The Valley Grammar
The Valley in Luxembourg City as a Non-routine Space

Author: Han Yang
Student number: 4461711

H.Yang-8@student.tudelft.nl
December 23, 2016
Table of Contents

Introduction: The Valley and the Sectors 1

The Valley Grammar: on Scale, Macro and Micro 3

The Valley Grammar: on Element, Field and Object 4

The Valley Grammar: on Manipulation, Mapping and Sectioning 7

Conclusion: Towards a Non-routine Space 10

Bibliography 12
**Introduction: The Valley and the Sectors**

Luxembourg City, as the macro site, is characterized by the distinction of its plateaus and valley. The urban area sits on the plateaus and there is a valley stretching all over the city as a division of the plateaus. Due to its small size and fluctuating terrain which makes the spaces and elements complex, the city, or the whole site, could be conceived as a large building, i.e., the site could be conceived as a project.

In ancient Luxembourg City, the city is enclosed by the city walls and the valley was the most external perimeter as a military defense. But in modern Luxembourg City, the city walls have been demolished and due to the expansion of the urban area, the valley became the interior of the city, the in-between space of those urban plateaus while the role of the valley has changed and up till now it has no certain conclusion. In this way, programmatically, the valley has become a non-routine space in the city.

There are many mountainous cities all over the world, but most of the mountainous areas are higher than the urban areas. Luxembourg City is special due to its lower valley area than its urban area. Also, many cities with these lower valleys have wide water in them, which makes the valleys unusable for built environments while Luxembourg City is one of the few cities which have dry valleys. In this way, the spatial condition of the valley endows it with a non-routine characteristic.

Due to this specificity of the valley, I could introduce the sectors in New Babylon as an important theoretical reference since the valley and the sectors have many features in common. Firstly, they both have holisticsness because they stretch all over the city thus defining the city’s distribution. Secondly, the rest of the valley, the plateaus, are the famous bureaucracy space of Luxembourg, which resembles the working space which could be exactly regarded as the complement of the leisure space, the sectors. Thirdly, in terms of composition, the valley could be cognized as a mirrored sector, in which the horizontal fluctuating ground resemble the movable floor slabs and the vertical elevators and wells resemble the hollow columns.

A non-routine space requires a non-routine tool for analysis. Based on similarity between the valley and the sectors, we could derive a sort of valley grammar which is quite prominent in understanding and recomposing the valley. The valley grammar could be composed by 3 parts, the scale which is referred to the different levels of the elements and the manipulations, the elements which are the decomposition of the valley and the manipulations which are cartographic methods related to the valley.
The Valley Grammar: on Scale, Macro and Micro

Different scales require different types of elements and manipulations. For that reason, it would be convenient to clarify the scale. A prototype is not a presence until it is actualized in a certain scale.

In the sectors of New Babylon, the objects with different scales could function harmoniously together as a system, i.e., the macro structure, the super slabs and frameworks, which are somehow permanent, ensure the mobility and temporality of the micro structure, the ramps, stairs, chairs and tables.

Generally, in terms of scale, we could specify three levels, the urban level, the building level and the component level. In the sectors’ case, the chain of sectors as a system is at the urban level, the diverse blocks inside one sector are at the building level and the compositional columns and walls are at the component level.

These different scales which deeply impact architectural composition could also be found in recent Luxembourg City. Abstractly, the city center, the station area and Kirchberg, which are the representatives of three main urban texture, could be traced back to those different scales in New Babylon. The city center could be at the component level, i.e., the coexistent buildings as assembled components, the station area could be at the urban level, i.e., the chain system of sectors, due to its linear characteristic and Kirchberg could be at the building level, i.e., the diverse blocks contained within one single box.

To conclude, the notion of scales would not only help define different levels of composition but also remind us of the integration of those levels, i.e., how one basic element could be reflected in several levels thus creating the effect of self-derivation.  

In a former design named “shutter realm” of the author, the shutter, as the prototype, is reflected in the urban level, the building level and the component level.
The Valley Grammar: on Element, Field and Object

The 2nd basic aspect of the valley grammar is about field and object, which is related to Stan Allen’s classical comparison\(^2\) or early Peter Eisenman’s emphasis on generative grammar of Chomsky and later Peter Eisenman’s emphasis on folding of Deleuze.\(^3\) In the case of New Babylon, the field is related to the original urban fabric or the modified huge plans of sectors while the object is related to the separated and assembled blocks and components inside the huge plans. In the valley, the field is related to the horizontal fluctuating ground while the object is related to the vertical inserted tower-well system.

During the senior year of my bachelor period, I wrote an essay named *The Syntactic Structure of Architectural Space*, in which the basic elements are architectural components and then a language system is established in the component-assembled approach. To component, the operation could be reduced to its mechanic movement and each component is somehow independent from each other so that although assembled, the components do not have a definite semantic meaning.

