

# Only way *is up*

Cheryl Chu

**Inventor of the patented Vertical Garden,  
Patrick Blanc conquers world capitals  
with a green thumb**

Patrick Blanc. Such a simple name for such a Renaissance man. He is at once a world-renowned botanist, an artist, a professor and a Chevalier de l'Ordre des Arts et des Lettres. But if you were to truly describe him, then there is a picture which will be better than a thousand words. His 2013 sketch, 'Le mirage vert' for the Oasis d'Aboukir in Paris, says it all. Depicting the façade of the minimalist building with several windows, the 'green vision' maps out hundreds of plants that cover the entire face of the edifice – not just a list but a drawing with scientific names for all the species that were going to be positioned, complementing and contrasting with each other, and from the look of it, the direction in which they should grow was also clearly indicated.

Patrick Blanc, 对于这样一个多才多艺的人而言这个名字是如此平凡。他是世界知名的植物学家、艺术家、教授以及艺术与文学勋章拥有者。但如果你真的想要形容他，那么有一幅画胜过千言万语。2013年，他为巴黎Oasis d' Aboukir酒店创作的设计就是最好的诠释。这座设有几扇窗户的极简主义风格建筑上写有数百种植物的学名，不仅铺满了整个外立面，而是明确地绘画了每一种植物的位置和搭配，成为了一副令人目不暇给的画作。

Siam Paragon, Thailand







A little hard to imagine? Just go to Rue d'Aboukir to see his vision came true, just over a year after the sketch was made. So many shades of green cover the face of the building for a genuinely-vertical garden. There are not only greens in all shades and textures, but also yellow, purple, lilac, orange, dark red... And then the questions begin: how do you water the plants? how do they grow? will they take over the building or even cause structural problems (the perfect example being the Angkor Temples)?

稍微有些难以想象？到阿布奇街去看看他这幅仅在一年之后就草图变为现实的杰作。大片植物覆盖在这座建筑物的外墙上，形成了名副其实的垂直花园。这些植物的色调与纹理不仅只有绿色，还有黄色、深紫色、浅紫色、橘色、暗红色等等。随之而来的问题是：如何给这些植物浇水？它们是怎样生长的？它们会不会最终布满整座建筑或引起一些结构问题（就像吴哥寺那样）？



This page, top, Patrick Blanc among Johannesteijsmannia Altifrons, Singapore Botanical Garden, November 2012; bottom, Pont Max Juvénal, Aix-en-Provence, France. Opposite page, Hotel Icon, Hong Kong

The answer is in Patrick Blanc's patented design. The concept behind it will probably not shock seasoned gardeners, but for those of us less knowledgeable in botany, it is a stroke of genius. Having ventured during his college years in the rainforests of Southeast Asia, Blanc observed that tropical plants thrived on vertical surfaces – tree trunks, cliffs, caves, fallen rocks, waterfalls – without soil, but only with water and minerals. He explains to LUXOS: "The Vertical Garden structure is composed of three parts: a metal frame, a foamed PVC layer and a layer of felt. The metal frame is hung on a building's wall, providing a layer of air between the Vertical Garden and the building. This layer of air, the foamed PVC, felt and many layers of leaves all act as a very efficient thermic and phonic insulation system. The surface on which plants roots are spreading over is a felt made of polyamide. This felt is rot-proof and its high capillarity allows an homogeneous water distribution."

During the initial installation process, local plant companies are trained by a supervisor to learn about maintenance. The Vertical Garden should be irrigated from the top, and since water with a low concentration of nutrients should be used, recycled or gray water collected from air-conditioners and rooftops is ideal. Pollutants stuck in the felt layer are slowly decomposed and become fertilisers. Together with thousands of leaves, the Vertical Garden works as an air-cleansing ecosystem which also reduces energy consumption year-round by shielding the building from heat in the summer and keeping it warm in the winter.

答案就在Patrick Blanc的专利设计中。其背后的概念可能不会震撼到经验丰富的园艺师，但对于我们这些在植物学方面知之甚少的人来说，简直是神来之笔。Blanc在大学时期曾在东南亚的热带雨林中探险。他指出，热带植物会在垂直的表面上蓬勃生长-比如树干、峭壁、洞穴、坠落的岩石、瀑布-这些地方没有土壤，只有水和矿物质。他进一步向LUXOS解释道，“这座垂直花园的结构由三部分组成：金属框架、PVC发泡板层和毛毡层。金属框架悬挂在建筑物的外墙上，在垂直花园与建筑物之间提供了一层空气。空气层、PVC发泡板、毛毡以及多层树叶都充当着有效的热绝缘保温系统功能。植物根系蔓延在由聚酰胺制成的毛毡面上。这种毛毡是防腐的，而且其高毛细作用能让水分进行均匀分布。”

在安装的过程中，主管会培训当地的植被公司。垂直花园应当从顶部进行灌溉，因为需要使用营养含量较低的水，这样一来从空调或是屋顶收集而来的回收废水便成为了理想的灌溉用水。粘附在毛毡层中的污染物被缓慢分解并最终变成了肥料。垂直花园和数以千计的树叶一起成为了洁净空气的生态系统，同时也减少了全年的能源消耗，在夏季能为建筑物遮蔽热量，并在冬季起到保温作用。



