

Urban Farming Office

Vo Trong Nghia Architects – Ho Chi Minh, Vietnam – 2019

Artefact 1 – 568 Words



(1) Top Left: Building exterior from street level. **(2) Bottom Left:** Building interior. **(3) Right:** Façade detail. All images sourced from **VTN Architects** as in Works Cited.

<https://vtnarchitects.net/vtn-architects-head-office-urban-farming-office-pe189.html>

The Urban Context

Cities have been a site of limited biodiversity and high environmental impact since their conception (Breuste et al. 16, Müller et al. xv). Humans are the start and end of living considerations, and the absolute minimal needs of the majority of those people are often the target for developers, other living things merely forced to fill the gaps left by us (Müller et al. xv). Scavengers reign the space below us, rats, cockroaches, pigeons, monkeys and ants to eat what we don't. In the cracks of the city, moss and mould cling to the areas not blistered by burning sun and wind reflected down glass chasms. To keep humans alive and moving, air-conditioning and cars crowd our roofs and streets, pushing out all other life save for pets and leading to up to 80% of our urban surfaces being sealed (Breuste et al. 16). This ecosystem entirely relies on spaces around it to survive, draining neighbouring areas of water, power, food, and eventually land (Müller et al. xv).

Cities are not leaving us, in fact they are only getting larger. However, along with a similarly growing tide of examples, 'Urban Farming Office' shows us that they can be better. By transforming them into a self-sustaining ecosystem they can better meet the needs of both the world we live in and ourselves. They can be truly living organic spaces.

Both the increased stability and reduced long-term cost of organic cities could help us on a global scale (Breuste et al. 165-171). They can better handle the growth implicit in urban sprawl, and reduce demands on neighbouring areas. Most of all they make our spaces better to live in, turning our most stressful, choking areas into lush, bustling hubs of life.

Feeding a City

Built in response to growing manufacturing-focused urbanisation in Ho Chi Minh City, 'Urban Farming Office' is another in a long line of VTN Architects' ventures into integrating plants into our everyday spaces to offer solutions to modern problems.

It consists of a simple open-structured building, not atypical of a standard city office, wrapped in a blossoming green façade. The plants within create a diverse range of local food while naturally filtering and cooling the building. The purpose of this is threefold, providing safe food, creating a comfortable environment, and reducing energy consumption (VTN Architects). All of this while vastly increasing biodiversity in the city, with 190% the green area of an equal size of farmland.

The planters are designed to be modular, able to be moved, changed and replaced as the plants themselves grow, change and die (VTN Architects). This in particular creates a space

designed both for the people within and the plants without, allowing natural life-cycles and establishment of long-term vertical permacultures*.

'Urban Farming Office' demonstrates a radical shift from more standard perceptions of an urban farm. As opposed to small, traditional farms between or atop established buildings, it invites the chance to embrace the benefits that urban living naturally provides by taking the farm into the vertical space. This allows the plants to happily enjoy the same benefits that the structures can offer us (in an ideal hypothetical); increased density, increased access to resources and care, and increased diversity.

'Urban Farming Office' is not a solitary creation. Along with many other works, it is a part of a wider movement to utterly integrate plants into the ever growing urban ecosystem to improve our health and the health of the world around us.

The living beauty of plants can improve our mental, emotional and physical health within an urban space if we allow them.

** 'permaculture' is a system of farming where multiple plants grow alongside each other in a continuous, supporting relationship year-round. This is as opposed to annual mono-crop strategies that are typically employed instead.*

Jewel

Moshe Safdie, RSP Architects, Planners & Engineers
Private Limited – Changi Airport, Singapore – 2019

Artefact 2 – 635 Words



(4) Top Left: Interior side view. **(5) Main Image:** Central waterfall. All images sourced from **Lubin** as in Works Cited

<https://www.domusweb.it/en/speciali/domus-air/gallery/2021/a-jewel-made-in-singapore.html>

The Cost of Life

A pervasive issue in the promotion of green building practices is the perception that such concepts are an exuberant luxury, as the cost to build and maintain them is far too high for any practical purpose (Block, Cortina-Segarra, Jordi et al. pp 10-14, Knox). While in many cases this is indeed a fallacy born from a fear of deviation from the norm (Means pp. 354), there are absolutely real causes for concern, especially when plants are involved.