On the contrary, the operation of fields is not mechanic movements. The semantic meanings are directly superimposed as two words are combined and a new meaning is then generated so the crucial point is not how to assemble, but what to assemble. Therefore, the movement is within the field, not outside it, not like in the object’s case. For example, from the perspective of the object, moving and rotating are in the same level as a line or a circle for they are both movements while from the perspective of the field, moving and rotating could be backtracked to a line and a circle as a verb is backtracked to its root as a noun, as a “how” is backtracked to its “what”. As objects, a column plus a wall could not generate any semantic meaning while a field with many columns plus another one with many walls could be somewhere with a certain atmosphere.

It is intriguing when different architects tried to illustrate spatial trace in two distinct approaches in terms of field and object. Peter Eisenman and Marcel Duchamp used the superimposition of squares to illustrate the dynamic process while Bernard Tschumi (*The Manhattan Transcripts*) and Louis Kahn (*Plan of proposed traffic-movement pattern*) used arrows as momenta to illustrate the same thing. The former one could be related to an object-based perspective because each square is independent from others in the observation only if you conceive them as a whole you can get the sense of movement while the latter one could be related to a field-based perspective because the arrows themselves are the holistic tendencies abstracted from the reality in which you cannot conceive arrows as substances.

A good valley grammar could illustrate the integration of the field and the object. In order to depict the integration, we may need to sort out a chronicle or a pedigree about the evolution of elements.

The first ideal model is Le Corbusier’s Dom-ino system, the columns are somehow permanent while the components on the slabs are changeable. So, the column structure could be interpreted as the Object while the slab structure could be Field. Besides, in this Dom-ino system, the structure itself is purely components.

---


The second ideal model is Louis Kahn’s “servant and served space”, specifically Salk Institute. In the section, it is obvious that the previous columns become huge concrete hollow columns while the previous slabs become huge concrete hollow beams. Besides, the structure itself is spatial.

Historically, the sector of New Babylon could be regarded as the third ideal model. The vertical structure here is also permanent while the horizontal changeable. But in this case, the structure itself is framework instead of blocks. Additionally, the column system could also accommodate more contents than just servant programs.

The fourth ideal model is Sou Fujimoto’s Primitive Future. In this case, Fujimoto abandoned the former models which are named as Nest that could be backtracked to Dom-ino system and promoted a contrary system which he called Cave. In fact, this Nest-Cave dichotomy could be traced back to the original Object-Field dichotomy with one side artificial and the other natural.
To conclude, it is clear that the filed-object system starts as pure solid structural components and ends with extreme spatiality, which endow the system with dynamic features in terms of composition. Also, we could speculate that as the fifth model, the valley could be more spatial and dynamic. The valley as the final model would be proposed at the end of the essay.
The Valley Grammar: on Manipulation, Mapping and Sectioning

The former aspect is mainly about semantics or the basic characteristics of the elements while this one is related to grammar, or organizational rules.

In his book The Power of the Center, Rudolf Arnheim mentioned two spatial systems, centricity and eccentricity. To him, these two compositions are systems in terms of visual dynamics, but this pair of concepts is more interesting because it could introduce a classical prototypical pair of concepts in architecture. There are many dichotomies in architecture which could be classified into this prototype, like mapping and sectioning, and superimposition and juxtaposition.

Cartography is the description of the field. Mapping and sectioning are two general approaches of cartography. Mapping is usually from the plan perspective which is often beyond the intuitive perceptual range while sectioning is usually the slice perspective which is often too paranoid thus losing the overall balance.

However, this distinction is in terms of 2-dimensional cartographic projection while in order to form a 3-dimensional intuitive presentation of complexity within the field, we have to integrate mapping and sectioning. Based on this aim of integration, we could say that the relationship between mapping and sectioning is that every line in the mapping is a section. In this way, mapping could be the catalog of sectioning and it is a collection of specified notations. Following every line in the mapping we can find a sectioning.

To illustrate how this mapping-sectioning pair works as a manipulation, the first drawing about the planning principles of New Babylon, Principle of A Covered City. Spatial “Plan” could be a convincing example. In the mapping, there are many sets of parallel lines intersecting with each other covering the whole site, which illustrates the complex relationships of the numerous parts in the field while every line in the mapping could definitely generate a sectioning.

The map of New Babylon mainly applies mapping as a method while Rem Koolhaas’s diagram of Parc de La Villette illustrate sectioning as a main method and mapping as the catalog of sectioning. In the diagram, sectioning is not only the method but also defines the whole strip-layout of the project.

---

Unlike cartography, architecture is the interpretation and operation of the field with some objects. Superimposition and juxtaposition are 2 general approaches of compositional exploration in architecture while other approaches, like intersection, could be regarded as the in-between status of superimposition and juxtaposition.

