

# 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](mailto: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	Xinrui Zhang
Student number	5791758

Studio		
Name / Theme	Architectural Design Crossovers	
Main mentor	Roberto Cavallo	Architectural Design
Second mentor	Freek Speksnijder	Technical Building Design
Third mentor	Joran Kuijper	Research
Argumentation of choice of the studio	I sought out a studio that would place a strong emphasis on the research component while also granting the freedom to delve into the topics that captivate my interest. The Architectural Design Crossovers studio not only fulfills these preferences but also resonates with my passion for urban contexts and the cultivation of systematic thinking within the field of architecture.	

Graduation project	
Title of the graduation project	Underground Uchronia: Reviving urban underground voids as temporal public space
Goal	
Location:	Madrid, Spain
The posed problem,	<p>We find ourselves in a critical era when underground construction has become an urgent concern, driven by the need to address the challenges of population growth and the scarcity of living space. As Maria de Lourdes Melo Zurita emphasizes, the underground is 'full of imaginaries, beliefs, beings, water, soils, rock, energy, minerals that exist on their own'. It is a site which show diverse potentials distinct from the surface.</p> <p>However, despite its rich attributes, the underground has long been marginalized, often cast as 'the Other' of the city --- a mere negative space for</p>

	<p>construction activities. Pike points out that the underground always “includes a displaced vision of something that poses a crisis of representation in the world above.” This attitude makes the underground spaces less resilient in transformation. Instead of continuing with building strategies in open-air environment, it’s crucial to reconsider the underground as an active participant to revive subterranean voids left in ruin.</p> <p>It's time to explore “underground” as a new concept, no longer positioning it as the Other of the ground environment but as a viable alternative, especially in the Anthropocene. By uncovering the enduring characteristics of subterranean realm, the underground can serve as inspirations for future living styles, cultures and mindset.</p>
<p>research questions and</p>	<p>How can underground voids be transformed to create an alternative urban lifestyle, reimagined as an urban Uchronia?</p> <p>Subquestions:</p> <ol style="list-style-type: none"> <li>1. What defines the enduring qualities of underground spaces (in terms of time)?</li> <li>2. Why is reimagining Uchronia relevant in the context of urban environment?</li> <li>3. What's the role of underground Uchronia in current urban life?</li> <li>4. What architectural strategies can be developed from a temporal analysis of underground conditions?</li> </ol>
<p>design assignment in which these result.</p>	
<p>Throughout the research, I delve into the temporal values of the underground and propose that the subterranean voids can be transformed into a network of Urban Uchronia, which I redefine as urban incubator, a dynamic space of emergence, designed to play against the overloaded ‘current’ as well as uneven temporalities prevalent in urban daily life.</p>	

By arguing that underground car parks will become future ruins, I pick up an abandoned underground car park in the center of Madrid as the site to develop a model of the envisioned Urban Uchronia. This proposed space, based on the condition of the neighborhood, will transform into a co-working space for emerging artists, functioning as a new community center. The key strategy involves treating timelessness as a result of the entanglement of time, material, space and subject, creating spaces of different temporalities for different users and fostering interactions.

## **Process**

### **Method description**

The research section is divided into two parts: thematic research and situated research. In the thematic research, the focus revolves around the question: How can the underground provide an alternative understanding of time in current urban life? This segment is further divided into two sections: 'Underground as Temporal Issue' and 'Redefining Uchronia in the Current Era'.

In the first section, I delve into the concept of "underground," exploring its temporal characteristics through reviewing various kinds of literatures, including scientific studies, architectural reviews, and literary works. The key finding is the deep entanglement of time with other matters such as space and subjects, highlighting the potential for architecture to serve as an agency that integrates spatial and temporal issues. The following section introduces the concept of "Uchronia," reinterpreting it through a review of social theories. Combining this with the underground condition, I propose a new underground Uchronia which will serve as an urban incubator for the design task.

