

Wonderland in the Mirror

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*Rethink the Created Invisibility and
Rediscover values in Madrid's Underground*

Research Plan
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We are too used to a view from above. Like riding a magic mat, everything is crystal clear. Well, what about the happenings beneath the surface? Growing up in cities, I've always lived along with underground spaces. As a child, the basement was our secret playground, where we can hide our treasures and work on secret tasks. During university days, the metro station served as the shortcut from home to school, where I can get anything I need from the convenience store inside. This hidden realm, absent from the satellite images of cities, holds a special, almost enchanting power for me.

Key Words: underground, Invisibility, hide, escape

"They also believe, these inhabitants, that another Beersheba exists underground, the receptacle of everything base and unworthy that happens to them, and it is their constant care to erase from the visible Beersheba every tie or resemblance to the lower twin."

Italo Calvino, *Invisible Cities*

"I longed for "peace," I longed to be left alone in the underground."Living life" so crushed me, unaccustomed to it as I was, that it even became difficult for me to breathe."

Dostoevskij, *Notes from Underground*

INTRODUCTION

In the era of satellite images and meticulously crafted maps, our perception of the Earth often reduces to a flat image, when the Flat Earth theory itself has been abandoned for several centuries. The view is so precise, explicit and perfect that we take it as the whole reality for granted, while ignoring the inherent ambiguity embedded in this singular, top-down view. **It is this hidden dimension beneath the surface that demands our attention.** Digging into the underground would help to unveil secrets out of sight while closely related with our everyday lives above ground.

The term “underground”, as a physical concept, is defined as “**below the surface of earth**”. However, this traditional explanation faces a challenge in our increasingly artificial environment. The “ground” is **no longer an integral, solid surface**. Instead, it has evolved into **an amalgamation of man made holes, voids and stratas**. Since early history, humans have been carving into the earth to counteract natural forces. Nowadays, about half of the approximately 13 billion hectares of Earth’s soil are now converted to human use. This gives rise to a novel concept — the “**Archaeosphere**” — introduced by Edgeworth to encapsulate the current anthropogenically modified ground.¹ This term highlights the profound influence of human forces in shaping subterranean depth, encompassing both architectural and technical dimensions.

1. Matt Edgeworth et al., “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>.

This condition of a man-made “underground” space is especially relevant in Madrid. As the city went into a period of rapid growth, the subterranean landscape underwent a profound shift, transforming into a **technical space**. At the forefront stands Madrid’s Metro system. First opened in 1919, it has expanded significantly over the past century, now ranking as the world’s fifth-largest network with 293 km of track.² Other examples like highway tunnels and the jungle of service pipes underscore the underground’s role as a service hub. It is perceived as **a mixture of technological means to liberate urban life**, which exists more like a machine rather than spaces.

2. Jules Stewart, “THE SPANISH UNDERGROUND: Continental Europe’s most extensive underground rail transport network, the Madrid Metro, has transformed life in Europe’s third-largest city. This year, the Metro celebrates a century of steady progress and expansion.” *Geographical*, December 2019, 38+. Gale Academic OneFile (accessed November 2, 2023).

This single image of the underground is hard to capture the rich potentials of this “dark continent”. It’s easy to ignore the fact that humans started to build underground since the very early history. The current underground is actually a more complicated condition resulting from **historical accumulation**. Madrid is a city always hollow deep down, it has more than 4500 kilometers of hidden tunnels, galleries and passageways.³ The name “Madrid” came from the variation of its underground hydraulic system “Majra”, which provided a stable water supply for the city for centuries. Throughout history, Madrid’s citizens have continued building basements and cellars beneath their homes for the storage of essentials like food and wine, which gradually grew into an interconnected network. The historical backdrop also reveals the strategic deployment of secret escape routes connecting significant buildings, a testament to the underground’s role in times of governance. The Spanish Civil War (1937-1939) left behind a distinctive system of underground spaces,

3. Luis Landeira, “Madrid Está Hueco,” *Jot Down Cultural Magazine*, March 7, 2020, <https://www.jotdown.es/2019/08/madrid-esta-hueco/>.

the bunkers, either used by the Republicans or ordinary people. Most of these heritages are left in ruins nowadays, forming a buried **labyrinth** juxtaposing with the modern infrastructures. This layered history adds both depth and dimensions to Madrid's underground.