Plants are independent agents. Quite unlike concrete and steel, plants have an agenda to survive. In a carefully considered design, this is their greatest asset; they actively resist erosion and wear and autonomously protect and upkeep façades, amongst other benefits (Means pp. 23). In an ill-considered design, however, these benefits meet their unfortunate companions; damaged surfaces, compromised structures, and an endless tide of upkeep and pruning (Christensen, TheB1M 7:47)

Indeed, planted spaces propose a unique challenge in design. They are heavily dependant on the surrounding environment, including neighbouring buildings, climate, and wider national ecosystems. Once again, this is both its blessing and its curse, allowing them to be an active part in the environment on local and global scales, and exposing them to the consequences of that. Because of this, living spaces cannot be mass-produced effectively. Creative use of modular and adaptable design with the aid of local botanists can solve this, but it is a tempting initial cost to avoid that comes with frustratingly practical loopholes to jump through.

For spaces with large upfront costs, it is far simpler to attempt to bend nature to the will of the design, as opposed to the other way around, and take what may in the long run.

Compressing Nature into a Jewel

The Jewel is a luxury space, and it has never pretended to be anything else. It is a hub for Changi Airport, acting as a grand spectacle to promote the facility and the 200+ retail shops within (Lubin). The gigantic water feature in its centre forms an axis for its relatively unique torus shape, complimenting a 360° backdrop of lush, living walls.

It is quite simply stunning, and a multitude of complex engineering barriers were overcome to turn it into a reality (Lubin). It evokes the fantastical feelings of awe usually reserved for natural wonders, and in many ways captures a utopian view of planted spaces; spaces which in and of themselves serve to fill the lives of people with natural wonder.

Herein lies its greatest caveat though; the Jewel is a fully managed ecosystem (Kaur, Zhang). First and foremost, it serves as spectacle. The cost of maintaining this includes regular and aggressive pruning – including specialist topiary, AI led mass cleaning, and pumping 10,000 gallons of water a minute to the roof, some of which needs to be imported from Malaysia (Enterprise Singapore, Zhang). It captures that natural wonder of our world by the supernatural, creating a grand illusion of a truly living space. It's an envelope of lush greenery within a vast desert of concrete.

That is not to say it does not have its place within the sphere of planted spaces. Rather, its place rests firmly in tourist attraction and luxury, proposing a fantastical model of an ecosystem to inspire wonder, being very well named indeed. In this way, it's incredibly important to evaluate the purpose and ongoing funds of a green building project, as the Jewel would be an entirely unsuitable model for a more practical, widespread application or one meant to integrate or restore a local ecosystem.

