

The Embassy of Waste

Mining waste towards the governance and self sufficiency in the Arctic.

North Sea: Landscapes of Coexistence
Transitional Territories Studio 2019-2020

the relationship between research and design.

Within the studio's framework, my research began with the North Sea as it gradually transitioned to the Arctic region. With the rapid melting of the ice caps, and the opening of new trading route across the North Pole, the Arctic is being consolidated as a strategic yet highly vulnerable region for the inevitable resource exploration coming from the North Sea. Within this resource race ¹ that is beginning to take place in the Arctic, mining activities withhold the most presence in the region, and it is fast increasing. Unlike oil and gas, nowadays mining is considered to be a 'necessity in the transition towards renewable energies' (Dale 2018).² This transition has triggered both the rise and demise of demand of certain minerals, having a special effect on Arctic communities. On one hand the increase in demand of certain minerals has made of the disposal of mining waste both a global issue and a local concern, on the other the closing of coal mines, specifically in the Archipelago of Svalbard has led to a mining community in an urgent need of local restructuring. Hence, my research led me to conclude that mining waste management and reuse could potentially become a new economy for the arctic community of Svalbard, withholding the mining knowledge and addressing the global problematic of waste.

Nonetheless, as I focused on the specificities of the Arctic and on Svalbard as a territory currently transitioning from mining to other activities, I realized that my research was intrinsically political. Svalbard is an archipelago known for being 'no man's land'. Through history it had withhold its character of an unclaimed territory of which its in-habitation is solely because of the mining of coal. For this reason and due to its remoteness, and internationality, mining companies became the entity of control and governance in Svalbard, similar to the role of an ambassador sent by different nations to represent their interests in foreign land. Therefore, through my research I realized that mining in the Arctic is much more than just an environmental and social problematic, it is a geopolitical issue and the *raison d'être* of Svalbard as a consolidated territory.

Therefore, by understanding the political relevance of mining in this arctic community, I came to the realization that my project had to address the management of mining waste from a political point of view in order to successfully embed itself in the Arctic context. Reason why Svalbard's condition of "free zone" became an important topic as at it is meeting point between the two sides of my research. On one hand having the potential to recollect such mining waste due to its condition of exception ³, and on the other addressing the political vulnerability of this territory within the resource claims in the Arctic. Within the context of the "free zone" in which any nation could potentially exploit resources in Svalbard, the long lasting coal mining company has become the entity of order and protection⁴. Coal Mining companies, of which Norway's owes its sovereignty over the Archipelago, acts as an "ambassador" veiling for the protection of Svalbard from its own condition of "free zone". With the inevitable end of coal mining and without this norwegian ambassador enforcing governance in the Island, the "free zone" threatens to strengthen the resource claims in the Arctic, and with it the further over extraction of resources in the most remote and pristine territory in the Arctic.⁵ Hence the importance of my research in which I concluded that is crucial to replace mining activities with mining waste management and reuse as a political act that that will consolidate Svalbard as a sustainable territory while veiling for the interests of the Arctic Region.

Therefore, my research developed and transformed radically. Although always in the line of mining waste, it transitioned towards the politics of such waste. Therefore the name of my project as "The Embassy of Waste", tackles

¹ SHEA, N. S. (2019, May 8). Scenes from the new Cold War unfolding at the top of the world. Retrieved from <https://www.nationalgeographic.com/environment/2018/10/new-cold-war-breeds-as-arctic-ice-melts/>

² DALE, B., BAY-LARSEN, I., & SKORSTAD, B. (2017). *The Will to Drill - Mining in Arctic Communities (Springer Polar Sciences)* (1st ed. 2018 ed.). Cham, Switzerland: Springer.

³ AGAMBEN, G., & ATTEL, K. (2005). *State of Exception* (1st ed.). Chicago, U.S: University of Chicago Press.

⁴ PEDERSEN, T. (2017). The Politics of Presence: The Longyearbyen Dilemma. *Arctic Review on Law and Politics*, 8(0), 95–108. <https://doi.org/10.23865/arctic.v8.682>

⁵ PEDERSEN, T. (2017). The Politics of Presence: The Longyearbyen Dilemma. *Arctic Review on Law and Politics*, 8(0), 95–108. <https://doi.org/10.23865/arctic.v8.682>

mining waste management and reuse as a political tool of local governance and Arctic cooperation and self sufficiency. By consolidating Svalbard through its condition of “free zone” as a sustainable wasteland, not only am I addressing the governance on the territory, but the cooperation among Arctic nations. Through its name of “Embassy” it acquires both a local and a regional political character, veiling for the protection of Svalbard while benefiting Arctic nations by managing the waste produced and reusing it towards a new local material. Therefore becoming a project from the Arctic to the Arctic, with Svalbard as an ambassador and intermediate.⁶

The political character of my research became pivotal for my project, as it became evident during the field trip. Specifically when talking about the Arctic, nothing compares to the research that can be done in the field. Experiencing the Arctic life and dynamics made me realize of the importance of mining and hence the importance of its transition towards new activities, in this case, mining waste management. Not only is mining through the norwegian mining company, the entity of territorial control and stability in the archipelago, but it is the supply of electricity and heating. Additionally, an extensive network of elevated infrastructure and energy flows stitch the territory by distributing electricity and heating coming from the mine. Besides being the reason of inhabitation and governance on the archipelago, mining is the circulatory system of Svalbard, and its transition must tackle the externalities (energy, industry, governance) that are now connected to mining. Hence the study trip made evident that the translation into design on site had to relate to this network of externalities and become a political act in itself.

