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## Living walls

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Figs 1a & b The M&S Living Wall System in Norwich city centre is an example of *Greening Grey Britain*. The wall is 152sqm with 11 plant species, *Helleborus argutifolius* and geraniums in flower in February 2016.

Arguably one of the most common phrases we hear from fellow hardy planters is ‘My garden is full’ or, even as we eye-up yet another must-have plant to add to our existing treasures, ‘I don’t have room for more plants’. Even then, our minds race back to the scenarios in our gardens, thinking ‘now if I divide that plant, I can make more room’

or ‘I could replace such and such plant with this one as it has more going for it...’ Does this sound familiar? More to the point, what can be done?

The RHS has launched a campaign called *Greening Grey Britain* – a welcome campaign to replace grey areas with green, from concrete to plants (figs 1a & b). The term ‘greening’ refers to growing

plants wherever possible. ‘But,’ I hear you say, ‘my garden is already full with greenery: trees, shrubs, roses, perennials, biennials, annuals, climbers up structures and trellising, carpet bedding on my shed roof, and I have pots and hanging baskets absolutely everywhere.’ Yet there’s still another way to squeeze in plants.



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Fig. 1b

Typically we plant in the ground beneath us, called 'horizontal gardening', yet we rarely plant in the walls. If we think about it – what better way to green a grey wall than to plant it up. Known as 'vertical gardening' or 'a living wall system', it was arguably pioneered in the last 10 years by Patrick Blanc, a Frenchman who has created 'Mur Végétal' all over the world<sup>1</sup>.

I first viewed a wall of flowering perennials at one of the UK's leading wholesale bedding-plant producers, Ball Colegrave in Oxfordshire (figs 2a & b). Until then I'd seen examples only of predominantly 'green' walls, dominated by foliage plants, mostly ferns and grasses; a colourful wall of flowering perennials was a significant shift from the green-wall norm. The flowering perennials were all first-year flowering, that is they didn't need exposure to the prolonged cold of winter to stimulate flowering (known

as vernalisation). The selection of jumbo plugs had been planted at the end of April/early May. The underlying structure was a modular system called Vertigarden. (As an aside, every year Colegrave hold a magnificent trial<sup>2</sup> full of wonderful plants and ideas they hope will set future gardening trends.)

What interests me is the creation of a habitat on a vertical surface for plants to grow on/in, which doesn't require the plants to be natural climbers. It comes with its own unique set of challenges, especially as it's labour-intensive so dedication and hard work are essential to maintain success, though an irrigation system is a great help!

In fact, whilst not described as such, vertical growing has been around as long as there have been vertical surfaces, natural and artificial, such as cliffs, caves, trees, walls and rubbish dumps (fig. 3). Patrick

Blanc draws design inspiration for his 'Mur Végétal' from countries as diverse as Peru, Madagascar, Borneo, Australia and South Africa, where he has studied the plants that grow naturally in vertical habitats, and he uses the same or similar bryophytes to bromeliads for his designs.

For some years in the third world, for example in Mexico and India, vertical gardening using rubbish dumps and rubble has been used to produce food. In more affluent areas, gardening is a leisure activity and attention is given to ornamental rather than edible plants, though in the UK the recession appears to have triggered a growth in vegetable gardening.

My next sighting of a vertical garden using flowering perennials was in the post-earthquake-torn city of Christchurch, New Zealand (figs 4a & b)), poignantly set in front of the great cathedral, being rebuilt while



Figs 2a & b The wall of perennials at Ball Colegrave.

<sup>1</sup>[www.verticalgardenpatrickblanc.com](http://www.verticalgardenpatrickblanc.com)

<sup>2</sup>Watch out for their 'open to the public' evening - it is absolutely worth the trip. [www.ballcolegrave.co.uk/Gardeners/PublicOpenDay.aspx](http://www.ballcolegrave.co.uk/Gardeners/PublicOpenDay.aspx)

parishioners meet in a cathedral made of cardboard. All around were rocks and ruins, and the sounds of jackhammers and drills, as residents worked to rebuild and regenerate the city under the Re:START Mall programme. While the huge cheery billboards showing new buildings offered hope and a tangible vision to survivors, it was a set of green walls planted with perennials that caught my eye. The living plants were symbolic against the backdrop of the broken landmark cathedral.

**What is involved**

Green walls can be as simple and cheap, or as complicated and expensive, as you wish or your purse allows – anything from Ikea-like shoe-organisers hanging from hooks on the wall, a pallet screwed to your wall to hold pots (upcyclists with an engineering bent have full rein

here), or full-blown bespoke-designed, self-watering, self-contained, hard-plastic or powder-coated-steel kits. Besides the cost there are legitimate constraints that will guide your choice – the type of wall you have, what it’s made of and how strong it is. I strongly recommend reading the manufacturers’ guidelines. Then there are the plants. Choose plants appropriate to the habitat, the availability of water and the amount of time you want to spend. Other considerations are soil, watering, feeding and weeding and, if growing edibles, harvesting.