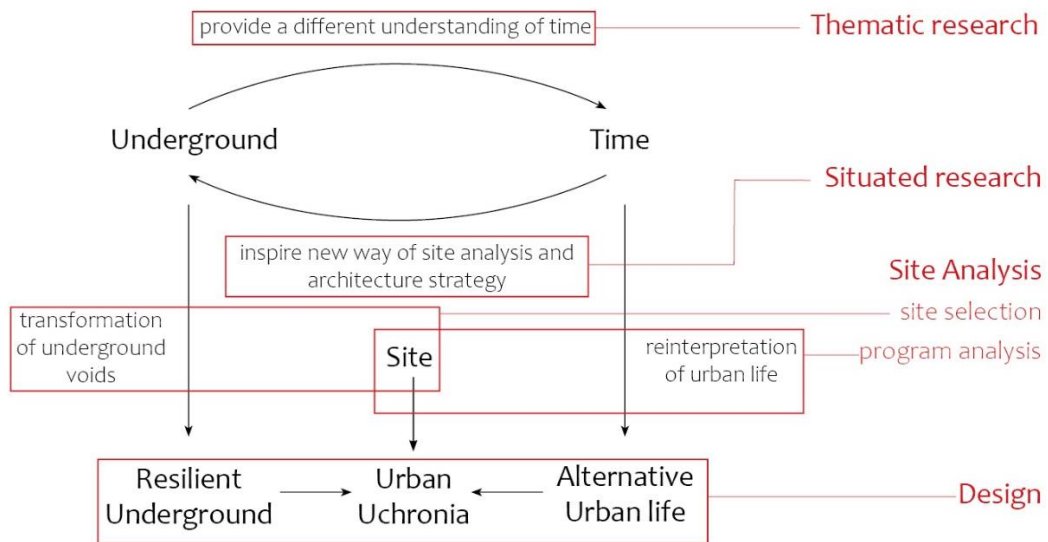
Along with literature reviews, the thematic research also incorporates a series of experiments to visualize the raised ideas, utilizing techniques such as photography and collage. This section concludes with a manifesto, emphasizing identified problems and my positions.

The situated research will move the focus back to the Madrid context, addressing the question: How can understanding the underground as Uchronia inform new design strategies? This involves applying the temporal lens developed in the thematic research to understand the conditions of the Madrid underground. The situated research unfolds with three exercises:

1. A mapping of various underground conditions over time, providing a narrative perspective.
2. Collection of personal notes from my experience in Madrid's underground spaces, including photography and sketches.
3. A matrix to compare different types of underground spaces in Madrid, facilitating a comprehensive understanding of entanglements in different scales.

The situated research will finally lead to the selection of a site for intervention. The conclusion I drew from the thematic research, coupled with specific conditions

encountered on-site, guide the development of a potential program for this Urban Uchronia model, while envisioning a larger network of such pocket spaces on an urban scale.