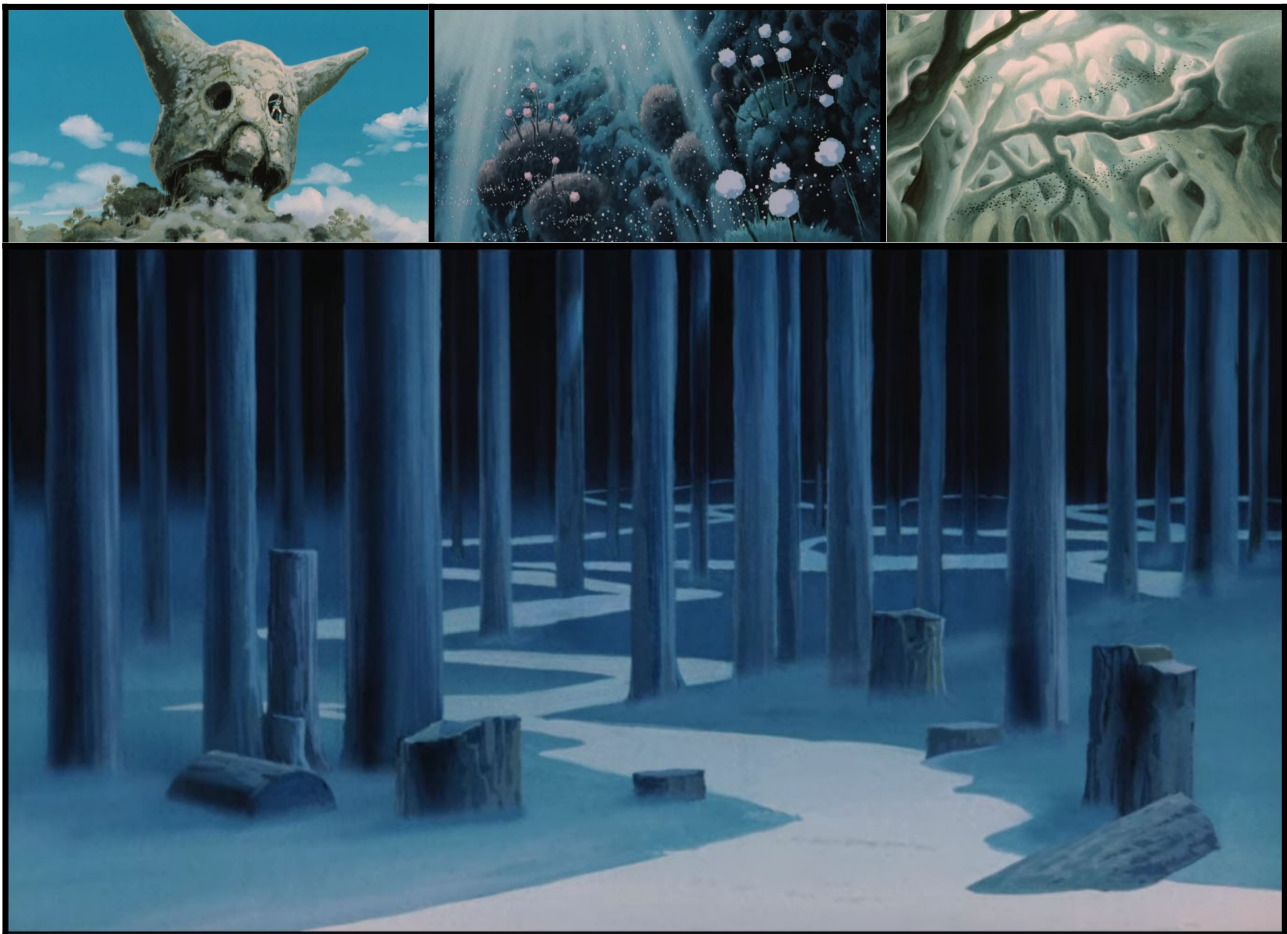
That being said, it's a proposal of a more dynamic space, where nature flows through our lives, not around it. With further refinements and more thoughtful integration of a surrounding space, it could be the first iteration on the blueprint of a truly natural city.

There is not enough water or money in the world to fill it with Jewels, but lest we lose sight of the wonderful in our pursuit of practicality.

Nausicaä of the Valley of the Wind

Hayao Miyazaki, Studio Ghibli – 1984

Artefact 3 – 633 Words



(6) **Top Left:** Ruined Ancient Warrior. (7) **Top Middle:** Toxic Jungle. (8) **Top Right:** Lower mycelium structure. (9) **Bottom:** Purified land below the Toxic Jungle. All images sourced from **Miyazaki** as in Works Cited.

<https://www.netflix.com/watch/70019062?trackId=255824129>

Nature as a Healer

Humans have had a profound effect on our environment since we have walked the earth. It is not remotely controversial to state that this has been decisively negative, contributing to species extinction, widespread soil damage, plastic islands, global climate change, and radioactive/heavy metal/noise/light pollution amongst other things (Jacobsen and Firor pp. 4 & 207-9). Not only has this had a horrible effect on our own quality of life, but it has harmed the biodiversity of our entire planet, degrading and finally destroying entire ecosystems.

And yet nature perseveres. In *Future Ecologies*, Adam distinguishes between three ecologies types; Cherished, Tenacious, and Audacious (Future Ecologies S3E1. 4:05). Cherished represents the ecologies that we actively protect and preserve, but Tenacious and Audacious persevere somewhat in spite of our actions.

