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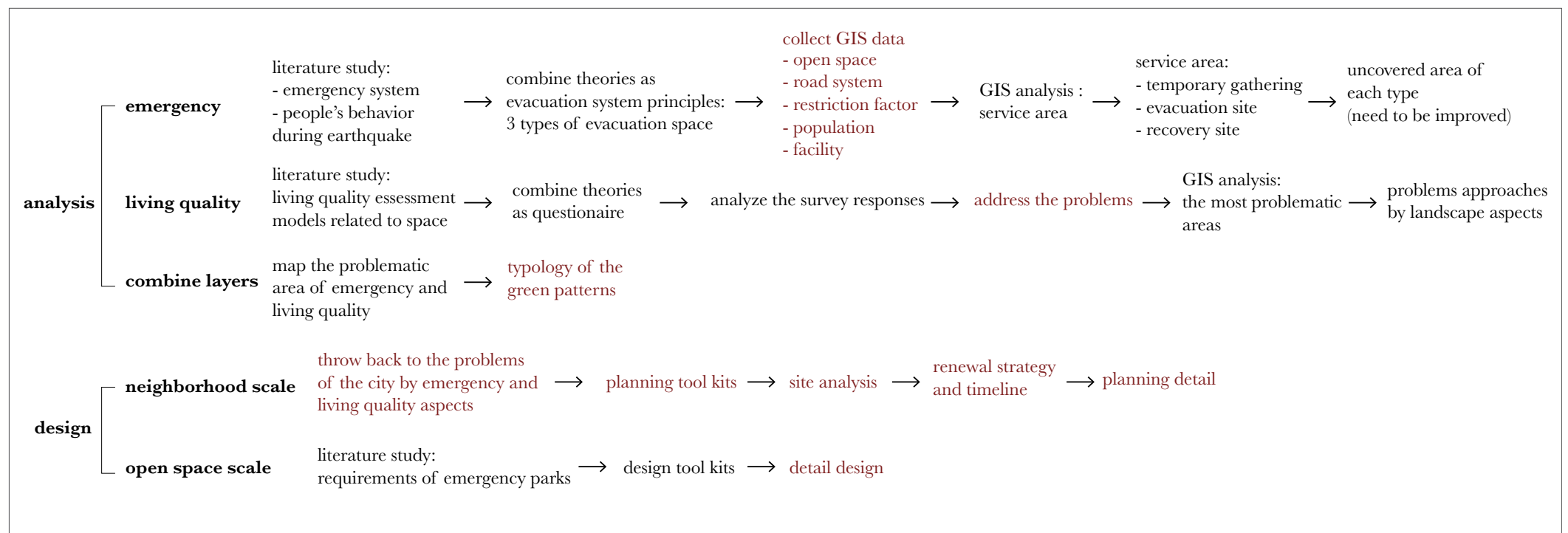
- Conclusion
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REFLECTION

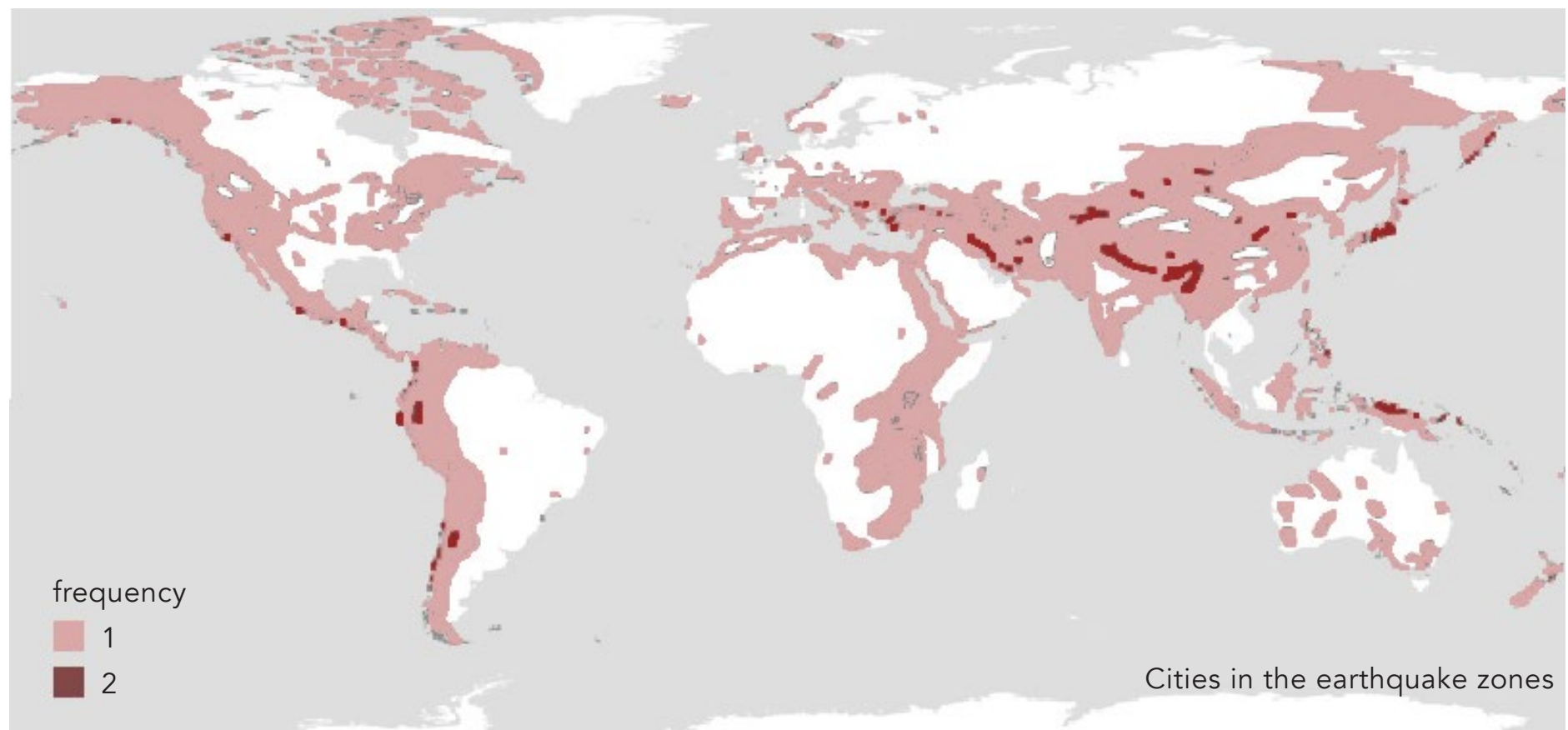
How can we apply these design principles in different cities?