We must recognize that “underground” is not a united concept in Madrid, but **a dynamic one constructed by both physical features and socio-cultural meanings**. These meanings keep shifting along with conditions above the ground, producing different types of underground spaces including bunkers, escape tunnels and service galleries. But the common thing is that the underground is always related to **the action of hiding and making something invisible**. As Pike points out, the underground always “**includes a displaced vision of something that poses a crisis of representation in the world above.**”⁴ This embedded value leads to purposeful ignorance of the spaces and prevents it from going into the public realm. However, the **absence of presence** also creates potential, once turning the objective perspective of hiding into a subjective action of **escape**, which inherits the promise of freedom, either from natural or social forces. As a mirror of the ground level, it indicates opportunities to pursue things that are not permitted in the open air.

4. David L. Pike, *Metropolis on the Styx: The Underworlds of Modern Urban Culture, 1800-2001* (Cornell University Press, 2018).

Therefore, the key question I will explore in this research plan is:
How can we rediscover the potential values of the underground in Madrid as a place for escape?

And this question will be broken up into two parts

1. Categorization Different Underground Spaces

Who defines these spaces as “underground,” and for what reasons?

What factors contribute to the invisibility of these spaces?

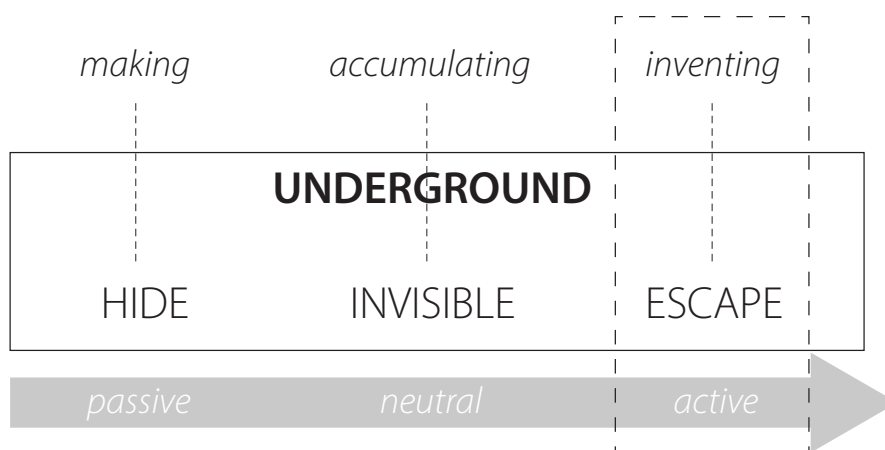
Which kind of spaces show the potential to transform into a place for escape?

2. Understand the Desire of Escape

What do users escape from in the underground spaces?

What qualities of these spaces would serve the escape?

How is the desire for escape represented and manifested in certain spaces?



THEORETICAL FRAMEWORK

“The underground is in no way a unified space: not only does it confuse the physical and the metaphorical to a dizzying degree, but even its symbolism is constituted of conflicting and conflicted concepts, images, figures and objects.”

David Pike, *Metropolis on the styx*

In navigating the diverse underground spaces in Madrid and exploring their potential values, the theory framework will serve as a versatile toolkit. It will start from the process of “**making the underground**”, examining the dynamic of human, natural and technological actors and construct an **actor network**. Then, it will review the shifting images, as a combination of uses and imaginations, from previous studies, extracting key elements in terms of both **physical qualities and symbolic meanings**.

5. Andrea Connor and Donald McNeill, “Geographies of the Urban Underground,” *Geography Compass* 16, no. 1 (2021), <https://doi.org/10.1111/gec3.12601>.

6. Kathryn Yusoff, “Geosocial Strata,” *Theory, Culture & Society* 34, no. 2–3 (2017): 105–27, <https://doi.org/10.1177/0263276416688543>.

7. Gómez Mariano Luque, Ghazal Jafari, and Shannon Mattern, “Extract and Preserve: Underground Repositories for a Posthuman Future?,” essay, in *Posthuman* (Cambridge, MA: New Geographies Lab, Harvard University Graduate School of Design, 2017), 52–59.

8. Rosalind H. Williams, *Notes on the Underground: An Essay on Technology, Society and the Imagination* (MIT Press, 2008).