Based on the information gathered during the study trip I came to the realization of the intrinsic relation between mining and the energy flows and infrastructure in the territory. Hence, with mining as the beating heart of this territory, the replacement for mining waste management has to be made as a transplant, embedding itself within the current infrastructure of the city. Therefore, the project locates itself within this territorial network of externalities through 4 specific gestures. First, by introducing the linearity of the mining waste management process as the spine that articulates both the project and the territory, domesticating the existing infrastructure. This spine connects sea and land on one direction and divides city and industrial dynamics on the other. Secondly, within this spine, 3 architectural elements are located towards the city. The Embassy located by the sea, as gate and entrance to this “free zone”. The Factory, embedded in the urban mesh of the city and becoming the production axis of the project. And finally The Tower, as distributor of energy and heating lines towards the city. These 3 architectural elements withhold a strong political sense, as they answer both to the three governmental scales of my research and to the three conditions on site. First, the embassy by the sea, as the international Arctic cooperation. Second, the factory by the industrial area, as the productive core of Svalbard. And finally, the tower by the mountain, distributing the energy locally towards the city up hill. (Fig.2)

Thereafter, the main challenge in the translation from research to design was on how to address the many externalities of this Arctic community. Nonetheless, by widening my territorial approach on site, and understanding that the importance of mining goes beyond mining itself, I realized that my project needed to go beyond an architectural project. It needed to be developed as a part of a wider context, consolidating a territorial loop of energy, industry and politics by embedding itself in the current flows of the territory. Hence, attempting to becoming a political act in itself by channeling the externalities of this Arctic community. (Fig. 2)

the relationship between your graduation topic, the studio topic, your master track, and your master program .

With the North Sea as point of departure, the Transitional Territories Studio’s objective is to have an interdisciplinary and multi scalar approach on the territory. Moreover, its scope is to identify the dynamics, conflicts, problematics and potentials in systems ranging from the territorial level to the scale of the body. Consequently addressing through architectural projects the different, externalities and specificities of the territory.

⁶ CALLEJAS, L. (2013). *Pamphlet Architecture 33*. Amsterdam, Netherlands: Amsterdam University Press.

Therefore, my project topic relates to the studio as it is intrinsically multi scalar. It addresses the global concern of waste reuse, the political potential of such reuse cycles as a way of governance and stability in the Arctic territory, down the scale of the material produced as the result of the process. Hence, my project has a clear territorial aspect, yet it addresses the many complexities intertwined within the Arctic context; energy, geopolitics, work, resources. Additionally, specifically related to the re-use cycle of such waste, the project directly tackles the circular concept of waste as a local resource.

Furthermore, as my project departs essentially from a problematic related to the epoch of global sustainable development, it relates to the vision of sustainability instilled at the Master programmet. Hence, I consider my project's topic not only tackles the sustainability and circularity of mining processes in general it also addresses the political fragility of the Arctic regarding the current resource claims in that region. Therefore in a political act, the project aims towards an architecture that uses mining waste processes as a design gesture towards the self sufficiency of both the building and the territory, . Consequently addressing the sustainability scope of the track through the territorial approach of the studio, resulting in a unique architectural project that tackles mining waste as a global problematic yet as a local opportunity.

Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

With waste and politics as a research center subject in the dichotomy between global and local, it was crucial to adopt a multi scalar methodology where mining can be researched as the connection between the scale of the territory and the material. Hereafter, mining activities and waste will be the methodological dialogue between the multiple scales of the research. Acknowledging the quantitative character of territorial research which tends to be data based, and the qualitative phenomenological character of politics, by crossing both quantitative and qualitative data it was possible to define a future scenario for the Arctic, one of political vulnerability to the resource claims and thereafter the potential of waste in the stability and governance in the region.

Following, literature on the particular subject led me to a theoretical research about the use of the land (waste) and its relation with both territorial and local scale. Gilles Deleuze's geophilosophy which refers to the relation between the human being and the earth processes, introduced me to the process of territorialization, deterritorialization and reterritorialization (Shapiro 2004)⁷. In relation to his approach these concepts refer to the current territorial order, the reshuffling or crisis of such order and the opportunity towards a redefined territory respectively. Hence, these concepts structure my entire research with territorialization as the current ordered defined and influenced by mining in Svalbard, deterritorialization by the political effects of the end of mining on a local level and reterritorialization as the further project design.