Earthquakes always cause dramatic problems in cities in the earthquake zones; therefore, it is crucial to design these cities with this awareness in mind. This project explores a new design thinking of open space distribution for both emergency and in normal life. During the process, the thesis provides the possible ways to measure and analyze the current open space and design interventions to approach the goal.

As a result, the first step of this thesis reflection is to run through the whole process of planning and design, in order to find the general principles which can be applied to other cities. The process and methods that were used are shown in the flow chart below:



Since all the principles are collected through scientific methods, the work flow is valuable for other sites. However, the site specific data (label as red in the chart) can be different in different cases.



Did the design answer the research questions?

The main design question in this thesis is: what are the landscape interventions that can create a safe and livable city? Afterwards, this question led to three sub-questions, which are answered in short below:

1. What is the open space system for evacuation during the earthquake?

Open space system for evacuation can be divided into three types: temporary gathering site (0-3days), evacuation site (3days-1month), and recovery site (>1month). Different types of open space have their own requirements due to different situations and time periods. Also, the routes, facilities and restriction factors around the evacuation space are considered as well.

2. What kind of open space system in Taipei City can improve citizens' living quality?

By literature research and survey, the spatial quality problems are organized and they can be solved by two strategies: urban renewal and green infrastructure. Therefore, by analyzing and making scenarios of the problematic areas, the landscape is formed.

3. How to combine the emergency and living quality layers to create a safe and livable city?

Mapping the two layers allows to define a series of typology that shows the locations and features of the landscape improvements. Also, the mapping declares the requirements design principles for both situations. With these informations, the designs can be zoomed into spatial levels, to apply the principles for both emergency and living quality.

Relevance

Flowscape studio

This project was conducted as part of “Flowscapes”, the one-year graduation studio of the MSc Landscape Architecture. The studio addresses landscape architecture design of green, water and transport infrastructures, considering them as armatures for urban development and for facilitating functional, social and ecological interactions. (Study Guide of the MSc Landscape Architecture TU Delft, 2018-19) This graduation project is focusing on the earthquake, which causes dramatic “Time Flows” as well as renewal process during the time.

Future proposals

Earthquake is an unpredictable natural disaster that will happen in the countries located in the earthquake zone. Therefore, it is crucial to reduce the damage as less as possible. This project can be thought as a beginning of rethinking open space, which should be considered not only for leisure but also an important role of evacuation systems, as well as the possible workflow to approach this goal.

However, due to the time limitation, it is impossible to apply the principles and fit to every specific area. Also, to form a quake-proof city by only open space improvement is not enough, the building structures, water systems, back-up electronic systems etc., also need the experts to be aware and involve. Therefore, this project is considered as a starting point, the proposed principles and designs can be used as tools for further updates and researches.

Lessons learned

During this one-year research and design process that led to this thesis project, several theoretical and practical issues, as well as the design process contributed to observations and new knowledge. The most important ones are presented below:

The evacuation system

The notion of reducing damage during earthquakes by open space aspects consists the main theme of this thesis; therefore, it is crucial to firstly set the standard for it, in order to continue with the analyses and design proposals. An emergency system, however, is much more comprehensive than I expected. It includes many different factors in space as well as time dimensions. In order to analyze, I tried to use ArcGIS to build some models and did experiments on them. In the end, I managed to apply all the factors I could find and imagine, and make them link with each other by formulas to define the system. Most importantly, during the experiments, I have learned the methods of collecting and building such a massive database.

Layers-mapping design

At the beginning of the project, my concept was only about earthquake situation and related issues. However, I realized open space should not only serve evacuation purposes, it is also part of our daily life. As a result, I tried to add the scenarios of improving current living quality and mapped the findings together as final products. During this whole year, this project has taught me to think not only vertical approaches but always think about horizontal aspects while dealing with designs.

Analysis, Planning, and design

Due to my background as a landscape architect, I seldom deal with such big scale projects, and that was part of the reason I chose this topic. During the process, I have improved my skills of making bigger scale designs, zooming into the detail design smoothly, as well as the way to make the project more relevant on the different scales.

On top of this, because of this project, I have learned more about the whole process of spatial design, and am more able to consider about user's spatial experiences in space.

Final products

Finally, answering the questions my tutors asked me one year ago: "What do you want to learn in this year? What is the final result that you are expecting?" I remember my answers were: "I want to be able to use this year to explore more about my own city, and I want to learn how to use different medias to translate my ideas to the audiences."

Now, I really understand more about my cultures, histories, and also the problems that my city is facing; besides, I am now able to make videos in 2D and 3D interfaces to explain my ideas in more entertainment ways.

Comparing my qualities and abilities between now and a year ago I am very happy with my achievements. I really enjoyed the process and the results of this year!