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P5 REFLECTION PAPER

Research x Design

This research was first approached through the study of nomadic groups of the Almaty region in Kazakhstan. Prior to the Soviet rule the smooth space of the Kazakh Steppe was inhabited by nomadic peoples, whose movement was mainly influenced by natural phenomena and the relationship to the territory was one of temporary occupations instead of definite settlement. Kazakhstan under Soviet rule was then re-organized as part of a nation by an overruling power producing a striated space of representative structures, delimited territory (the private houses, the public streets, the collective farms, workers' factories) and active territorialisation of the Kazakh identity into its sedentary space. Kazakhs' mobility wasn't suppressed only in the physical space, but also in the metaphysical through the imposition of a Russian nationality with its full set of "rights" and obligations towards the State. Since then, the nomad identity has been almost completely wiped out from the region.

From here on the research followed into two parallel ways: the exploration of Deleuze's nomadic metaphysics (against sedentarist metaphysics) to produce a theoretical background towards the production of a design concept, and secondly, an analysis of contemporary nomadism and mobility in order to assess programmatic requirements and aid the design process.

I've concluded, through my research into nomadic metaphysics that the production of cities and its citizens has been based on an ideology that treats nomadic aspects of life such as migration, occupation, ephemerality and informality as intrinsically pathological. And I counter-argument that saying that these are exactly the characteristics missing in our cities, which are required for the creation of environments that are better accepting of "otherness", that are well resilient to rapid changes of the contemporary world and are welcoming to mobilities. Based on nomadic thoughts, allowing oneself to look at the city primarily through its mobilities would influence the conception of spaces of movement as more than a service space of connection between place-points, an undesirable yet uncontainable output. Instead, these "non-places" would be conceived through meaning and become as significant and relational as what sedentarists like to call "place".

And through an analysis of contemporary mobility in the region of Almaty, I've found the transportation and logistics sector playing a huge role in the current Kazakh economy, assimilating many of its citizens into the freight business. Kazakhstan being the largest land-locked country in the world bordering China and Russia works as a transportation corridor between these Asian super-powers towards Europe, and the A-2 road crossing Almaty is its main route. Truckers, drivers and other travellers rely on the road to find resources to supplement their journeys. The road starts being perceived as a nomadic space – the asphalted piece of land is the axis of mobility and its extensions beyond the asphalt, places that allow temporary occupations.

An analysis of travellers' accounts over life on the road concluded that these mobile groups are often catered with infrastructure that supply immediate physical needs for themselves and their vehicles, such as parking, fuel stations, toilets and bathrooms, shops and restaurants. Meanwhile the biggest struggles in this mobility have been related to loneliness, sleep deprivation, boredom, stress, health and mental issues, for which no infrastructure is commonly provided. Additionally there is the problem of lack of time to deal with such concerns when sticking to the tight schedule is paramount within their journeys.

With the conclusions brought by the previously discussed research, I've recognized the necessity of infrastructure to assist travellers' immediate needs as well as wellbeing along the nomadic space of their mobility. And so I've made use of a leftover patch of smooth undeveloped land alongside a new ring-road being built around Almaty, BAKAD, to provide a rest stop infrastructure following nomadic principles of design.

The project's design starts on the large scale of the masterplan, arranging the site into three different areas of permanence according to a traveller's break duration: fast break, long break or overnight. Each area is defined by a central node where the program shall be developed. The first steps were arranging these programmatic nodes along the site within walking distances and defining the vectors of movement connecting them. Along these line of movements, pedestrian ways, driveways and landscape interventions were produced.

The approach to the design of the rest stop seeks for a more active engagement of the user with its environment, motivated by the landscape interventions. These surface conditions serve two purposes: the breakdown of the site into smaller parts framing views and defining edges thus asking for a segmented understanding of space highlighting otherwise overlooked details of the vast landscape and helping its identification. And secondly, the fluidity of meaning attributed to the surface structures when its parts aren't clearly one thing or another, but rather a single continuous element: a wall that folds around into a ramp and rises into a roof cover. It requires from the user attention to the occupation of the physical

world in order to understand it and devise ways on how to occupy them. This is a similar process to nomadism, where the nomad would search for temporary habitations within nature. This idea provides the traveller, a temporary dweller of any identity, with a sense of freedom and "place" where he/she can occupy as they see fit, unbound by any organizational constraints. Here, anyone can find temporary "belonging".