Tenacious Ecologies have persisted before us and will likely to continue to exist after us. These are ecologies so gritty and/or inhospitable to us that in many ways we simply can't change or damage them even if we try. For example, emus in Australia are essentially beyond our ability to eradicate, save from total annihilation of Australia itself (Gore).

Audacious Ecologies, on the other hand, only exist due to our intervention. They combine distant, anachronistic plants, fungi, animals and processes into completely novel ecosystems that are specifically suited to deal with the residue of our actions. This includes native trees alongside foreign trees within the same ecosystem, representing a site that is both unrestorable and perfectly restored. These ecologies almost invariably have a positive effect on the nearby environment, purifying heavy metal contamination with turkey tail mushrooms and greatly recovering erosion with deep root systems (Future Ecologies S3E3 48:00).

Through Tenacious and Audacious Ecologies, it seems that life will find a way to continue in some form, regardless of our actions.

The Toxic Jungle

Nausicaä of the Valley of the Wind is a post-apocalyptic film unlike any other. Deviating from the norm of such a setting, Nausicaä's focus is on global redemption. It takes place in a hypothetical future of our world, where toxic jungles and arid deserts claim the surface and humans cling to life in sparse clusters of society. Both of these hostile environments are the result of a great war waged by extinct civilizations.

Our protagonist, Princess Nausicaä, collects spores from the toxic jungle and cultivates them in a particularly beautiful refuge called The Valley of the Wind, where the deep groundwater is spared from the poison of The Great War. Through this, we learn that the forest is serving a stunning purpose:

Much like turkey tail mushrooms collecting heavy metals from the earth, the 'toxic' jungle is only so toxic because it is a grand purifying ecosystem, reversing the damage done during The Great War. What appears to be a hostile, even malevolent force of nature is gradually shown to be the very thing worth protecting; it is the very thing that will eventually return all of the surface to life (Miyazaki 1:03:20). In some ways, it represents the perfect blend between Cherished, Tenacious and Audacious Ecologies.

