



CREATING POSITIVE SPACES

BY DESIGNING FOR COMMUNITY

An accessible practitioners' guide to inspire Architects and Designers to use Biophilic Design to enhance community.







A sense of community has been fundamental for human survival and development throughout evolution and now more than ever, with the advent of our digital lives, communities are an essential part of our lives and help us connect with each other.

As a designer, I am fascinated by placemaking and how we can enhance spaces to bring people together through our shared connection with nature. For many of us, a shared moment of wonder in a natural occurrence, be that the first snowfall of the year, cherry blossoms on a tree, or sitting around a campfire, can be the catalyst for conversation. When we share conversations, amazing things can happen; we share ideas, knowledge, skills, experiences, products, and even start to innovate. This can be beneficial in so many of the spaces where we live, work, rest and play.

Our aim is that this design guide will inspire the consideration of spaces that encourage people to connect.”

– OLIVER HEATH, Director of Oliver Heath Design, author of this Design Guide



**OLIVER HEATH
DESIGN**



Philips DACH, Germany

WHY IS INTERFACE SUPPORTING THIS SUBJECT?

Creating positive spaces where we work, rest and play involves design that incorporates visual appeal, purpose, sustainable elements, and an understanding of human behaviour. Bold thinking is required to strike the balance between reflecting each person's needs whilst adhering to regulatory standards, without compromising on the design aesthetic.

The building industry is increasingly recognising companies who prioritise supporting the wellbeing of their people. Certification systems like the **WELL Building Standard™** are gaining traction and the increasing interest in them demonstrates that the creation of positive spaces requires further investigation.

To capture insights from industry and thought leaders, Interface have co-authored a series of papers to explore the value of human-centred design, understand how nature can inspire the creation of positive spaces and examine the future of sustainable buildings.

Interface®

A GUIDE TO DESIGNING FOR COMMUNITY - WHAT'S IN IT FOR YOU?

We have brought together some of the most compelling research on the benefits a sense of community can have on wellbeing and business. This design guide focuses on the creation of Positive Spaces in the workplace. We've outlined practical methods and approaches that you can adopt to enhance community connectivity in the spaces you design with a bit of inspiration thrown in from those already doing it.

In this guide we will delve into:

- What communities are and what can help them thrive in our digital age
- Why communities are important to our wellbeing and how they benefit business
- How designing to fulfil our shared desire to connect with nature and natural processes can enhance and sustain communities (for example, using Biophilic Design strategies, which you can read about more in our previous guide here: www.interface.com/whitepapers)
- Trailblazing projects and initiatives that we can look to as exemplars for community design
- How you can take designing for community forward in your practice or business

We will introduce you to the work of Professor Stephen Kellert – the 'Godfather of Biophilic Design'¹ – who wrote about the positive impact Biophilic Design can have on the connections between people, place and nature as part of a human-centred approach to design.² We have expanded on Kellert's legacy to explore how and why Biophilic Design might be used strategically to enhance communities in order to create Positive Spaces.

From reading this guide, we hope you will gain:

- Insights into – and the ability to explain – the benefits of enhancing community through design
- Inspiration and understanding in order to use Biophilic Design strategies to improve community connections in the workplace.

CONTENTS



CHAPTER 1	SO, WHAT DO WE MEAN BY 'COMMUNITY'? <i>pg. 08</i>
	<ul style="list-style-type: none">· Defining Community: The Basics· Elements of Community· Why Do We Need Community?
CHAPTER 2	COMMUNITY: PAST, PRESENT AND FUTURE... <i>pg. 12</i>
	<ul style="list-style-type: none">· The Evolutionary Perspective· Past· Present· Future
CHAPTER 3	COMMUNITY: GOOD FOR US, GOOD FOR BUSINESS <i>pg. 16</i>
	<ul style="list-style-type: none">· The Business Case· Designing People Back Together· Leading the Way
CHAPTER 4	BRINGING IN BIOPHILIC DESIGN <i>pg. 22</i>
	<ul style="list-style-type: none">· Biophilic Design meets Community
CHAPTER 5	7 BIOPHILIC FEATURES FOR ENHANCING A SENSE OF COMMUNITY <i>pg. 26</i>
	<ul style="list-style-type: none">· Diversity of Spaces· Zoning Spaces· Soft Boundaries· Collision Spaces· Growing Spaces· Sensory Spaces· Triangulation
CHAPTER 6	DESIGNING FOR COMMUNITY: GET INSPIRED <i>pg. 42</i>
	<ul style="list-style-type: none">· Making Cities for People· Parklets· Co-working Spaces (WeWork)· Patagonia's Amsterdam HQ
CHAPTER 7	JOIN THE COMMUNITY <i>pg. 56</i>
	<ul style="list-style-type: none">· Calculating Community· Certifying Community· Get Involved

CHAPTER 1: SO, WHAT DO WE MEAN BY 'COMMUNITY'?





Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together"

– Dr. David McMillan, Psychologist, (1976) ³

DEFINING COMMUNITY: THE BASICS

So, firstly, why should we define the word community? Well, because our understanding of the word 'community' has changed so much throughout our evolution, and now, with the advent of digital technology, people have the opportunity to be part of a global community. The term is also used in many different spheres of life to mean different things to different people, and it can be quite ambiguous. So, for this guide, we want to clarify what we mean by community before delving into its relevance to architects and designers. We will start with the two commonly used definitions of community:

- Relational Communities - The **interpersonal connection** between people within organisations, teams and networks, or with family and other **social relationships** that aren't location specific (this includes online/digital communities).
- Geographical Communities - The **physical connection** between people within a country, city, town, neighbourhood or building that are **specific to their location**.⁴ This is also sometimes referred to as **neighbourliness** within design literature and research.

But, we will also explore how Biophilic Design can enhance a third type of community:

- Ecological Communities - The environmental **connection between people, place and the natural world** (all of the living organisms we share the planet with).

As you will realise, there are various types of communities that we can belong to over our lifetimes, and most of us belong to more than one community at any given time. For example, we could be with a friend (relational), who we live around the corner from (geographical), relaxing in our local park (ecological).

ELEMENTS OF COMMUNITY

According to McMillan and Chavis,⁵ for a sense of community to exist, these four psychological elements must be in place.⁶

1. **Membership** - a feeling of relatedness and belonging. (Boundaries, emotional safety, sense of belonging, personal investment)
2. **Influence** - a sense of having a voice and mattering to those within the group
3. **Reinforcement: integration and fulfilment of needs** - feeling that our needs are considered and fulfilled as a result of being part of the group
4. **Shared emotional connections** - shared emotional connection and experience, through history, place and time.

(Don't worry, we'll come back to how we can design these elements into physical spaces later on!)





People need people. People need to be together and connected. You can take this to other species in the wild. There are few species that stay on their own – they come together.”

– David Oakey, Founder of David Oakey Designs

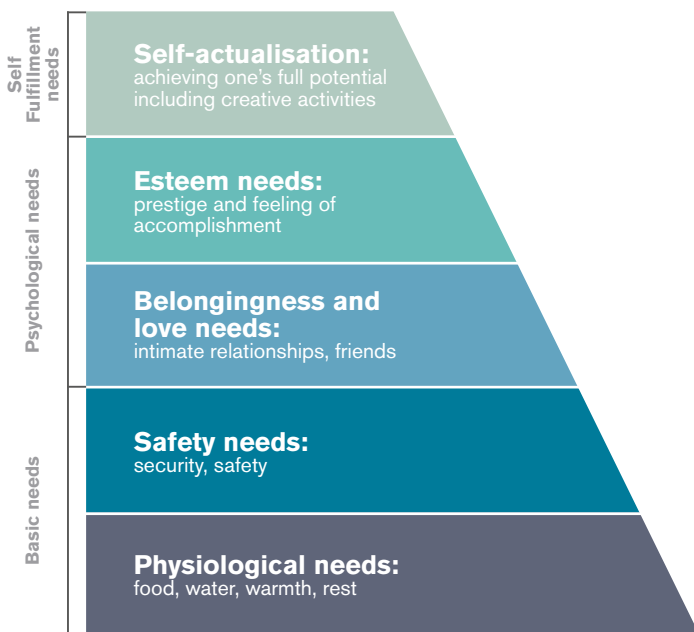
WHY DO WE NEED COMMUNITY?

The key determinants of a person's health are thought to be: lifestyle, **community**, local economy, activities, and the **built and natural environment**.⁷

According to Maslow's Hierarchy of Needs,⁸ from a psychological viewpoint, once our basic needs for survival – such as air, food, warmth, water, rest and safety – are met sufficiently, we must meet our **psychological needs** – such as a sense of **belonging** and feelings of **love** – in order to reach our full potential. These are fulfilled through being part of a **community**.