## Literature and general practical references

### Art work:

Madrid subterráneo by Lala Almarcegui

Uchronia by Annie Vigier & Franck Apertet

### Architecture project:

After Image by RAAAF

Game on exhibition by Smart & Green Design

Growing Underground by Richard Ballard and Steven Dring

Sinking Shaft by Tate Harmer

"South Friedrichstadt as a Place to Live and Work" by Peter Eisenman

### Literature Reference:

1. Almarcegui, Lara. Madrid subterráneo. Ediciones de la Librería, 2012.
2. Antonio, José, and Juncà Ubierna. "Tunnel Heritage in Spain: Roots of the Underground." *Tunnelling and Underground Space Technology* 13, no. 2 (1998): 131–41. [https://doi.org/10.1016/s0886-7798\(98\)00040-6](https://doi.org/10.1016/s0886-7798(98)00040-6).
3. Bartolini, Nadia. "Critical Urban Heritage: From Palimpsest to Brecciation." *International Journal of Heritage Studies* 20, no. 5 (2013): 519–33. <https://doi.org/10.1080/13527258.2013.794855>.
4. Connor, Andrea, and Donald McNeill. "Geographies of the Urban Underground." *Geography Compass* 16, no. 1 (2021). <https://doi.org/10.1111/gec3.12601>.
5. Edgeworth, Matt, Dan deB Richter, Colin Waters, Peter Haff, Cath Neal, and Simon James Price. "Diachronous Beginnings of the Anthropocene: The Lower Bounding Surface of Anthropogenic Deposits." *The Anthropocene Review* 2, no. 1 (2015): 33–58. <https://doi.org/10.1177/2053019614565394>.
6. Frampton, Solomon, and Wong. *Cities without ground: A hong kong guidebook*. Oro editions, 2012.
7. Hillman, Ellis. "Cities Beneath." *The Environmentalist* 3, no. 3 (1983): 187–98. [https://doi.org/10.1016/s0251-1088\(83\)92794-8](https://doi.org/10.1016/s0251-1088(83)92794-8).
8. Kearnes, Matthew, and Lauren Rickards. "Earthly Graves for Environmental Futures: Techno-Burial Practices." *Futures* 92 (2017): 48–58. <https://doi.org/10.1016/j.futures.2016.12.003>.
9. Landeira, Luis. "Madrid Está Hueco." *Jot Down Cultural Magazine*, March 7, 2020. <https://www.jotdown.es/2019/08/madrid-esta-hueco/>.
10. Luque, Gómez Mariano, Ghazal Jafari, and Shannon Mattern. "Extract and Preserve: Underground Repositories for a Posthuman Future? ." Essay. In *Posthuman*, 52–59. Cambridge, MA: New Geographies Lab, Harvard University Graduate School of Design, 2017.
11. Macfarlane, Robert. *Underland: A deep time journey*. New York: W.W. Norton & Company, 2020.
12. Mumford, Lewis. *Technics and civilization*. New York: Harcourt, Brace & World, 1963.
13. Ortega Vidal, Javier, Carlos Villarreal Colunga, and Javier Rodríguez Callejo. "Narrativas Gráficas Sobre El Metro y La Ciudad de Madrid." *EGA Revista de*

Expresión Gráfica Arquitectónica 25, no. 38 (2020): 136.

<https://doi.org/10.4995/ega.2020.12748>.

14. Pallasmaa, Juhani. *The eyes of the skin*. Chichester: Wiley, 2007.

15. Pike, David L. *Metropolis on the styx: The Underworlds of modern urban culture, 1800-2001*. Cornell University Press, 2018.

16. Schmid, Helga, and Kevin Walker. "Anti-Clockwise: Building a Critical Mass against Clock Time." *Art & the Public Sphere* 9, no. 1 (2020): 39–61. [https://doi.org/10.1386/aps\\_00032\\_1](https://doi.org/10.1386/aps_00032_1).

17. Schmid, Helga, and Paola Antonelli. *Uchronia*. Basel: Birkhäuser, 2020.

18. Sharma, Sarah. *In the meantime temporality and cultural politics*. Duke University Press, 2014.

19. Williams, Rosalind H. *Notes on the underground: An essay on technology, Society and the imagination*. MIT Press, 2008.

## 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 underground issue is an urgent urban concern which relates both to interdisciplinary understandings as well as urban sustainability. The value of the underground lies in the fusion of natural and man-made elements, calling for a systematic approach across geological, social, and cultural dimensions. Additionally, studying the transformation of underground spaces contributes to a more resilient land use as well as informs the design of more robust underground spaces in the future.

By framing the underground as a temporal issue, I aim to challenge traditional architecture practices as spatial-construction. The underground, as a site, urges to develop innovative architectural approaches, shifting from building to extraction. While some architects have addressed the significance of temporal aspect in architecture, such as Pallasmaa, it is still often overlooked. My study, rooted in the concept of Uchronia, provides a toolkit for exploring architecture as a spatiotemporal issue, offering fresh perspectives that integrate time into architectural discourse.

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

The key idea of the thesis is to merge two critical concerns --- the negative underground condition and the contemporary time crisis in urban life. Just as the underground poses a complex issue across disciplines, as discussed above, it is essential to recognize time also as a socio-political matter. The prevailing social construction of time as mere numbers has fundamentally deprived it from human events and experiences, giving rise to a 'chronopolitics' based on uneven temporalities. By proposing an alternative approach of experiencing time in the underground, the design seeks to create a break from this non-stop society,

fostering urban creativity. Moreover, the increase independence of individual temporalities has led to a shrinking of the traditional space-based public sphere. This project further explores the shift from 'shared space' to 'shared time,' investigating how different temporalities can coexist, giving rise to a new temporal public sphere.