ERIC ALEXANDER ROTH



Eric Alexander Roth

Vertical Gardens



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Short Foreword

Hello, everyone. My name is Eric, and this brochure is the result of a school research project carried out during March and April 2020. In that period, as a result of a pandemic-related lockdown, all of Spain's 6.3 million under-14s (me included) had been confined indoors for 6 weeks.

Unable to even take short walks outside for such a long amount of time, I was somehow exposed to a situation that made me realise how much the climate impacts our homes and, subsequently, our lives, on a day-to-day basis.

Therefore, using some concepts from the Natural Sciences book, I've managed to understand and explain some really interesting situations, such as the temperature differences between various rooms in our house.

Later on, after a relatively long and extensive research, I've felt that I've gathered enough information in order to come with a solution to the temperature difference problem. And this solution was to improve the thermal comfort inside our house, through the use of vegetation. And slowly evolving from this concept, the idea of planting and grooming a vertical garden took shape.

With this said, all that's left is for me to hope that you will enjoy reading this research paper and, why not, improve it with even better suggestions. But first, let's see what I found on my own...



I don't know about you, but I live in a relatively big city. This means that with temperatures reaching 40° Celsius, summer days in here can be *extremely hot*. And, unfortunately, open spaces such as streets or squares are most *uncomfortable*.



So, in order to make our cities a better place to live, the most obvious solution is to "green" them, by planting new tress. But, albeit simple, this solution is not so easy to put into practice. Mostly because some cities (mine included) have only little land space to plant new trees...



To find a solution, I started doing some research together with my father.

After we gathered lots of material and made lots of plans, we decided to go out and do some interviews with various *professionals*. We realised that they could help us assess which of our ideas are the most realistic.

And, in short, these is what various professionals told us:

Architects and engineers:

 It is good to give a purpose to unused spaces such as roofs, terraces and walls!

Horticulturists:

- In reality, is not impossible to have urban forests. There are many species of small trees that can be planted on vertical rails or on roofs!

Gardeners and biologists:

- This is also true for many species of plants! As you have already

discovered, the fact that plants transpire, can really help with the

cooling process. However, just don't forget that plants need a lot of water, and that you must find a solution to this problem before setting up your urban garden.







After analysing all these ideas and facts, my father and I reached a conclusion: namely that we can "green" our city by creating some roof gardens (build on the few available roofs) and many vertical gardens (built upon the much more common and much more emptier walls).