Reflection
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Studio Explore Lab 19

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This graduation project is both an in depth study as a representation of a personal interest in the topic of composition. This fascination sprang from courses offered by the chair of Form & Modelling studies whom introduced me to themes such as repetition, balance, proportion and harmony. Graduation in Explore Lab provided me the opportunity to research this fascination and to formulate an individual design project. In this reflection I would like to summarize the outlines of the research and its conclusions, state my opinion of how these principles are interpreted anno 2015, explain how this determined my design attitude towards the project and I will visualize how the research is reflected in the design. I conclude with the relevance of the research and design to the current practice of architecture.

Research outline

The research is an attempt to provide a better understanding in composition assuming that this leads to an architecture which is not merely a functional elaboration of program requirements but a well composed design in which functional and technical elements are taken into account.

The research compared the Ecole des Beaux-Arts (1819-1968) and the Bauhaus (1919-1923) on how these schools acquaint the students with the topic of composition. The research informs on the specific timeframe and pedagogy of both schools, followed by the composition lessons taught in class, composition theory as written in handbooks and the exercises the student had to conduct to cultivate their sensibility for composition.

Research conclusions

Although Beaux-Arts and Bauhaus are regarded as two opposites because of their difference in architectural style and pedagogical concepts, there are many similarities in their composition principles. This means that the effects of the industrial revolution - new materials and techniques - and the changing society altered the interpretation of certain principles but remarkably did not contradict the general outline of the principles. Following pages visualize the eight principles as stated by the two school and additionally state my opinion of how these principles are interpreted in our society anno 2015.
Order
relationships between the elements

Beaux-Arts - to be studied in the program
Implicit principle // Order should be sought by establishing the correct relationships between the elements, to be studied in the program.

Bauhaus - to be studied in nature
Implicit principle // Order should be sought by establishing the correct relationships between the elements, to be studied in nature.

Anno 2015: the relationship between the elements is studied in the square meters from the program sheet. Students start the design process with cutting out the outline of the volumes asked for and start shuffling them around. The final composition is often a direct translation of this functional approach.

Proportion
the relation between parts

Beaux-Arts - based on classical proportion systems
Implicit principle // The correct relationships between the elements should be established by proportion, based on Classical proportion systems.

Bauhaus - based on proportion systems of nature
Implicit principle // The correct relationships between the elements should be established by proportion, based on proportion systems of nature.

Anno 2015: the relationship between parts is based on standardized dimensions dictated by the building industry. The word proportion doesn't qualify anymore.

Even though the Bauhaus does not directly admit it, their proportion system is similar to that of the Beaux-Arts since the Classical proportion system is also based on nature.

Anno 2015: The relation between parts is based on standardized dimensions dictated by the building industry. The word proportion doesn't qualify anymore.
Architecture resembles the prevailing form of governance of the society. Over the years society has become less hierarchical, which led to a preference of asymmetry over symmetry and dynamic over static. 

**Anno 2015:** The state of equilibrium is submissive to the composition based on the square meters study of the program. The preference of asymmetry over symmetry and dynamic over static is still apparent.

**Balance**

A state of equilibrium

2015 - by square meters as stated in the program

With the introduction of new techniques and materials, the expression of materials became more important. Bauhaus not only focused on proportion, but material, color and form were equally important. While harmony is of major importance for the Beaux-Arts - representing the static, for the Bauhaus this principle is inseparable from the principle of contrast - representing the preference for dynamic.

**Anno 2015:** the relationships between the elements and the whole is rather based on color and material than on proportion.
This principle gained a lot more importance in the Bauhaus. The Bauhaus aimed for a definite expression based on both harmony as contrast, since harmony on its own was considered too static. With the emerging preference for dynamic, the greater importance given to the principle of contrast is inevitable. Anno 2015: the juxtaposition of elements is sought in proportion, form, material and color - but often overruling the principle of harmony and therefore resulting in a non-balanced composition.

Due to the industrialization there are a much more construction possibilities - construction doesn’t have to span symmetrically anymore. As a consequence the grid can function as a layer to organize the elements but does not have to be a literal copy of the final construction pattern.