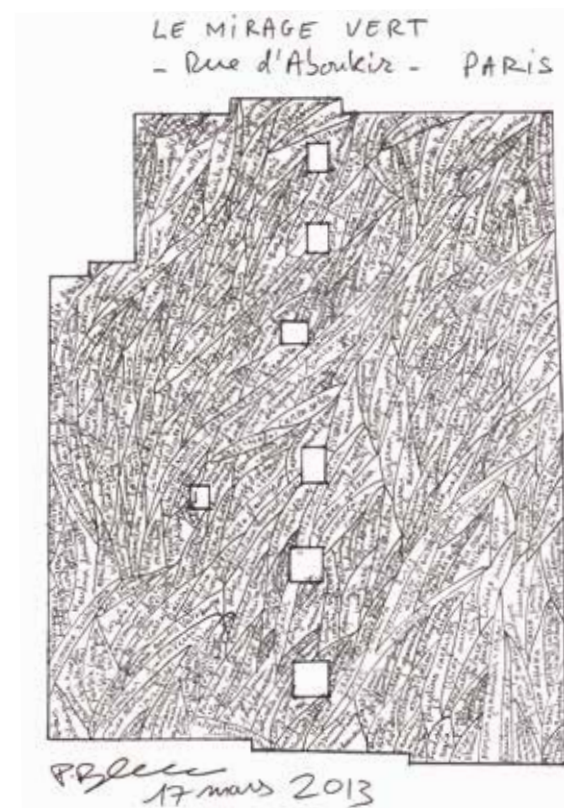




This page, clockwise from top left, Athenaeum Hotel, London; Patrick Blanc observing the Cauliflorous Ficus Schwarzii bearing huge bunches of ripe figs, Fraser's Hill, Malaysia, December 2016; One Central Park, Sydney; Skyteam Lounge, Heathrow Airport, London. Opposite page, Oasis d'Abouktir, Paris, France

Thus, designed long before the global green movement began, Patrick Blanc's Vertical Gardens are ecologically-efficient tools in themselves. First patented nearly 30 years ago, they were also hailed as an artistic vision. Like a sculptor who works with natural materials like clay and bronze, Blanc works with living plants. His permanent installations at contemporary art institutions brought him attention from the architecture world. From his first collaboration with Andrée Putman for Pershing Hall hotel's huge green wall in 2001, to his work with Jean Nouvel and Herzog & De Meuron, the Vertical Garden would take modern architecture into a new era.

Patrick Blanc的垂直花园远在全球绿色运动开始之前就展开了生态效益运动。当30年前首次获得专利时，它们被誉为艺术视野。就像一个用粘土或青铜等自然材料创作的雕塑家一样，Blanc用活体植物作为创作材料。他在当代艺术机构的永久性装置获得了建筑界的关注。从他与Andrée Putman在巴黎潘兴豪尔酒店巨大绿墙的首度合作，到与让·努维尔和赫尔佐格和德梅隆事务所的合作，垂直花园将把现代建筑带入一个新时代。



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“For the project in Kuala Lumpur with Jean Nouvel, Le Nouvel Towers, I mostly focused on plant species diversity. I selected 243 different species of lianas in order to cover the 200-metre-tall high towers. Of course, this high species diversity is very different from other projects in which usually less than 10 species are installed. This is now a kind of botanical garden in itself, probably the first one of the world totally dedicated to climbing plants. Of course, there is also the longest free-hanging planted structure, the Rainforest Chandelier created in Bangkok in 2015.”

“在吉隆坡与让·努维尔的合作项目Le Nouvel Towers中，我主要关注的是植物物种的多样性。我挑选了243种不同种类的藤本植物，以覆盖高达200米的高塔。其他项目都使用少过10种植物，所以这项项目的生物多样性是特别高。它现在本身就可以算是一座植物园，也许还是世界上第一座专门的攀爬植物园。当然，还有2015年我在曼谷创建的自由悬挂种植结构——“雨林吊灯”——都是世上最长的。”





### Further reading:

Find out more about Patrick Blanc's Vertical Gardens around the world at [verticalgardenpatrickblanc.com](http://verticalgardenpatrickblanc.com)

“As a Botanist, I always carefully select the plants to use for each single projects whatever the location. As you can imagine, the plants selected for Riyadh are very different from the plants used in Berlin. The most surprising thing about all my Vertical Gardens is the very high level of biodiversity. It is a way of bringing biodiversity right into the middle of the cities where biodiversity is usually very low.” A large number of his projects are in Asia: Hong Kong, Taipei, Shanghai, Seoul, Fukuoka, Singapore, Bali, New Delhi, but also in arid places like Dubai, Doha, Kuwait City, throughout Europe, particularly in France, where he admits feeling pressure working in his home country: “Of course, I do, but I’m also particularly happy to be complimented by so many people who recognise me in the street, in Paris or elsewhere.”

Where will his next creation be? “My last work in South America was in São Paulo in 2004 and I wish to get a new project in this area. I was in Bogota in 2016 and I saw many locally made green walls with a very limited range of plant species whereas plant biodiversity in Colombia is one of the highest in the world.” ■

“作为一个植物学家，无论垂直花园在哪里，我总是仔细挑选所需要用到的植物。你可以想象，我为利雅德所挑选的植物与柏林是不同的。垂直花园最令人感到惊讶的它极高的生物多样性，大大的补充了城市中通常较低的生物多样性。”他的大部分垂直花园都集中在亚洲：香港、台北、上海、首尔、福冈、新加坡、巴厘岛、新德里，也分布在迪拜、多哈、科威特城等干旱地区，同时遍布欧洲。特别是在法国，他承认在他的祖国工作会倍感压力：“当然，但我在巴黎或其他城市的街头被人认出并得到赞美时，也会感到特别的高兴。”

Patrick Blanc的下一个垂直花园会在哪里？“我在南美工作是在2004年一巴西圣保罗，希望能在那里获得新的项目。2016年，我在波哥大看到了许多当地生产的绿色墙壁，但植物种类却非常少，而哥伦比亚植物的生物多样性却是世界上最高的。” ■

This page, Palma de Mallorca, Spain