9. Lewis Mumford, *Technics and Civilization* (New York: Harcourt, Brace & World, 1963).

While constructing an actor network, it’s essential to acknowledge that none of the actors are independent or unchanged in the intricate interplay of hiding and hiding against. As Connor notes, the underground issue is also an issue of **governance**, exposing conflicts among different human actors under topics like property ownership and capital accumulation.⁵ Yusoff points out the **geosocial exchange** in making the subterranean spaces, transforming geological forces into political entities.⁶ Additionally, Mattern introduces the dimension of time, arguing that the **natural rhythm** is replaced by an **artificial time machine** in the subterranean environment.⁷

The most significant shift of the underground from a realm of **myth** to a **technological environment** corresponds to increased human knowledge about subterranean conditions and advancements in underground construction technology. Early perceptions of the underground were steeped in imaginations because of people’s limited knowledge of the space beneath the earth. This condition of **unknown** endowed the underground with a **mythic timelessness**, which echoes to the miss of afterlife in the world above, making it a forbidden realm for mortals. Scientific and technological progress has transformed the underground into a “knowable, legible, and calculable” space dominated by **rationality**. According to Williams, the ultimate shift of the underground into a technological environment is also largely contributed by its unique combination of “**enclosure and verticality**”, promising both a controlled environment and possibilities for connectivity.⁸ This verticality draws attention to **interstitial spaces** in-between like ventilation shafts and connective vertical transport. In official narrative, with a great techno-optimism, the enclosure feature of the underground is interpreted as a risk adaptation strategy towards climate change, envisioning it as a site of **ecological futures**. All are just as what Mumford claimed: A triumph of the “**manufactured environment**”.⁹

While discussing the increasing technological features of underground spaces in urban context, the metaphorical implications of the underground paint a contrasting narrative. On one hand, the traditional association of the underground with darkness and sin persists. On the other hand, the word develops a meaning of **resistance** out of its invisibility and lack of governance. The term “underground culture” denotes **alternative subcultures** which deviate from the mainstream. In political contexts, the word is often employed to describe **acts of resistance** against military forces or authorities. In his book “Notes from Underground”, Dostoevsky utilizes his character, the underground man, to rebel **against calculative rationalities**, underling the irrational nature of humanity. This usage positions the underground as a metaphorical space for escaping and refusing modern life.

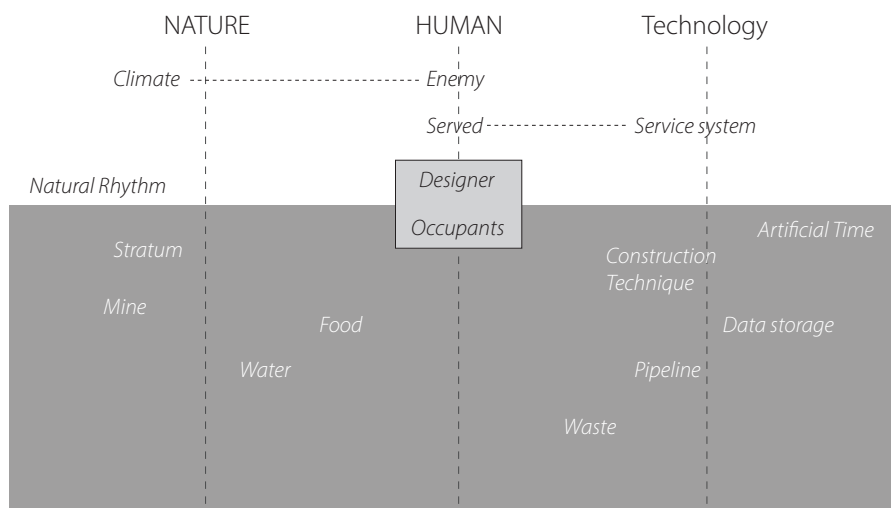
Some other works reinterpret the underground through closely intertwining its technical features with long-standing symbolic meanings. Kearnes and Rickards highlight that besides extraction, there’s an emerging reassertion of the underground as a site for the burial of toxic waste. In their assessment of the **act of burial**, they delve into its symbolic significance as representing **death and forgetfulness**, through which they emphasize the importance of **material markings** on the ground when studying this absence.¹⁰ This quality of **climate-control** is also adapted in Mattern’s examination of the underground as a place for preserving information. This reimagination of the underground as **posthuman space**, however, also provides insights into people’s **fears, hopes, and desires for permanence** in relation with its **stability**.¹¹

