



The Biophilia Effect

A Plant Plan Whitepaper



Introduction

Biophilia is our innate connection with nature.

Our ancestors lived in the wild, and the associations they developed with certain elements of nature are still hardwired into our brains. The theories about biophilia that have been developed over the last 50 years are now being adopted and used by designers and other professionals to improve spaces and make them more fulfilling places to be.

Recently I ran a poll on Biophilic Design, and 15% of responders didn't know what Biophilic Design was! I think this is an essential topic to learn about, especially with companies focussing more and more on the wellness of the employees and the sustainability of buildings.

Throughout this whitepaper you'll learn about the whole concept of biophilia, how it effects people and how you can gain a great return on investment through the use of it.

Enjoy the read!



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What is Biophilia?

According to a theory of the biologist Edward Wilson, Biophilia is an innate and genetically determined affinity of human beings with the natural world.

That is, our desire to be close to other living things such as plants and animals. When our environment is devoid of such influences, our natural needs are unsatisfied, and this can have negative consequences affecting our mood and our productivity.

Biophilia impacts the human mind in many ways. Most of the time we do not realise that we are even being affected – it is totally subconscious. These innate tendencies come from our ancestors living at one with nature on the plains of the savannah and in the jungles. Environmental factors gave them clues about the environment there. Plants and animals showed that there was food and water and the climate was favourable to sustain life.

Man would search out a viewpoint from which he would scan the landscape to spot any potential prey or enemies, and he would also seek out caves and sheltered places in which to sleep and rest. These hard-

wired tendencies have come down to us, and although our environment has changed considerably over the last millennia, our minds are ingrained with these characteristics.

Today, there is greater awareness being raised about Biophilia and the impact it has on a team. We must design elements into spaces to help employees do their best work. The United Nations predicts that by 2030, 60% of the world's population will live in urban environments, and this means it is more important now than ever before that the interior spaces we inhabit are reflective of our innate needs and wants.

Many companies are increasingly focused on improving the health and wellbeing of their employees, frequently through programmatic efforts like yoga, meditation, and healthier food offerings. Biophilic design is a strategy to support health and wellbeing of everyone in the office through the design of spaces themselves. Different biophilic design elements support different outcomes, some help with stress reduction, others with cognitive function.

Implementation

Biophilia can be implemented into a space in a variety of ways. We have determined 3 stages of implementation to show how biophilia can be brought into an interior.

Short Term

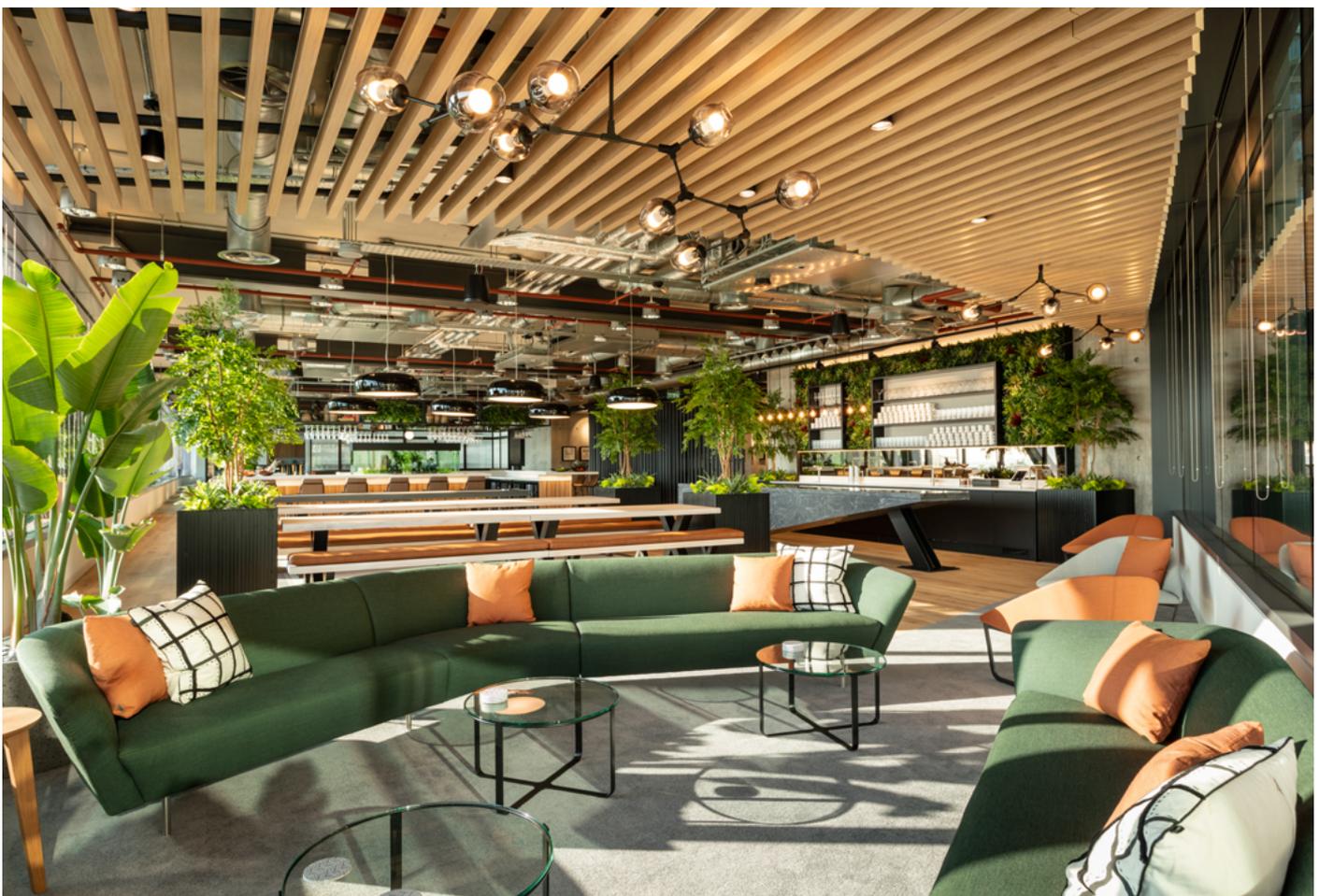
- Loose planting
- Aquariums

Medium Term

- Lighting upgrade
- Wall Coverings
- Office Space reconfiguration

Long term

- Furniture upgrade
- Office redesign



Implementation

Short Term

Free Standing Planting

Free standing planting is quite possibly the easiest way to add biophilic elements to an office. Through creative and clever use of interior planting, you can enhance your interior space.