This is also recognised within healthcare. The UK's National Health Service have identified '5 steps to mental wellbeing', in which **connecting with the people around us** is first on the list, along with being active, continued learning, giving to others, and being mindful.⁹ Other international medical bodies, such as Health Canada, have acknowledged non-medical factors that contribute to our health, known as the **social determinants of health**. These include social status, social support networks, and social and physical environments, to name a few.¹⁰

Research demonstrated in the Harvard Grant Study tells us that the absolute key to human happiness is the formation of strong bonds with others.¹¹ And it works both ways – community can enhance wellbeing, whilst wellbeing also enhances community; we are more helpful to others if we “feel good.”¹² And everyday interactions, however brief, can help create a comfortable environment in which people can offer and ask for help, forming more substantive relationships with emotional support.¹³

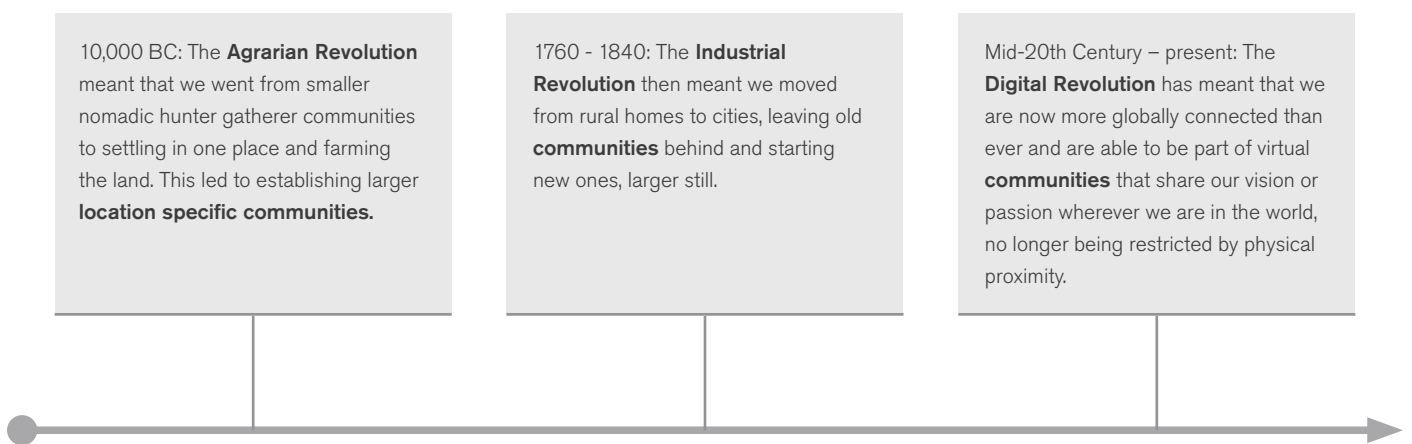


An aerial photograph of a rural landscape. The top half of the image shows a grid of green agricultural fields, likely rice paddies, separated by narrow paths or ditches. A winding river or canal flows through the middle of the landscape. The bottom half of the image is dominated by a dense forest of palm trees and other tropical vegetation. Several small houses with red-tiled roofs are scattered throughout the forested area. The overall scene is vibrant and lush, with various shades of green and brown.

CHAPTER 2: COMMUNITY: PAST, PRESENT AND FUTURE

THE EVOLUTIONARY PERSPECTIVE

There have been three major shifts:



PAST

So, we have evolved from Hunter Gatherers, for whom a strong community was essential – every member had a vital role to play to ensure the survival of the group. As we left our hunter-gatherer ways behind and began to settle, larger communities were formed, in which we all still worked together to fulfil needs necessary for our species to thrive. Until recently, our communities have been based in natural settings, and so it is also important to note that our deep connection to nature throughout human evolution makes keeping in touch with natural elements an important factor in creating healthier places to live and work.

PRESENT

What has changed since then? Well, not a whole lot, as far as our sense of community is concerned. Community played a vital role then and continues to play a vital role now. Perhaps even more so. We don't necessarily need communities for survival, but as we have become more diverse and specialised in individual tasks, we rely on other people's skills more than ever. We all come together with individual skills and work as a united whole.