10. Matthew Kearnes 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>.

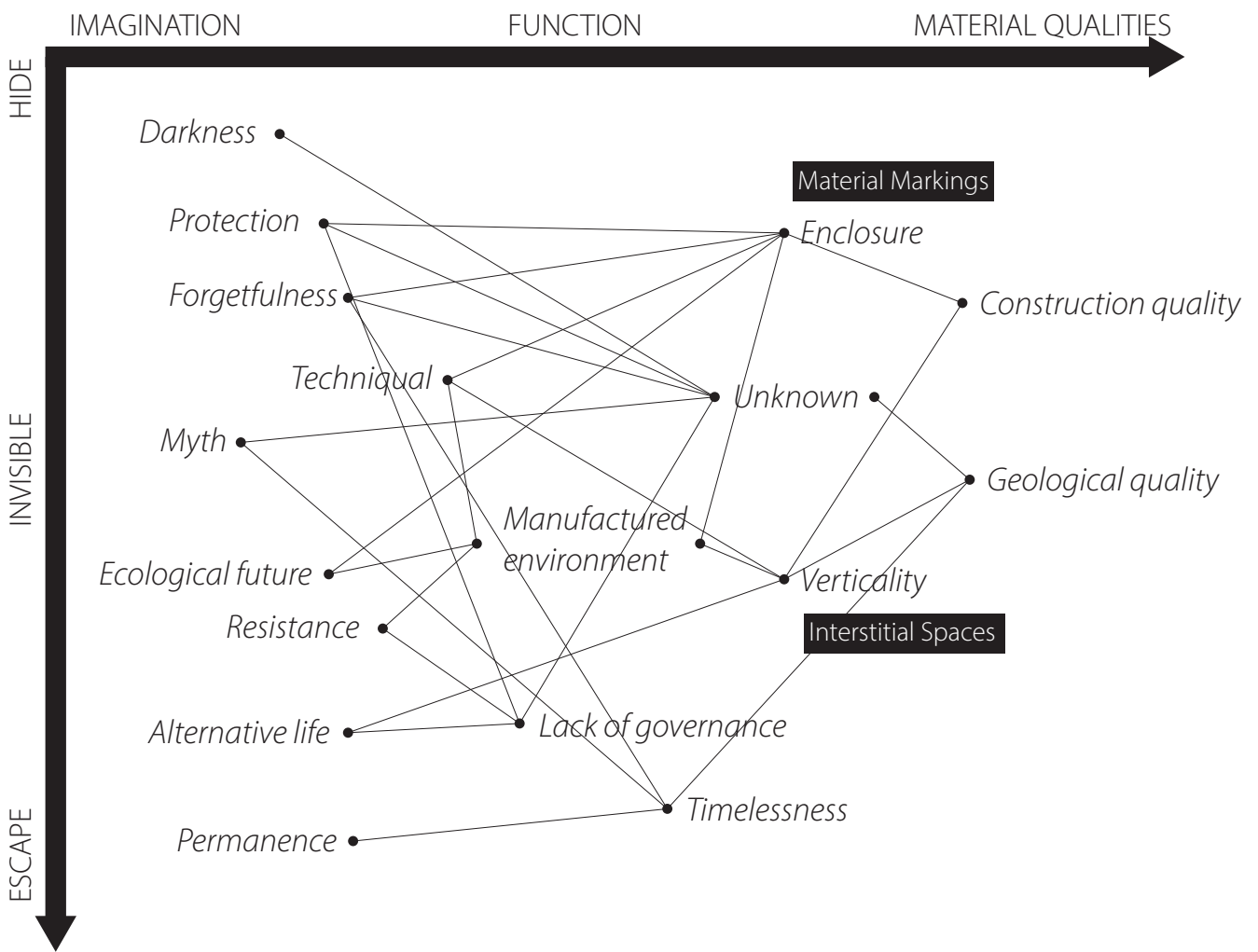
11. Mattern, “Extract and Preserve”, 52–59.

Previous research points to the possibility of retracing the evolving images of the underground back to its **enduring qualities and the symbolic meanings accumulated over time**. This intricate interplay necessitates an understanding of the **constant interaction between the underground and the aboveground**, recognizing the blurred boundaries as well as the ongoing **material exchanges and symbolic reciprocities**. As Pike said, “The key to getting at the meaning of the modern underground is to grasp it in its relationship with its open-air counterpart.”¹²

12. Pike, “Metropolis on the Styx”, 2.



THEORETICAL FRAMEWORK



METHODOLOGICAL FRAMEWORK

The first part of this research will continue the historical review of the shifting images of the underground within the specific context of Madrid. This segment will employ a multifaceted approach, merging **literature review with archive studies involving documents like maps and newspapers**. Additionally, I will also look into previous works addressing the subterranean condition in Madrid, exemplified by Lara Almarcegui's "*Madrid subterráneo*," try to interview the artist and get deeper insights into this context.