Aquariums

Not far behind on the ease-of-use scale are Aquariums. Again, place one in a space and watch how the life, colour and vibrancy they bring transforms the space and drives a positive feelings in the team.

Medium Term

Lighting Upgrade

Lighting is a hugely important aspect of Biophilia, and this is what keeps our Circadian Rhythms in sync. The power and colour of the light throughout the day can affect people's moods, productivity, and general wellbeing. Sunlight is also a big consideration, and it is worth making sure that you're maximising your access to sunlight as it is proven to help improve productivity, creativity, and even helps people sleep better at night!

Wall Coverings

If you are struggling for space for planting on the floor, then a great option is to install a green wall. These can transform an office as they add a

huge splash of green to a space, which is visible across a whole office.

Office Space Reconfiguration

This one requires more thought and dedication, as it's a bit more major than the other points. However it can be done at very low cost (if any) and can have great results.

Moving furniture to create more of an open environment really improves the space. For example, if desks are rearranged into biomorphic shapes rather than blocks, this helps to mimic natural forms, further enhancing the biophilic appeal of the space.

Long Term

Furniture Upgrade

If furniture is old, tatty, and made with a lot of man made materials it lacks biophilic appeal. Investing in quality furniture made from natural materials and displaying textures and colours inspired by nature increases the visual and biophilic value of the space.

Office Redesign

To truly get the most out of your office a biophilia-led design and fit out is the best way to go. You can get professional designers to transform your space, taking into consideration all biophilic elements such as planting, lighting, layout, colours, materials, and much more.



Biophilia Statistics

Implementing biophilic design can have a massively positive impact on us. Below are some of the key statistics discovered during research into the effect of implementing biophilic design in workspaces.

Productivity increased by



Creativity increased by



Depression reduced by



Short term absenteeism reduced by



Anxiety and tension reduced by



Wellbeing increases by



* According to a study done in 2014 by Exeter University

** From an Eight-month study by Robert Ulrich from Texas A&M University in 2003

*** From a 2010 Study from the University of Sydney

**** From a study conducted by Terrapin Bright Green

***** From the Interface Human Spaces Report

Return on Investment

The return on investment of incorporating Biophilia can be huge, but often hard to quantify.

As planting is one of the easiest elements to implement, we've put together a simple calculator working out the ROI of this.

According to a study done in 2014 by the University of Exeter, productivity goes up 15% when plants are introduced into an office. Using this figure as a guide, the following shows

the potential ROI that planting can give to a business.

Using this as a guide, you can quickly work out how plants can benefit your business. Imagine adding this to your space, then improving the lighting, then the design, and creating a whole office design scheme based around these biophilic elements? The return on investment would grow dramatically, employee retention would increase, and you'd also be able to attract better talent to your business.



The Formula

Office Staff x Average wage = Annual Wage bill

Annual Wage Bill / 52 = Weekly wage bill

Average wage x 15%* (increase in productivity) = Productivity gain (£)

Productivity Value / 52 = Weekly productivity gain

Total office staff x plants/person = number of office plants

Number of plants x £4 = weekly planting cost

Productivity Gain - Weekly planting cost = ROI

* From a report undertaken by the University of Exeter

Worked Example

30 staff @ £30,420* = £912,600 annual wage bill

Annual wage bill / 52 = £17,550 per week wages

£17,550 x 15% = £2,632.50 increase in productivity value per week.

30 x 1 plant per person = 30 plants

30 x £4 = £120 per week planting cost.

£2,632.50 - £120 = £2,512.50 ROI per week

£2,512.50 x 52 = £130,650 ROI per annum!

* Average UK salary for full time office staff according to ONS.

Summary

Biophilia (our innate connection to nature) is a powerful, cerebral response to living things. Since Edward Wilson identified it in 1984, academic research and real-world experience have both demonstrated the value of tapping into this natural phenomenon.

It's very clear that Biophilic Design has become an important consideration for companies searching for ways to improve the workforces performance, boost wellbeing, and attract and retain top talent.

Research has shown that people need a place that they are comfortable and relaxed in, and it's in these environments that humans are the most productive and healthy.

The improvement of elements within their built environment such as air quality, lighting, planting, and the use of natural materials brings increased levels of happiness, better mental and physical health, and improved wellbeing.

In this whitepaper, we've visited some key statistics to show how Biophilia really does impact a team, and

provided pointers as to how it can be implemented to great effect. From a simple planting scheme to a full office redesign, from implementing management of natural light resources to installing aquariums, there's numerous ways to integrate biophilic elements into your space.

On the planting side, we've looked into the potential return on investment that planting brings, and given you a tried and tested formula that you can use to work out the impact that installing planting within your office could bring.

We realise that this whitepaper may not answer all your questions about biophilia, indeed it may have just piqued your interest and stirred your curiosity about this incredible subject.

We are passionate about the impact natural elements can have within the built environment, and are determined to help others learn more too.

Thanks for reading!



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