Anno 2015: The arrangement of elements is organized by a grid often based on standardized dimensions dictated by the building industry.
<table>
<thead>
<tr>
<th>Rhythm</th>
<th>movement which connect the elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaux-Arts</td>
<td>- by symmetrical axes (static)</td>
</tr>
<tr>
<td>Implicit principle // Rhythm should be sought to establish movement that connects the different elements, by symmetrical axes.</td>
<td></td>
</tr>
<tr>
<td>Bauhaus</td>
<td>- by the flow of spaces (dynamic)</td>
</tr>
<tr>
<td>Implicit principle // Rhythm should be sought to establish movement that connects the different elements, by the flow of space.</td>
<td></td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>- by the flow of spaces &amp; standardized dimensions</td>
</tr>
</tbody>
</table>

Because the composition isn’t ruled by symmetrical axes anymore this enables the spaces to flow more, preferred over space which is bounded as entities between construction.

**Anno 2015:** the movement which connects the elements is established through the flow of spaces, and related to the standardized dimensions which determine the arrangement of elements. In this two-folded attempt the outcome is often more static than intended.

<table>
<thead>
<tr>
<th>Elegance</th>
<th>idea of essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaux-Arts</td>
<td>- by truth of construction and arrangement</td>
</tr>
<tr>
<td>Implicit principle // Elegance should be sought to arouse the idea of essential, by truth of construction and arrangement.</td>
<td></td>
</tr>
<tr>
<td>Bauhaus</td>
<td>- by inherent properties of material</td>
</tr>
<tr>
<td>Implicit principle // Elegance should be sought to arouse the idea of essential, by the inherent character of materials and form.</td>
<td></td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>- by efficiency</td>
</tr>
</tbody>
</table>

**Anno 2015:** the idea of essential is often interpreted as efficiency. The construction - and therefore arrangement - is subject to the possibilities of the machine, which is subject to amount of material and costs. Unfortunately, in reality, low costs and minimal resources are often more decisive for a design than truth of construction.
Design attitude
Composition is the principal theme throughout the design project. As the design process progressed I formulated my personal position towards the various composition principles that served both as starting points as evaluation criteria for the design. Some interpretations of the principles are more outspoken than others, since not every theme is equally important in every project.

Order /

Proportion The correct relationships between the elements should be established by proportion, based on the proportion systems of the golden ratio. [...rather than on the standardized dimensions dictated by the building industry]

Balance Balance should be sought by asymmetry. [...rather than solely translating the square meters as stated in the program]

Harmony Harmony should be sought by establishing the correct relationships between the elements and the whole, by proportion, color, tone, form, etc. [...and should not be overruled by the principle of contrast]

Contrast Contrast should be sought by juxtaposing different elements, to establish a definite expression. [...and should not overrule the principle of harmony]

Pattern /

Rhythm Rhythm should be sought to establish movement that connects the different elements, by the flow of space.

Elegance Elegance should be sought to arouse the idea of essential, through tectonics.
How the research is reflected in the design

The design brief [treasury] and location [open park] are fairly flexible and therefore enabled me to focus on the principal theme of composition.

_proportion_

_balance_

_harmony_
**contrast**

Note: reflection of research in design will remain an ongoing process till P5.
Relevance of the project in the current practice of architecture

In my graduation project I hoped to show the relevancy of composition within a design project. Of all the various design approaches that have been taught in Delft, the theme of composition is barely covered. In my opinion lessons focused rather on programmatic and technical requirements than on composition. Even the actual design projects are more likely to be judged on parameters which are easier to value through objective standards. Composition may be considered too vague, un-teachable or too subjective, nonetheless it is intrinsically linked to architecture.

The aim of the graduation project is to provide insight in a topic which is often regarded as personal and subjective and therefore difficult to assess. Exposing the topic of composition in eight principles enables the designer to take position, so that during the design process one can judge also on criteria based on composition. In this design attitude esthetic values and utilitarian values are developed in coherence.