The second part zooms in on case studies of diverse underground spaces in Madrid. **A primary catalog** will be crafted based on classifications by esteemed scholars, like Antonio¹³, Hillman¹⁴ and Almarcegui¹⁵, for utility during on site research. This catalog will be structured according to the purpose and current conditions of the spaces, facilitating the application of varied methods. The examination of each Category will combine the study of physical features and the constructed meanings. The physical study will incorporate concepts including **verticality, interstitial space and material markings** from the theoretical framework, utilizing methods varying from **archival study, photography to sectional drawing**. The metaphorical study will concentrate on the action of hide and the condition of invisible, analyzed through **interviews and montage techniques**. To ensure a comprehensive understanding over time, the method of **thick mapping** will be employed for each category.¹⁶

1. Ghost Heritages

This Category delves into historical voids which are mostly forgotten. Specific cases include various military and defensive structures such as passages, shelters, and bunkers from the Spanish Civil War, as well as secret passages throughout history. These spaces carry a dual invisibility: one is hidden from enemies during use, another is being erased as urban trauma. As these spaces are mostly inaccessible, the research will mainly rely on archival studies, examining interior conditions and evolving meanings, while combining with the observation of material markings on the ground.

13. José Antonio 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).

14. Ellis Hillman, "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)

15. Lara Almarcegui, *Madrid Subterráneo* (Ediciones de la Librería, 2012).

16. Cecilia Furlan, "Unfolding Wasteland: Mapping Landscapes in Transformation, 2019, 131–48, <https://doi.org/10.2307/j.ctvjsf4w6.8>.



Figure 1. Madrid Forgotten Bunker, Madrid No Frills, accessed November 5, 2023, <https://madridnofrills.com/map-madrid-bunkers/>

2. Repurposed Heritages

This Category will not have a united type of underground spaces but instead is a collection of diverse spaces. While the common feature is that they have lost their original functions but been transformed into new roles, brought back to the public. Main cases include underground restaurants renovated from historical cellars and various subterranean museums. The study will focus on how they got picked from their type, go from hidden to exposed, becoming part of the history curation in the city. Therefore, their transformations, both physically and symbolically, will be key points to observe.

3. Inhuman Basements

This Category of underground spaces are not meant for humans but instead for various inhuman actors, including water banks, underground parking lots and warehouses. As this kind of spaces always work in systems, this study will combine macroscopic and microscopic approaches, unrevealing the connections of these spaces within the larger urban landscape and decipher their operations in relation with surface activities.

