have the islands' metabolic systems changed throughout the years to support the emergence of tourism?</p><p>A3. What are the spatial traces of seasonality, how is it perceived by the local community and how it impacts quality of life?</p></td><td><p>B1. What are the current relationships between the islands of the Cyclades archipelago?</p></td><td><p>C1. What are the limitations of extended infrastructuralization and cultural preservation planning approaches?</p><p>C2. What is the regenerative and productive potential of Santorini's landscape?</p></td></tr><tr><td>concept and design</td><td><p>A4. How can islands act as novelty sites for the broader understanding of socio-economic metabolism?</p><p>A5. What spatial and infrastructural design strategies can islands adopt to shape a robust and flexible metabolism?</p></td><td><p>B2. What are the different design paradigms that could be establish new dynamics and relationships in the archipelago?</p></td><td><p>C3. How can landscape be utilized to accommodate peak while balancing infrastructure and landscape identity?</p><p>C4. What are the spatial qualities and values of the landscape while it goes under such transformation?</p></td></tr></table>		A. Island metabolism and sustainability transitions	B. Archipelago	C. Infrastructure and landscape	analysis	<p>A1. What are the challenges islands are facing due to their spatial-geographical features and the current planning apparatus?</p> <p>A2. How have the islands' metabolic systems changed throughout the years to support the emergence of tourism?</p> <p>A3. What are the spatial traces of seasonality, how is it perceived by the local community and how it impacts quality of life?</p>	<p>B1. What are the current relationships between the islands of the Cyclades archipelago?</p>	<p>C1. What are the limitations of extended infrastructuralization and cultural preservation planning approaches?</p> <p>C2. What is the regenerative and productive potential of Santorini's landscape?</p>	concept and design	<p>A4. How can islands act as novelty sites for the broader understanding of socio-economic metabolism?</p> <p>A5. What spatial and infrastructural design strategies can islands adopt to shape a robust and flexible metabolism?</p>	<p>B2. What are the different design paradigms that could be establish new dynamics and relationships in the archipelago?</p>	<p>C3. How can landscape be utilized to accommodate peak while balancing infrastructure and landscape identity?</p> <p>C4. What are the spatial qualities and values of the landscape while it goes under such transformation?</p>
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design assignment in which these result.	<p>The following project hypotheses will be tested by territorial, landscape design:</p> <p><i>Tourism-transformed island territories, such as the Cyclades archipelago, can achieve a balance between resource demands and cultural preservation by redefining their metabolic systems through landscape design approaches.</i></p> <p><i>If we consider the archipelago as a unified system with shared resources and capacities, rather than isolated islands, it is possible to mitigate the seasonal pressures of tourism, enable spillover effects to other economic sectors, re-enable dormant productive landscapes, and rethink the cultural landscape's identity and carrying capacity.</i></p> <p>Goals/aims of design interventions:</p> <ul style="list-style-type: none">• Creating spatial conflicts that will enable the indirect regulation of tourism development• Re-enable primary productive landscapes• Utilize endogenous regenerative island capacities• Promote cooperation and shared resource management in the archipelago												

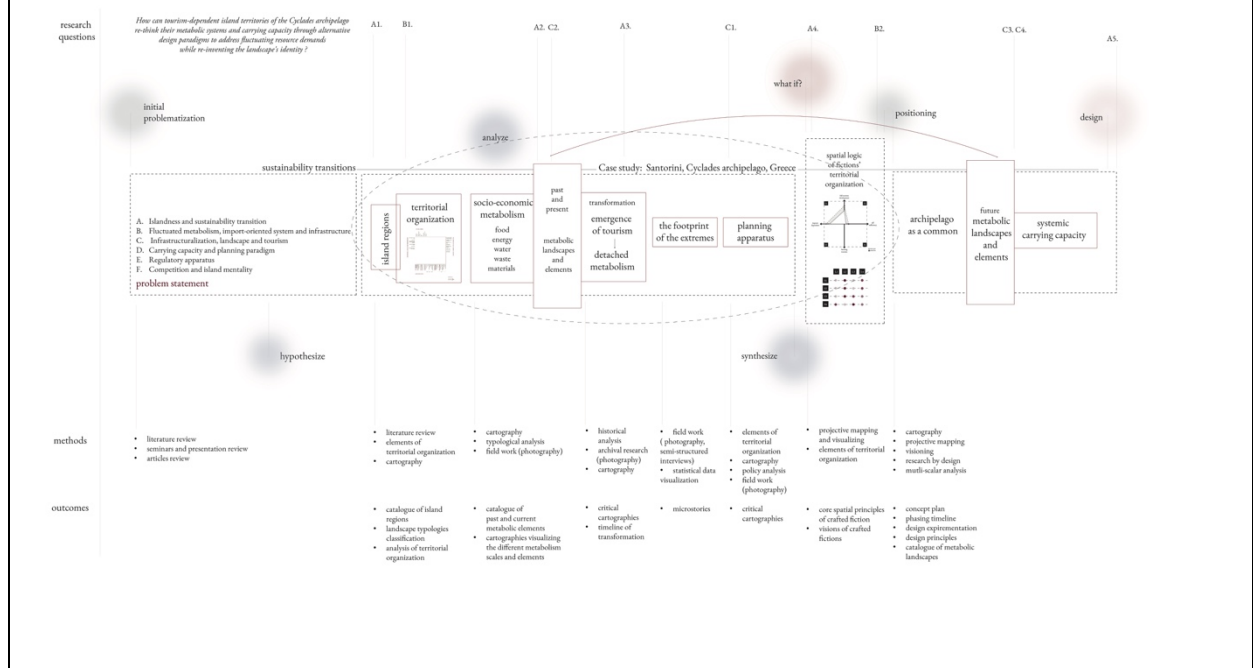
	<p>Projected design outcomes:</p> <ul style="list-style-type: none"> • Concept plan on the archipelago scale and island scale • Phasing timeline • Design experimentation • Core design principles • Catalogue of metabolic landscapes
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Process