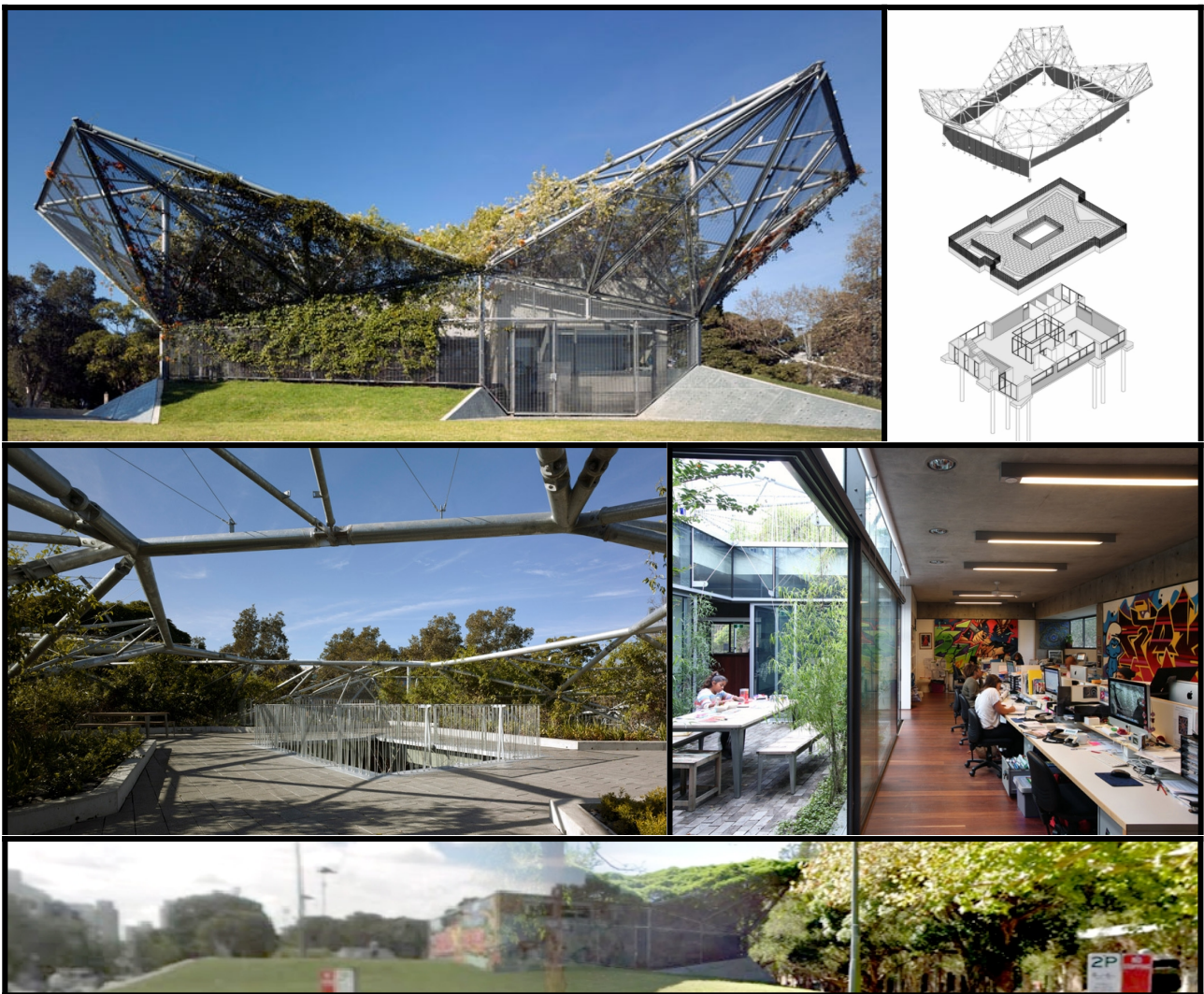
The main antagonist in the film is not the hordes of arthropods that aggressively defend the jungle, but the war-bound factions of Tolmekia and Pejite. Through their manipulation and destruction of the jungle, they cause it to spread with renewed vigour into settlements (Miyazaki 1:16:56). They then occupy the ones that survive to gain an edge over their enemy, including The Valley of the Wind. At the centre of this feud is the embryo of one of the Ancient Warriors from The Great War, which poses the greatest threat of all. In the end, both forces are decimated by each other and the Ancient Warrior destroys itself, but with Nausicaä's help The Valley of the Wind survives, along with those willing to give peace a chance.

Fundamentally, the film proposes a brutal yet optimistic view of our future; our planet *will* survive, the question simply remains if we will.

Waterloo Youth Centre

Collins and Turner – Sydney, Australia – 2012

Artefact 4 - 514 Words



(10) **Top Left:** Full exterior. (11) **Top Right:** Expanded isometric technical drawing. (12) **Middle Left:** 'Interior' roof view. (13) **Middle Right:** Central ground floor interior view. (14) **Bottom:** Site at 2007 vs site at 2021. Images 10 to 13 sourced from **Collins and Turner** and image 14 sourced from Google as in Works Cited.

<https://www.collinsandturner.com/architecture/waterloo-youth-centre/>

The Live[able] Space

The primary motivation for planted spaces in design tends to be how they can benefit us, usually in the short-term countable sense. Helping the environment and making sustainable ecosystems aren't factors that fit neatly into budget models. While this is somewhat narrow minded and short sighted, it is also entirely fair.

Money is more than just numbers on a spreadsheet, it represents our time and our effort; so if people, or rather the companies and councils that hold the keys to the resources, are asked to spend their money on anything then it needs to be worth it. If it's something that won't directly help them in a measurable sense then the answer will almost always be no, which has been a major barrier in traditional ecological restoration (Cortina-Segarra, Jordi et al. pp 10-14). One way around this is to try to directly count the human benefit of ecological restoration, as in Bodin et al. Another is to design a space that dissolves the very dichotomy of us and nature.

Design, and especially designing of planted spaces, is in a crucial position. If nature is made a pivotal in the structure of our lives, human needs and our environment's needs can be genuinely interlinked. The question isn't between conservation or progress, it's how can we do both? More-so than any other material, plants can protect our buildings and keep us cool, and do it for less (Means pp. 23). A few hundred willow sticks are better for erosion control than our finest concrete and steel (Future Ecologies S3E1 26:13). This is hardly surprising, as nature has been the home of life for some 500 million years, but it begs the question: what else can nature do better than us?