**Choosing plants**

Plants are highly adaptable living organisms, responding to changing environmental conditions to grow, often adjusting their growth patterns through the process of phototropism. We see this often in plants such as



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Fig. 3 A natural vertical garden in Costa Rica.

*Buddleja davidii* and *Erigeron karvinskianus* that have self-seeded in walls. For the most part, flowers and flowering stems will tend to grow upwards, but not always. So while this is still a young form of gardening, when choosing your plants first consider the plants’ natural habitat and growth habit: some plants are simply more suitable than others. As for design, how



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Figs 4a & b Living walls of Māori whare in front of the shattered cathedral in Christchurch, New Zealand.



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Fig. 4b



Fig. 5b

Figs 5a, b, c & d The displays of vertical planting at Chelsea showed mainly herbs and foliage.

the plants are positioned is significant: random planting looks more natural, and a geometrical arrangement more architectural.

Be aware that plants will require far greater attention in comparison with horizontal gardening, and the amount of physical work will also be greater, thanks to gravity.

Money, time, and practicality tend to determine what gardeners will do, and vertical growing is no different. However, like anything that requires much effort, there can be much reward. The benefits of vertical gardening may include environmentally positive outcomes such as reduced thermal load on a

building; natural air filtration (some plants absorb and filter out airborne toxins); reduced outside noise and vibration (sound attenuation); reduced heat effect; and an additional habitat for a variety of organisms including pollinating insects, bees and butterflies. In fact, given an appropriate choice of planting, our feathered friends could have des res to overwinter in, with warmth, food and a place to raise their young.

Such is the variety of plants that can be grown in living walls – annuals, bedding plants, perennials, some shrubs, ferns – that the following can only be a brief indication.

**Perennials**

Ball Colegrave noted that some perennials adopted an upright growth habit, although they usually grow horizontally. Ian Cole, product manager, said “Flowers that are not



Fig. 5c



Fig. 5d

normally seen close up could be looked straight into. Also, this wall was full of activity as bees and butterflies were constantly working the flowers." Good performers were *Coreopsis grandiflora* 'Early Sunrise'; *Dianthus* 'Bouquet™ Purple'; *Digitalis purpurea* Dalmatian Series (colours include purple, peach, white and rose); *Gaillardia x grandiflora* Mesa Series (red, peach, yellow and a bright bicolor); *Lobelia x speciosa* Fan Series (scarlet, blue, burgundy and salmon); *Penstemon heterophyllus* 'Electric Blue'; *Penstemon hartwegii* 'Tubular Bells' (red, rose and wine red with a white throat); and *Salvia patens* 'Patio Deep Blue'. Besides the living wall of flowering perennials, there were walls of ivy-leaved pelargoniums, begonias and petunias displayed in an array of patterns.

They noted that not all plants formed an overwintering 'crown', so flowering was inconsistent the second year. However, as in 'horizontal gardening', gaps can be replanted.

The Living Wall in Norwich town centre includes sea thrift or sea pink, *Armeria maritima*; the deer fern, *Blechnum spicant*; snowdrops; sweet woodruff; *Geranium macrorrhizum*; *Hebe pinguifolia* 'Pagei', a dwarf, mat-forming evergreen shrub; holly-leaved *Helleborus*

*argutifolius*; snowy woodrush, *Luzula nivea*; hart's-tongue fern, *Asplenium scolopendrium*; Christmas box and common thyme.

### Herbs and vegetables

At the 2015 RHS Chelsea Flower Show there were several examples of vertical gardening, including walls filled with herbs (ironically, the one above a barbecue was scorched, but we could see the general idea) (figs 5a, b, c & d). Other edibles suited to growing on a green wall are bush/basket tomatoes, peppers and strawberries.

### Ferns

In RHS Wisley's glasshouse is a wall covered in many different species of fern combined with the popular house plant, the spider plant (*Chlorophytum comosum*), growing in a vertical pot system which effectively brings the concept of a living wall indoors too (fig. 6).

### Eclectic

However, as the living walls in this Christchurch Māori whare (native house) show, you can mix what you like. Those walls included edibles such as herb parsley, cabbage and ruby chard; heat-tolerant scented French lavender, catmint, rosemary and lavender cotton; pinks, poppies, penstemons,



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Fig. 6 Part of the living wall in the glasshouse at RHS Wisley.

polyanthus, primroses, creeping phloxes, foxgloves, lupins, false dittany, golden stonecrop, heucheras, campanulas, grasses, mallows, vincas, veronicas and more... not forgetting phormiums, the New Zealand flax.

Only time will tell whether flowering walls become a common garden feature or just a passing fad. For those who have the resources and inclination they are a beautiful addition to gardening possibilities. For Hardy Planters, many of whom commonly protest they have no more room for plants, surely that's welcome news. The challenge remains – is your garden really full up... or do you have more space for plants after all? 🌸

**Irene Tibbenham** gardens in a relaxed and botanically diverse plot nestled in the Suffolk countryside, assisted by a patient husband and shared with the local wildlife.