There are some classical intriguing compositional modes which could be traced back to superimposition or juxtaposition. The concentricity of Louis I. Kahn’s Mandala, the inscription or superposition of Peter Eisenman and masking, which is usually the visual subtraction, could be the variations of superimposition while listing, as the table of typology, or the assemblage of heterogeneity, and layering, as a geological metaphor, or “the façade as the section”, could be the variations of juxtaposition.

From another point of view, superimposition and juxtaposition could be the manipulation of production of unity and multiplicity, or homogeneity and heterogeneity. As a structure, juxtaposition could be related to the typological listing while superimposition is not just the repetition of the same type of element, it is related to the concentric self-renewal structure, i.e., each time a new element is superimposed, it is soon integrated in the understanding of the whole composition. Through this lens, it is interesting when we found that in Christopher Alexander’s pattern language, everything is organized separately in a listing approach while in the sector New Babylon, everything is integrated together so that a new sort of oneness is formed. Juxtaposition would not be compressed and sublimated until superimposition is implemented. In this way, superimposition is the zip-format of juxtaposition, as mapping as the catalog of sectioning.

To illustrate how this Superimposition-Juxtaposition pair works as a manipulation, the map of Yellow Sector could be a convincing example. In the map, as mentioned before, there are many blocks of different types, which apparently could be Juxtaposition while inside of some of the blocks, there are obvious concentric structure which could be Superimposition.
In the composition of Yellow Sector as a whole is mainly Juxtaposition while the partial compositions are Superimposition. On the contrary, in Louis Kahn’s plan of the national assembly of Bangladesh, the whole composition is Superimposition while the partial is Juxtaposition.

To conclude, mapping and sectioning, as a method at the macro scale, corresponds to the field while superimposition and juxtaposition, as the method at a micro scale, corresponds to the object. These 2 methods together form the system of manipulation for the valley grammar.
Conclusion: Towards A Non-routine Space

The concept of non-routineness is close to that of the suspense in those suspense movies which endow fame with Alfred Hitchcock, David Fincher, Christopher Nolan, etc. Romantic movies are related to love, action movies are related to fight, but suspense movies are not specifically related to its content. In many suspense movies, there are conspiracy and murder, but even the warmest and softest movies could be full of suspense because suspense movies are what they are mainly because of the tricky form. Reversed narrative structure, defamiliarization of usual image or different sorts of montages, are effective ways of plugging in suspense and because of these unusual arrangements in terms of form, the audiences could feel the subversion of conception after going over the film.

Similarly, in architecture, we could distinguish the two sorts of spaces, non-routine ones and routine ones. Like suspense movies, non-routine architecture is also related to the refreshment of conception by the manipulation of form. In Peter Eisenman or Rem Koolhaas’s drawings, we are often attracted by their intriguing form, not the content. It is the angle of observation that makes these drawings intriguing. On the contrary, in architecture, there are mainly two tendencies that could be named “routine”. The one is functionality or technology through which we would settle things down and get certainty, not suspense. The other is the physical aesthetics which promotes exquisite way of designing building details, in which it is the sensuous organs that are pleased instead of the cognitive or intellectual ones.

Taking the physical aesthetics into account, we could specify a series of atmosphere, which could be the content of routine designs. But the non-routine designs could have a “flavor” as well, i.e., the dystopian atmosphere. Although the manipulation of cognitive form seems abstract, rational and segregated from human feelings, the tendency itself is built on the skepticism of human’s mind. A drawing which advocates routine and certainty could be labelled as the drawing for now while a drawing which advocates suspense and uncertainty could be labelled as the drawing for the oncoming.

Therefore, the significance of the graduation project is not only a specific building in a specific site, i.e., routineness, but also a universal way of perceiving and conceiving architecture, i.e., suspense. That is why and how the valley in Luxembourg City could be a field for the non-routine space. Based on the valley grammar proposed in this paper, the potential might be more easily to fulfil and the result could be presented more logically. Therefore, we could have a brief speculation about the valley as a project.

In terms of the field-object pair about elements, the project could somehow be conceived as “a reversed New Babylon”. Due to the amazing topography in Luxembourg City, the fluctuating terrain with some natural and some artificial could be the field while the potential plug-in tower-well system could be objects. But unlike in Corbusier, Kahn and Constant’s cases, the field now is more permanent while the objects are more uncertain.

In terms of the mapping-sectioning pair about manipulation, the project mainly relies on sectioning as a method, which clearly shows what sorts of modification have been made on the original field and how the objects added respond to the new field. As a complement, mapping could not only be a catalog for sectioning but also function as an indication for the potential activities and programs and illustrate how this project works as a holistic system in the macro scale.

---

The Valley Grammar – The Valley in Luxembourg City as a Non-routine Space

A Reversed New Babylon
Bibliography


"On Exactitude in Science"

“... In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast map was Useless, and not without some Pitiessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.” -- purportedly from Suárez Miranda, Travels of Prudent Men, Book Four, Ch. XLV, Lérida, 1658


