Reflection P4

Back to nature
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Fascination
As with all projects in ExploreLab my research and design grew from a fascination. In my case a fascination with vegetation and how it could be integrated in architecture. At first this fascination was very one-sided and limited itself to plants and trees. However over the course of the past year my fascination broadened and changed. Instead of randomly drawing vegetation in interior spaces I wanted validation for the integration of nature in buildings.

Research
In search for this validation I reached to other scientific fields such as psychology and neurology to find out how nature could benefit people. I quickly discovered the research of Roger Ulrich and Stephen and Rachel Kaplan on stress restoration and attention restoration, which became the foundation for my research.

However merely knowing that nature affected our psychological wellbeing was insufficient. In order to fully understand the effect nature had on people I broadened my scope to neurology and the senses we use to perceive the world around us. In examining the literature on stress, stress restoration theory, attention restoration theory and our sensory systems I found an explanation for why nature affects us.

A major part of the research focused on finding out how and why nature affected us and while these findings were translated to architectural constructs, among others through case studies, I left opportunities untapped.

One of the reasons for this is that my fascination mainly focused on vegetation as nature. It took time for me to broaden my horizon and see nature as more than vegetation. Once I included for example weather, water, order and coherency in my concept of nature many more ways in which architecture could increase the psychological wellbeing of people were revealed. This realization however did not fully occur until I properly started my design and the spaces within the design.

The case studies, were a valuable addition in understanding how the abstract and theoretical information could be translated into viable architectural themes, strategies and tools. In hindsight I should have analysed how the architecture created the restorative environments instead of simply noting that certain elements were part of a restorative environments.
While there are points on which I could improve the conclusions in the form of themes, strategies and tools, they are a successful first attempt and have proven very valuable in the design part of my graduation and are even more valuable as a learning process.

**Design**
The design aspect of my graduation deals more with the second part of my fascination. First how vegetation could be integrated in architecture and later how nature could be integrated in architecture in order to create restorative spaces. As my understanding of the literature grew and my fascination broadened, my design changed with it. It started out as a representation of a building with decorative plants and trees and now reflects other aspects of nature that were revealed in the research in a more profound way.

One of the original focuses for the design was for it to be a test case for the toolbox. While this is still true, the feedback link with the toolbox is less strong than I anticipated due to the length of the research and the length of the design process.

The choice for designing a high-rise tower is one I both relish and rue. On the one hand it pushes the boundaries of my comfort zone and it was something I had been wanting to try my hand at for a long time, while on the other hand it presents difficulties that are hard for me to grasp. One of those difficulties is the sheer size of the project.

The size of the towers with the three functions left me wandering in the design process. For a long time each of the three functions and as such each of the three building parts left me jumping around. One minute I would be working on the waist of the building the next on the top and the third minute I would be working on the foot.

In order to counter that I started to see each of the functions as separate “building” that had little influence on each other. As such the design for each of the “buildings” was thoroughly disconnected from the other. It took a long time for me to take a step back and to start at the beginning while structurally working towards the end. Once I structured the design process, pieces that previously seemed disconnected fell into place.

While size is one aspect that made for difficult sailing, the choice for three double curved volumes presented another one. While many of my previous projects deal with curved and spherical volumes this one has presented some unique difficulties. Neither plan, section, nor computer model allowed me to fully grasp the spaces I created. While I had a dislike for physical working models I folded under the pressure and found them to be an invaluable tool in visualizing the spaces. Not only for myself but also for others.

As a consequence of these difficulties I found myself thinking in problems rather than opportunities. For a time I focused on the structural aspect of the project trying to find a load bearing structure that would support the volume without changing it too much. In this I avoided other areas of the building. Due to this thinking in problems, design ideas often failed before I tried them, simply because I implemented them in the most obvious of ways. After I came to grips with the size and the spaces through structuring the design process and the physical models, many of the ideas were revisited. Since I understood the spaces better many of the ideas that did not seem to work before now fit better.
Among these ideas are the vides, for weeks I struggled with them and their wedge shape until the 1-50 model started to take shape and I found another way to implement them. In the 1-50 model the radial structure was less dominant allowing me to see past the wedge shapes and create a large vide that did not resemble the pie shapes while using the full potential of the loadbearing structure.

Another example is the second skin façade. While the first attempt was simply the result of a 2d plan, the second attempt used the strengths of the spaces created by the structure of the building and the vides. Once again the physical model allowed me to push further. Instead of merely an in-between space it now hold the potential for large restorative spaces.

I had a similar struggle with the need for repetition to safeguard the buildability while the restorative spaces demanded a certain contrast and continued change. By seeing repetition as a strict copy-paste action I ignored the conclusions of my research which concluded that a change in scenery/perspective was necessary to attain a restorative state. The strict copy-paste action on every floor level ignored this change in scenery, yet by rotating each floor the view changed thus ensuring buildability and changing views.

Social context
While my fascination became broader, my concept of nature changed, and the design is different from what I anticipated, the idea behind my graduation project has not changed. I wanted to find ways to integrate nature into building in such a way that it was not merely decorative but served a greater purpose. I found this purpose in the directed attention and stress restoration.

Modern day life demands more and more of our attentional capabilities and provides copious amounts of psychological stress. In one degree or another every human being suffers from this. When directed attention becomes fatigued it is difficult to concentrate, as such everyday chores take longer and work gets done less well. Sustained long term stress can leave people sick and can eventually result in death. However even short periods of stress already reduces one’s effectiveness.

Finding ways in which directed attention can be rested and stress relieved can result in better concentration spans, more effective working and an overall better physical health. Thus the importance of creating restorative spaces near workplaces and homes becomes clear. Since soft fascination such as nature has a universal restorative effect on people, integrating nature in buildings improves one’s health.