Making Space for [Young] People

Waterloo Youth Centre captures this idea quite well. What used to be a simple public toilet has been reborn as a highly functional space for Weave, a non-profit serving disadvantaged young people (Yudina pp. 24). In the realm of public service, this is clearly designed for people. The enrichment it provides for young people in the quality of the public space, a place where they have historically been excluded, helps them express themselves and feel connected to the human ecosystem within Sydney. In the realm of restoration, the design is far more subtle, and yet stark.

The large wire roof at the centre of the design is to be consumed. Much like natural succession, where an ecosystem becomes more resilient through replacing part of itself, the structure of the building has its own succession built in. As opposed to forming a rather brutalist sculpture, climbing and fruit producing plants "become an abstract and sculptural

green landform" (Collins and Turner qtd. in Yudina pp. 26), and turn the whole structure into a functional part of the surrounding land-mass. It produces food, creates shade, and most importantly it does so in a way that allows nature to take the lead.

For better or worse, we are the dominant life-form on Earth, but no creature can survive in isolation. Designing spaces where a sustainable ecosystem includes humans could finally break down the barrier between humans and the rest of our world, allowing for a fluid integration of nature into the world we have made.

25 Verde

Luciano Pia – Torino, Italy – 2012

Artefact 5 – 469 Words



(15) Left: Exterior Street View. **(16) Top Right:** Exterior façade. **(17) Bottom Right:** Interior courtyard path. Images 15 & 16 sourced from **Yudina** and image 17 sourced from **HomeDSGN** as in Works Cited

<https://www.homedsgn.com/2015/03/16/25-verde-an-amazing-urban-treehouse-by-luciano-pia/>

The Heart of the Problem

The barriers to planted spaces are fundamentally societal. Funding the ecological considerations of a project or city is often an afterthought, and is seen to be closer to charity than an integral part of the process (Cortina-Segarra, Jordi et al. pp 10-14). There are so many widespread benefits to be gained from integrating plants into our spaces, and certainly countless we haven't even explored yet, but instead of trying to change this many developers default to what has been done before (Means pp. 354). Modernism, a philosophy resting on anti-historicism, is now the widespread historical model for the vast majority of our modern buildings.

With this comes a further loss. Modernism is a brutally practical framework; it assumes a right answer, specifically itself as that answer, and deviation from that answer as wrong and immature. Better than right does not exist, and so the only thing to do is what's been proven right

This relegates planted spaces to flights of fancy; wild projects for those with deep pockets to throw their money at if they so choose. The Jewel is an example of such a space, where the design is so exuberant that it completely negates and even degrades its environmental impact by the inclusion of a fanciful water-feature and impact-first planting (Lubin). The whimsy inherent in the design is something only intended for spectacle, not the everyday.

To be practical is to be boring. No frills, no ideas, just cold hard facts and surfaces. Idealism has no place in the modern world.

Whimsy

Some would claim that 25 Verde is an exuberant, even childish design. It doesn't take itself seriously, unlike the hundreds of cream-coloured blocks that surround it. Instead, it actively invites a whimsical mind along with with frustratingly solid practical considerations.

The 200 trees across its surfaces, the curved, shingled walls and continuous insulation creates a microclimate, easing both heating and cooling of the whole building. Further, it is excellently designed to meet the specific needs of the area, combating noise and air pollution in one fell swoop and filling the available space with life. Each of the 63 homes within are also uniquely built, allowing each person to organically grow into the space and retain a slice of individuality in an otherwise aggressively industrialized city (Pia).

Most of all, it's a house that would make a child smile. The leaves on its trees dance through the seasons, rolling between blossoms and fruits and autumn leaves. The steel beams are not simply supports, they are the trunks of the building, hauling up its magnificent form. Despite still being somewhat reliant on cooling and other infrastructural aid, it feels as if the building itself can breathe.

25 Verde is not a perfect solution. No such thing exists. It is, instead, an invitation to imagine a better solution. It is an invitation to imagine a better, more whimsical city.

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