On top of this, despite the fact that we now live in a world in which we can very easily live separately from others and have our basic needs fulfilled simply by turning a tap, ordering our shopping online, or switching on the heating, our need for **physical communities** still exists; From an **evolutionary perspective**, our survival instinct, inherited from our Hunter Gatherer forefathers, means we still feel more secure and happy, less stressed, and are more resilient when part of a community.

As our communities have expanded through our **digital networks**, amazing new opportunities are emerging online for us to share experiences and knowledge without meeting face-to-face. An example of this is the Wikihouse community (<https://wikihouse.cc/>); a global community that innovates by encouraging its members from every corner of the world to contribute their skills to enable **local communities** to form and thrive. Wikihouse is just one of many extraordinary **digital communities** with a huge global network that is using technology to aid **communication and collaboration** for a good cause.

So, we don't need to be in the same space to be a part of a community – we can be highly networked and connected online 24 hours a day, an advance that has brought many benefits to our social and working lives. However, we can't help but wonder if we are **paying a price** for this more flexible way of life. Studies show that between 2005 and 2015, "belonging wellbeing" decreased by 32% for young people aged 20-29¹⁴. Some technology experts suggest that expanding our online communities has lessened our need for face-to-face interactions and, as a result, we have become distanced from our local communities.¹⁵ But more on that later...

FUTURE

From shared visions (some of which may have been ignited by digital connections) there is the opportunity to design Positive Spaces that enhance local communities and **neighbourliness**.

The Young Foundation Report on neighbourliness and belonging suggests a formula for happy communities:

neighbourliness + empowerment = wellbeing¹⁶

The report suggests that when neighbourliness is at a level we feel comfortable with, it can have many benefits. For example, neighbourliness can:

1. Improve wellbeing
2. Facilitate mutual aid and support between people
3. Help informal social control and cutting crime
4. Improve life chances

Thus, if we design Positive Spaces to enhance neighbourliness, we can **improve face to face communication**, which has all kinds of benefits. As mentioned in chapter 1, a sense of community is crucial for our wellbeing. A sense of community is also a key component for **effective collaboration** in the workplace, which we'll look at in more detail in our '**business case**' in the following chapter. We will then expand on this vision, show you how we think it could be done, and how others are starting to do it in chapters 4 and 5. Stick with us!



CHAPTER 3: COMMUNITY: GOOD FOR US, GOOD FOR BUSINESS

03





An organization's success has enormously more to do with clarity of a shared purpose, common principles, and strength of belief in them than with assets, expertise, operating ability, or management competence, important as they may be."¹⁷

– Dee Hock, Organisational Consultant, Founder and former CEO of Visa International.



No matter what industry you work in, we are all in the people business. Regardless of how tech-savvy you may be, face-to-face meetings are still the most effective way to capture the attention of participants, engage them in the conversation, and drive productive collaboration."²⁴

– Michael Massari, Caesars Entertainment's Senior Vice President of National Meetings and Events.

THE BUSINESS CASE

So, now we know that community spirit must be nurtured to create an environment that is thriving, inclusive and respectful of differences,¹⁸ but how does creating a sense of community within the workplace improve outcomes for businesses?

- Organisations with high social capital (networks of relationships that enable society to function well) have **lower turnover rates, higher economic returns and more effective virtual communication skills.**¹⁹
- Fostering a sense of community within the workplace is a very powerful tool to encourage **passion**, a sense of **purpose**, and a common goal of **success.**²⁰
- The previously mentioned Grant study also found that participants who felt they **had warm relationships** in life earned an average of **\$141,000 a year** more at their peak than those who did not.²¹ (Although this is in no way generalisable to the whole population, it is an interesting finding worth mentioning.)
- **Family-owned** businesses have **higher revenue** and **employment growth** than other organisations, due to their values of **stability, trust and commitment.**²²
- The three biggest factors that give young people aged 18-24 a good experience of starting employment revolve around **social interactions** and **effective communication:**
 - Working with **friendly and approachable** staff (52%)
 - Having a **clear induction** process (43%)
 - Having a **good understanding** of what is expected of them (39%).²³

A huge 90% of a typical business' operating costs are related to staff (salaries and benefits), as opposed to a mere 10% on the physical built environment²⁵ and we bond with people and institutions that create environments which are better able to satisfy our needs.²⁶ A stronger bond with an organisation can result in more commitment to it; with businesses and schools relying on staff retention, and retailers relying on customer loyalty, this commitment is crucial.