Moving towards the building design, I've decided to focus (due to time restrictions) on the programmatic node destined to serve the drivers' wellbeing for its program allows to approach a topic which is often undermined in favour of the practical mobility infrastructure - roads, fuel stations, convenience stores. Therefore the building looks towards a more human aspect of the drivers' mobility by providing a program that offers health and mental care through the provision of consultation rooms (general practitioner, dentist, psychologist) as well as grooming and bathing facilities.

For this part I sought for more theoretical background in order to enrich the experience in the smaller scale of the building. These included the prospect-refuge theory by Jay Appleton and "The Fold" by Gilles Deleuze. The first influenced the design towards cavernous spaces of humanly dimensions with landscape views from different perspectives as a method to provide pleasure when occupying the interior space of a rather private program: the theory suggests that enclosed spaces promise protection from outside offering safety and therefore comfort whereas a view to a large prospect offers excitement in discovering new opportunities through visual information. The combination of comfort and excitement thus provides pleasure. And finally the theory of folds, which relates to the nomadic metaphysics in the sense that the production of space through folding and unfolding of a surface, individuating spaces and elements through a discontinuity – a fold- produces spaces of continuous relation and interchange, border-less, replacing the alienating experience of enclosed spaces and re-organizing them into new opportunities of social exchange.

Reflection on the Approach

I've chosen to approach this design project through the theoretical work developed by Deleuze on "Nomadology: The War Machine" bringing the characteristics of nomadism (characteristic to the Kazakh Steppe region) into a theoretical level of understanding. The purpose was to make use of nomadic ideology in the designing of spaces, using concepts of mobility (largely referenced from Tim Cresswell's *On the Move*) to produce spaces of movement within our greatly sedentarized societies. My goal was to bring this ideology into the development of the masterplan all the way up to the building's design and its details, hence why I've added the ideas of "The Fold" by Deleuze to inform the concept used to the design of the building.

I am happy with the results, which in my opinion, reflect the theoretical background used into a design that encompasses ideals of movement, temporality, ephemerality, freedom and place-finding in an original manner. Perhaps the design of the building is the apex of my learning process, where I was able to translate a rather complicated theoretical research into the physical design of a piece of architecture through an original process of folding surfaces into spaces of occupation. Quite an arduous task when a building requires full enclosure in order to maintain its functionality and comfort. I was able, however to use the process of folding surfaces in favour of the building's function, with incorporated services that do not disturb the representation of its design concept.

Given its highly organic shapes, I had to devise new ways to conceive its structure. I've first approached the idea through physical model making, which was helpful to introduce the initial ideas, however as I attempted to progress with the definition of the building and its interior spaces, the physical model proved to be insufficient as a design tool and I've moved on to reproducing those ideas with a computer software, namely Rhino. By sketching impressions of interior spaces and their required dimensions and requirements, I've later translated them into the 3d-model, a long learning process given that I had never tried or learned the process of creating such organic structures before.

After developing the workflow to virtually design the folding structure I was able to articulate the idea from conceptual model into a verifiable design by developing a practical construction method using a mesh-mould double-curved concrete surface construction engineered by Gramazio-Kohler, and verifying the structural forms' stability through the 3d-printing of mock-ups. In fact, the biggest struggle of the design (after the actual creation of its structure on the software) was affording it with functionality by providing building services and construction methods that are realistic, functional and practical. All of which have been thoroughly researched and designed to make this complex structure function comfortably. I believe this may have been the hardest challenge, from which I've learned the most on my

creative problem-solving skills. I believe that I haven't just provided a solution to each problem that would arise, but rather I've devised clever articulations to work with each difficulty, making my design not just a building that functions but a clever design that incorporates building construction and services into a functional synergetic design. A task that was greatly motivated by the feedback from my tutors.