4. Transportation Networks

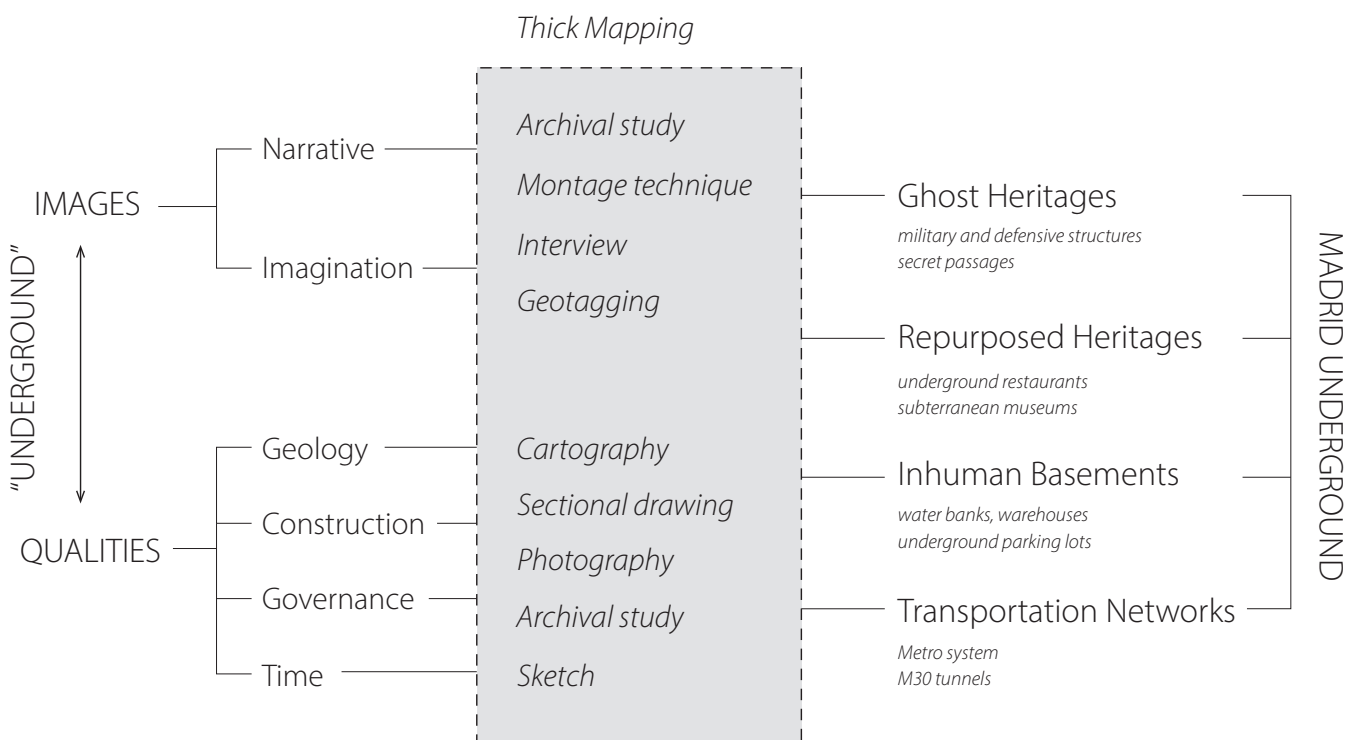
This type of underground spaces experienced a rapid growth in a century, especially for Madrid, encompassing not only the Metro system but also recently buried M30 tunnels. Their invisibility is tricky, as on one hand, they are part of people's everyday life, always appearing in propagandas. On the other hand, people pretend they do not exist, more like a necessary means without volume. The unique method of Urban Flâneur will be employed to explore the latent potentials of these spaces, shedding light on their significance beyond mere functionality in the urban fabric.

After conducting individual studies of each case, the findings will be put together for a comparative analysis through the creation of mappings and sections, which will also introduce **cognitive mapping** to examine their potentials to serve as a subjective place for escape. Studying existing underground spaces is pivotal in grasping the essence of the "underground" condition beyond its confusing images, opening up the opportunity for **a new program**, as well as **a new way of intervention** in the subterranean realm.

Figure 2. Sol Station Hall, Comunidad de Madrid, accessed November 5, 2023, <https://www.comunidad.madrid/en/servicios/transporte/remodelacion-estacion-sol>



METHODOLOGICAL FRAMEWORK

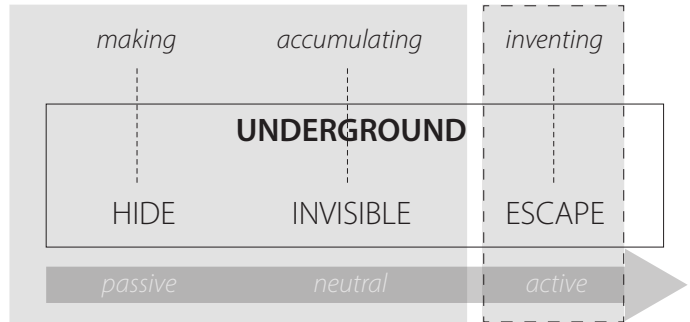


What is there?

My original fascination is on how digital maps are applied so widely that itself has become the reality to us. To question this illusion, I turn to what is not represented in this view of the world and find the underground may be a potential site to look into.

What is miss?

What is the potential of this absence?



Why?