Consequently, both the methodology and the theoretical research made it possible to understand the symbiotic relationship between mining and the territory hence making my project topic very relevant within the Arctic context. By understanding the importance of mining as the core of the Arctic life in Svalbard, my project topic acquires a political and circular relevance. On one hand addressing mining waste management as a replacement for mining, and hence all the political and governmental implications. On the other, the circular concept of re-using such waste and transform it into a local resource. Both of this topics are relevant particularly in this context as it tackles the fragile geopolitics of the arctic and the lack of resources and self sufficiency.

Finally, as I go down in scale through my methodology from the political aspect to the material aspect, it becomes evident that the material becomes the turning point, the moment in which research narrows down in scale while design opens up and extends in scale, furthermore showing the results of the project. The material being recycled represents the end of the research and the beginning of the architectural and territorial results. Hence, as an architectural

⁷ SHAPIRO, G. (2004). Territory, landscape, garden. *Angelaki*, 9(2), 103–115. <https://doi.org/10.1080/0969725042000272771>

approach, the waste that is reused and later transformed into material, becomes the meeting point between research and design.

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

By addressing the waste management as a global concern and a local opportunity, the topic of my project relates to the necessary shift towards sustainability that TU Delft advocates for. Waste in general is a very current problematic that is embedded in our current society. Mining, electronic, chemical, nuclear and other types of waste are increasing and its scale has become a territorial concern. Hence, the project topic considers the new geographies of waste⁸ and explores opportunities in which architecture can recycle re-use and dispose this material in a sustainable manner. Yet in a time when the architecture practice is starting to tackle the societal, environmental and spatial impacts of waste is imperative to address the many externalities of waste in a territorial level. Reason why the importance of my project is in the politics of waste; waste management as a strong political tool of governance, stability and self sufficiency of the Arctic region.

Therefore, my graduation project attempts to have a theoretical approach regarding the political aspect and potential effects in the stability of the region, yet addressing a very down to earth and relevant matter; waste reuse. It is in the recycle of such waste where the effects and results of the project become evident. The recollection of such waste refers to a wider territorial aspect of cooperation between nations, of which its process tackles the dying mining industry in Svalbard. Consequently, the production of material, prefabricated elements, not only becomes the basic architectural unit in my design, but is evidence of the transformation from waste to resource as a result of Arctic cooperation and local production. thereafter addressing waste a a future local resource in the Arctic towards the self sufficiency and well governance of the region.

Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

My research, just as mining in Svalbard, tackles many of the intertwined complexities and specificities of the Arctic context. By addressing both an infrastructural and industrial aspect such as mining waste management, and a political and social aspect such as governance, my research encountered a dilemma between the scales . Both the infrastructure and political topics suggest a monumentality and a big scale that contrasted with the small scale of the Arctic communities and the local approach that my project has intended. Yet, it was not until I widen my research and my view on the territory, that I understood my project as one piece within a wider pre existing network of externalities. Therefore by understanding my design as part of a territorial dynamic, rather than just an architectural project, I managed to provide my project of scale and context in order to overcome such dilemma in the design process.

Therefore my project embeds itself in a territorial loop of externalities (energy, infrastructure, governance) , in which it address the different dynamic while developing a specific architectural project. This leads me to a second dilemma regarding the design. The Embassy of Waste, as mentioned above, requires both an infrastructural and political character, yet by approaching them through an architectural programme they revealed a dichotomy between the building for non human and building from humans; between infrastructure and community. Therefore the project splits in 2 simple gestures; one central spine addressing the linearity of the infrastructure process, with three architectural elements which embrace the city and that brings the industrial process and the Arctic life together. This design gesture made me realize that my project is not a hybrid between politics and waste, instead, by bringing waste and people together, the projects becomes a political act in itself.

⁸ GHOSN, R., & JAZAIRY, E. H. (2016). *Geographies of Trash* (English ed.). Barcelona, Spain: Actar.

Fig.2. Loop: Domesticating Territorial Externalities



BIBLIOGRAPHY

PEDEVRSSEN, T. (2017). The Politics of Presence: The Longyearbyen Dilemma. *Arctic Review on Law and Politics*, 8(0), 95–108. <https://doi.org/10.23865/arctic.v8.682>

GHOSN, R., & JAZAIRY, E. H. (2016). *Geographies of Trash* (English ed.). Barcelona, Spain: Actar.

DALE, B., BAY-LARSEN, I., & SKORSTAD, B. (2017). *The Will to Drill - Mining in Arctic Communities (Springer Polar Sciences)* (1st ed. 2018 ed.). Cham, Switzerland: Springer.

CALLEJAS, L. (2013). *Pamphlet Architecture 33*. Amsterdam, Netherlands: Amsterdam University Press.

SHAPIRO, G. (2004). Territory, landscape, garden. *Angelaki*, 9(2), 103–115. <https://doi.org/10.1080/0969725042000272771>

AGAMBEN, G., & ATTEL, K. (2005). *State of Exception* (1st ed.). Chicago, U.S.: University of Chicago Press.

The Svalbard Treaty, Paris, 9 February 1920, *Versailles Treaty*, available from http://library.arcticportal.org/1909/1/The_Svalbard_Treaty_9ssFy.pdf