

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	Janek Thomas Bosman	
Student number	4590805	

Studio		
Name / Theme	Explore Lab	
Main mentor	Suzana Milinović	Architectural design
2 nd (research mentor)	Mo Smit	Architecture research
Second mentor	Rufus van den Ban	Building Technology
Argumentation of choice of the studio	My research and project is based in Nepal, a country I have lived in for a couple of months in 2023. Because it is familiar to me, and I had many questions regarding the architecture of Kathmandu, I wanted to do my own project and come back to Nepal for that.	

Graduation project	
Title of the graduation project	Soft Stories: merging tradition and modernity in the Kathmandu shop-house

Goal	
Location:	Kathmandu, Nepal
The posed problem,	The current domestic architecture of Nepal stands disengaged from its past: Kathmandu was, not long ago, a place with houses rooted in the vernacular. The brick-and-wood houses were considering the climate, earthquakes, and local materials and craftsmanship. Now an aggressive push towards modernity has turned the city in a concrete jungle. This new 'Nepali shop-house' vernacular is efficient in a lot of ways: it is affordable, incremental and easy to build and maintain. But as the cities' population is growing with an explosive speed, this standard way of building should be re-evaluated to mitigate future problems, such as climate change and earthquakes. A lot

	of answers for these problems lie in Kathmandu's backyard: in the vernacular architectures that sprawl across Nepal. Therefore, the research question is as follows:
research questions and	How can traditional techniques and materials in Nepal improve the living condition and safety in the modern Kathmandu shop-house?
design assignment in which these result.	The People's Earthquake Museum, close to Gongabu Bus Park in Kathmandu

I have split the research and design part with two separate questions. The design question is: How can this new vernacular inspire regular families to build more consciously in terms of earthquake-safety and comfort?

The answer to this question is the 'People's Earthquake Museum'; a project initiated by local activists that are hoping to bring a change in the awareness of builders. A museum could set an example for how to build. The building will not be a fancy museum, but it will look like an improved version of the modern domestic vernacular in Nepal. Its location is the Gongabu Bus Park; an area that was the worst affected in the 2015 earthquake, and known for illegal building practices. Also it's the place where all new inhabitants of Kathmandu arrive when they enter the city, making the museum their first impression.

Process

Method description

To find an answer for the research question, I have explored a range of methods:

- 3 interviews with a builder, an architect and a research; in each chat exploring different aspects around the themes of urbanization, construction, arrival in Kathmandu, and earthquakes.
- Photography in and outside of Kathmandu, in which I archive and analyze the current practices as well as the traditional ones.
- Filmmaking as a way to document the research: in the past weeks here, I have been filming many of the things I came across. In the period after my P2, I have time to edit and bring the film together. My plan is to show it at the P5.

The research has been divided in multiple steps:

1. Two weeks in Kathmandu of walking around, photographing and speaking with researchers, architects and builders. In this period, I was able to define the 'standard' building practice.
2. One week of travelling to Bankatta, Ghandruk and Bungamati. I chose three places to analyse due to their different vernacular architectures. In Bankatta, the climate is tropical but the houses deal with ventilation and materialization in a unique way. The houses are made of wood, woven bamboo and mud. In Ghandruk the houses are made of slate, stone and wood, and its has beautiful

wood-working and connections without nails. In Bungamati, the settlement structure is typical Newari and allows for open spaces in the city.

3. Two weeks back in Kathmandu: finding a site, doing the interviews, preparing the P2 presentation and filming.

Literature and general practical references

- Alleya and Associates. (2018). Earthquake Resistant Self-Help Traditional House at Nepal by ALLEYA AND ASSOCIATES. *Architecture.Live*. <https://architecture.live/earthquake-resistant-self-help-traditional-house-at-nepal-by-alleya-and-associates/>
- Bhattarai-Upadhyay, V., & Sengupta, U. (2016). Unsettling Modernity: Shifting Values and Changing Housing Styles in the Kathmandu Valley. *Open House International*, 41(2), 87-94. <https://doi.org/10.1108/OHI-02-2016-B0011>
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- Ishtiaque, A., Shrestha, M., & Chhetri, N. (2017). Rapid Urban Growth in the Kathmandu Valley, Nepal: Monitoring Land Use Land Cover Dynamics of a Himalayan City with Landsat Imageries. *Environments*, 4(4), 72. <https://doi.org/10.3390/environments4040072>
- Karki, J., Matthewman, S., & Grayman, J. H. (2022). Nayā Ghar (A new house): Examining post-earthquake housing reconstruction issues in Nepal. *International Journal of Disaster Risk Reduction*, 78, 103116. <https://doi.org/10.1016/j.ijdr.2022.103116>
- Pant, M., Bajracharya, R., & Karmacharya, S. (2079). *Urban residential neighbourhoods of Kathmandu valley*. RICH Architectures Company.
- Pokharel, T., & Goldsworthy, H. (2015). *Lessons Learned from the Nepal Earthquake 2015*. <https://doi.org/10.13140/RG.2.1.1657.3528>
- Toffin, G. (Red.). (2016). *Man and his house in the Himalayas: Ecology of Nepal* (Second edition). Vajra Books.
- Wehmeyer, S. (2021). Collage-Based Research and Design. *Dimensions. Journal of Architectural Knowledge*, 1(1), 25-36. <https://doi.org/10.14361/dak-2021-0104>
- + interviews with Rebika Karki, Milan Shrestha and Ganga Ram Chautari

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)?

Since I am a part of the explore lab group, my topic is not connected to a studio directly. However, the research I am doing does connect to my teachers' (Mo Smit) research in some ways: both of the researches are about local vernacular architectures that need to adapt to modern needs. With the use of local materials and craftsmanship, a new, more sustainable and unique architecture can be created. My project is highly architectural: looking at building processes, materials, urbanization and dwellings.

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

Kathmandu is a city like many in the Global South: urbanizing at an explosive speed simply because the city offers more opportunities, healthcare and education. This new influx offers a lot of challenges and opportunities. I really believe architects can and should make an impact in making sure these developments happen thoughtfully. In many cities in South Asia, issues arise due to lack of urban planning, such as traffic congestion, lack of open spaces and unsafe and uncomfortable housing.

In the case of Kathmandu, there is also an issue of documentation and awareness. Almost all houses are built by families themselves, not by big corporations. Therefore it is essential to learn about the needs of those families, and experiment with aspects of the building that can be changed within their scope of affordability and feasibility. That is why I think a public building such as the Earthquake Museum could both be a place for local research and archiving, as well as set a public example of a new architecture language.

Within the TU Delft, my work adds to the body of knowledge on global housing, dwelling as well as vernacular knowledge. I saw in the repository of Delft that there is not much research that has been done on Kathmandu/Nepal.