Method description

During this project the following methods are going to be utilized:

- Literature review and theoretical underpinning to backbone the project academically
- Participation in relevant seminars and presentations to get an updated view on the current debates around the topic
- Elements of territorial organization (natural goods, collective capital, regulatory and institutional infrastructure, culture of production and reproduction) to understand the current spatial logic of the territory as well as the design one
- Spatial analysis and cartography
- Typological analysis of the landscapes
- Field work (photography, documentation, microstories)
- Historical analysis
- Policy analysis
- Projective mapping and visualizing
- Multi-scalar analysis



Literature and general practical references

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Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The Transitional Territories studio theme for 2024-2025 is "altered nature - poetics of change." My graduation project's case study focuses on a territory that has undergone profound alterations due to the emergence of tourism and the infrastructuralization, connectivity networks, and resource management it demanded. Their handmade "nature" transitioned and was substituted to support greater demands and needs. Also, themes I consider important in my project lie in the greater theme of resource scarcity which is one of the studio's focus themes.

The Urbanism Track focuses on integrating spatial planning and urban design to address current challenges in a trans-scalar manner, which is exactly the approach I am adopting in this project through territorial design. I aim bridging multiple scales of metabolism—from the global to the regional, to the local, and down to the object scale.

Although I come from a non-architectural background, I have had the opportunity to explore scales and lenses that extend beyond urbanism alone, intersecting with other disciplines like landscape architecture and architecture. This highlights the cross-disciplinary approach required to tackle such complex challenges as the ones we are facing today.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

The societal relevance of my graduation work lies firstly in its contribution to addressing the challenges posed by the seasonal influx of tourism, which often disrupts quality of life of the communities. By promoting more evenly distributed activities throughout the year, the project aims to mitigate resource shortages, discomfort, and scarcity issues. Additionally, the work seeks to boost cooperation between the islands of the archipelago, encouraging shared resources management. This approach creates a sense of belonging to a "common," where knowledge and mindsets are shared, moving beyond competition to address the shared challenges of resource management and endogenous capacities that are most of the times remain overlooked. Furthermore, the project engages with the ongoing debate between cultural preservation and infrastructuralization, proposing a middle ground where both the landscape's identity and infrastructural needs can be respected.

Professionally, this work highlights overlooked but critical aspects of current planning, design, and policy frameworks. By offering an alternative to tourism-dominated economies, it underscores the resilience and potential of diversified economic models. It also integrates the cultural landscape's identity into territorial design, emphasizing

the overlap between disciplines such as urbanism, architecture, and landscape architecture. This cross-disciplinary perspective addresses the complex challenges of resource scarcity and environmental pressures on island territories. Additionally, the concept of the archipelago as a “common” introduces a novel approach to collective metabolism and resource-sharing systems, which could inspire similar strategies for other island regions facing extreme resource demands. For policymakers, the project offers practical recommendations for managing tourism-generated pressures and redefining land-use planning principles to better align with environmental and cultural needs.

From a scientific perspective, the project critically examines globalization’s role in creating global interconnectedness while fostering local disconnections. It proposes an alternative way of understanding urban metabolism, moving beyond traditional Sankey diagrams and emphasizing the physical and spatial impacts of metabolic systems on the landscape. The analysis highlights the Cyclades’ unique inverted city-hinterland relationship, where the islands act as urban centers supported by a hinterland that extends to the Greek mainland and global supply chains. By combining islandology, political ecology, and urban metabolism, the project tackles the specific challenges of applying these frameworks to geographically delineated systems like island territories. It also explores speculative design experiments and crafted fictions as tools to inform innovative design approaches. Ultimately, the work offers adaptive multi-scalar proposals for metabolic systems that balance the landscapes’ inherent capacities with fluctuating resource demands, presenting a new way of understanding carrying capacity at the archipelago scale.