Face-to-face encounters are where innovation takes place. In fact, innovation is rarely the outcome of any formal meeting, and even more rarely the product of virtual meetings. Instead, creative solutions are most often the by-product of employees having informal conversation — comparing experiences in hallways or exchanging ideas at the coffee station.”³³

– Carol Kinsey Goman, Ph.D, president of Kinsey Consulting Services.

DESIGNING PEOPLE BACK TOGETHER

As we mentioned earlier, the digital revolution may be distancing us from each other and therefore our sense of community. What's wrong with that? Well...

- When comparing face-to-face and virtual interactions, **building trust** without physical proximity is more difficult.^{27 28 29}
- Effective **collaboration** requires **personal, information-rich, face-to-face and trusting relationships**. We need vocal cues, facial expressions and body language to fully understand and correctly interpret what people mean by what they say, and how well our ideas are received.³⁰ Communicating face-to-face will allow people to not only hear what you say, but gain meaning and understanding through visible cues. This can aid in demonstrating importance, interpreting thoughts and feelings, enhancing credibility and trust, building relationships, gathering feedback and addressing sensitive issues.³¹
- Studies have found that at least **70%** of what we intend to communicate to others is done **non-verbally**.³²
- **Virtual communication** hinders cues that foster “trust, warmth, attentiveness, and other interpersonal affections”³⁴ and **creates barriers** in knowledge sharing, breakdowns of communication, conflict and mistrust.³⁵

Thus, we can benefit from focussing on the value of creating **positive physical spaces** that can help us reach our collective potential. Although it is not impossible to collaborate within computer-mediated teams, as mentioned above, we find it easier to work together and feel a part of the same community when we share the same space.

IBM noticed the disadvantages the agile working culture was having within their business. In 2009, 40% of IBM's 386,000 employees worked remotely. However, in March 2017, they brought thousands of employees back in to the office. IBM aren't the only ones realising the value of getting employees together in a physical space – other companies such as Yahoo, Best Buy and Aetna have also retracted their working from home policies.³⁶



Philips DACH, Germany





Space and time for people to gather and make connections with one another are the seedbed and sunlight of social capital.”⁴⁴

– Carol Kinsey Goman, Ph.D, president of Kinsey Consulting Services.

LEADING THE WAY

Nowadays, it seems there are two types of office design solutions that are deemed best for productivity. Tech companies such as Google, Facebook and Samsung are creating campuses with **open plan** offices and **outdoor areas** where the aim at the heart of the design is **collision**; in order to stimulate innovation and collaboration.³⁷ On the other hand, the importance of cellular or more private offices has been realised; noise and lack of privacy is consistently identified as a key source of dissatisfaction in the workplace.³⁸

Gina Venolia, Senior Researcher at Microsoft Research, looked at how employees felt about the layout of the space. She found that there were challenges with: **communication** in meetings, **awareness** of teammates and their work, **ad-hoc conversations** and building **trusting relationships** with teammates.³⁹ During the relocation of their 1,200-employee engineering operation (from five buildings to four new office spaces), they calculated that the **savings** associated with less travel time between buildings and more employees in each space were an estimated **\$520,000 per year** in **increased collaboration**. The number of meetings per week also increased from 14 to 18 as a result of being situated closer together.⁴⁰ Thus, more face-to-face interaction and 'collision' can greatly **improve business outcomes**.

These findings are consistent with previous findings such as that being **100 feet** away from others may result in **the same level of disconnection as several miles**,⁴¹ that **collaboration** is more likely to happen when people are **sat closer together**,⁴² and that even 20 feet between people can **reduce collaboration** when compared with 3 feet of **separation**.⁴³ What does this tell us? **That people need people!**

Organisations, forward thinking decision makers and public bodies are starting to **prioritise community**, because they realise that bringing people together is not only good for staff wellbeing and retention but also creates opportunities for employees to collaborate, which is essential for **innovation**.