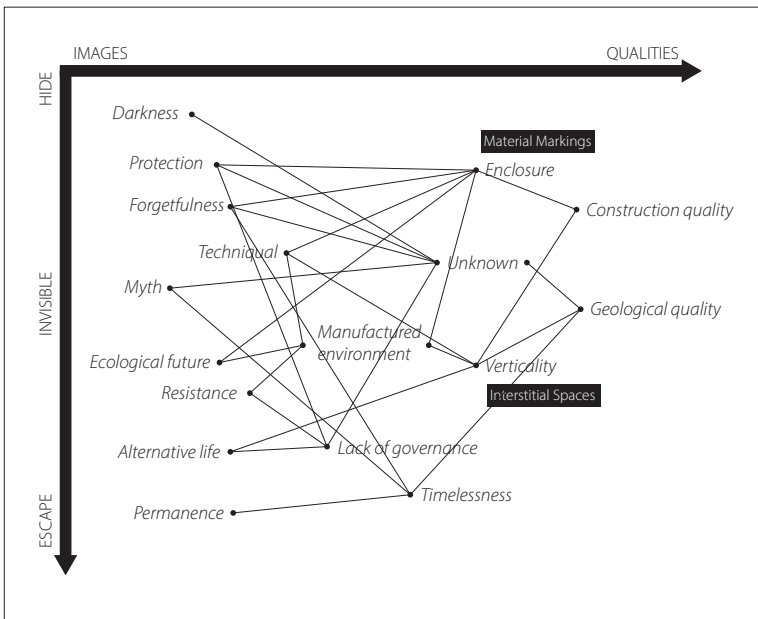
How?

Who defines these spaces as "underground," and for what reasons?

What do users escape from in the underground spaces?

What factors contribute to the invisibility of these spaces?

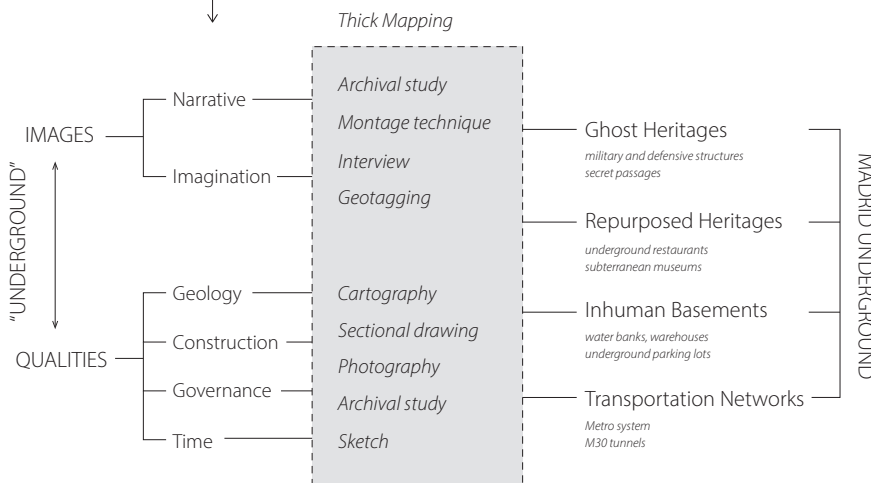
What qualities of these spaces would serve the escape?



Theoretical Framework

Methodological Framework

Madrid Context



Open up the question: break the walls

One of the greatest dangers of this Anthropocene era lies in the fact that we've got so used to the narrative of acceleration that envelops us. The promise of a fully transparent image of the world leads us to perceive it as the whole reality, believing things have always been like that and will never change. Nothing could be more delusional than this constructed fantastical dream, which also imprisons us. To break the walls in this "Truman's World", we must keep questioning "what else?" This ongoing inquiry into the hidden dimensions is the key to uncover the concealed facets of our environment.

The Underground emerges as such a realm, a repository for elements expelled from our acknowledged reality. It is simultaneously "the other" in urban life, defined in opposition to the ground level, ensuring the integral existence of the aboveground. Meanwhile, it also serves as a "deterrence machine" to conceal the fact that the upper world has become "hyperreal". This invisibility is never a neutral, natural condition but a deliberate creation to protect our imagination of an urban life legacy. As one of the "walls" surrounding us, examining the invisible condition of the underground becomes paramount to unveil the forces shaping the urban environment out of sight.

The essence here is not to excavate new spaces for utility but to break the wall, to awaken from this dream and glimpse into other possibilities. The underground is not the extension of the aboveground, but rather a mirror, offering an alternative way. It also prompts a crucial interrogation into the role of the architecture – not merely as a reaction to existing conditions, but as a catalyst to raise new questions. Can we seek humanity in a society dominated by rationality? Can we search for peace amid the ceaseless dynamism of urban life? These desires are hardly novel, but long being oppressed. To look into the mirror is also a means to retreat, rethink and rediscover in the quest for new perspectives.

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