By taking all of this on board and noticing the **benefits of physical proximity**, the spaces we design can:

- Encourage the **formation of new communities or strengthen existing** ones
- Enable unplanned **chance interactions** with others we may not talk with otherwise
- **Set the scene** for our interactions, affecting how we communicate and what we discuss
- Affect the **quality of interactions** due to our comfort levels during those moments

Thus, any **investment** into making the physical spaces meet the needs of its occupants could have **big returns**. And as one of our key human needs is for **community**, designing workplaces to bring employees together offers huge creative opportunities for Architects and Designers. We can offer value for money to clients who want to encourage teamwork, collaboration, innovation and creativity within their organisations. Let's see **how** it can be done...

CHAPTER 4: BRINGING IN BIOPHILIC DESIGN





Nature in a way strips away the artifices of society that alienate us from one another.”

– Andrew Przybylski, Co-Author of ‘Can Nature Make Us More Caring? Effects of Immersion in Nature on Intrinsic Aspirations and Generosity’⁵¹



Biophilic design promotes positive interactions between people and nature that encourage an expanded sense of relationship and responsibility for the human and natural communities.”

– Stephen Kellert⁵⁵

Hopefully by now we have convinced you that designing to enhance a sense of community is worthwhile. Now, it is our job to show you how! Our approach is to use **Biophilic Design**... Why? Well, Biophilic Design (incorporating nature & natural elements into the built environment using design principles) has been shown to improve mental and physical health, as well as increase productivity and reduce stress.⁴⁵ So, we know that nature does us good, but it also has a role to play in how we connect with others in our environment, as contact with nature has been found to:

- Activate the parts of brain associated with love and empathy, as seen in FMRI scans⁴⁶
- Increase feelings of unity, belonging and neighbourliness, and concern and support for others⁴⁷
- Create opportunities for re-connecting us with each other, through promoting positive interactions⁴⁸
- Help us identify with a place and increase our emotional attachment to it, decreasing loneliness and increasing social support⁴⁹
- Make people behave more cooperatively and less in their own self-interest.⁵⁰

Recently, much of the focus around Biophilic Design has been centred on Terrapin Bright Green’s ‘14 Patterns of Biophilic Design’.⁵² This takes a neuroscience approach, highlighting the benefits of bringing nature back into the built environment, and focusing on the specific ways in which elements of Biophilic Design can affect us **individually** through our senses. We explored this approach in our previous guide, ‘Creating Positive Spaces using Biophilic Design’.



Friends of the Earth, UK



Everything is about the people in these spaces...to meet, recruit, to get people to focus, gather, collaborate, engage, create, all these things – the spaces, that’s what they’re there to do. And that’s why Biophilic Design has become such an important part of these spaces. You will find Biophilic Design so strong in some of the best buildings and offices to work in around the world.”

– David Oakey, Founder of David Oakey Designs

However, in this guide, we are going to introduce you to some of the attributes of Biophilic Design that expert **Stephen Kellert** outlined (in numerous publications) to aid our sense of community with those around us. Kellert proposed an impressive, highly creative and thorough list of 73 attributes (and their characteristics) of Biophilic Design.⁵³ Kellert’s approach to Biophilic Design is socio-psychological,⁵⁴ focusing on our **relationship** with the built and natural environments, how we **interact** with them and how we **respond** to others within those spaces.

Kellert’s attributes of Biophilic Design fall into three categories:

1. **Direct Experience of Nature** – having contact with environmental features (for example, natural light, air, plants, animals, water, natural landscapes and ecosystems, weather and fire)
2. **Indirect Experience of Nature** – having contact with images, patterns or representations of nature that are characteristic of the natural world (for example, pictures and artwork, natural materials, natural shapes and forms, and simulating natural light and air)
3. **Experience of Space and Place** – creating places that are spatially similar to the natural world in thriving situations (for example, prospect and refuge, organised complexity, integration of parts to wholes, and transitional spaces).⁵⁶

BIOPHILIC DESIGN MEETS COMMUNITY

As we mentioned earlier, psychologists McMillan and Chavis developed a highly influential definition and theory of sense of community⁵⁷ (**Membership, Influence, Fulfilment of Needs and Shared Emotional Connection**). In the next chapter we have brought together **Biophilic theory** and **Community theory**, and in doing so, have created 7 Biophilic features (based on Kellert’s Biophilic attributes) for enhancing community (based on McMillan’s psychological elements).⁵⁸ This might sound complex, but these are simply suggestions based on our experience at Oliver Heath Design of how designing for community can be put into practice.

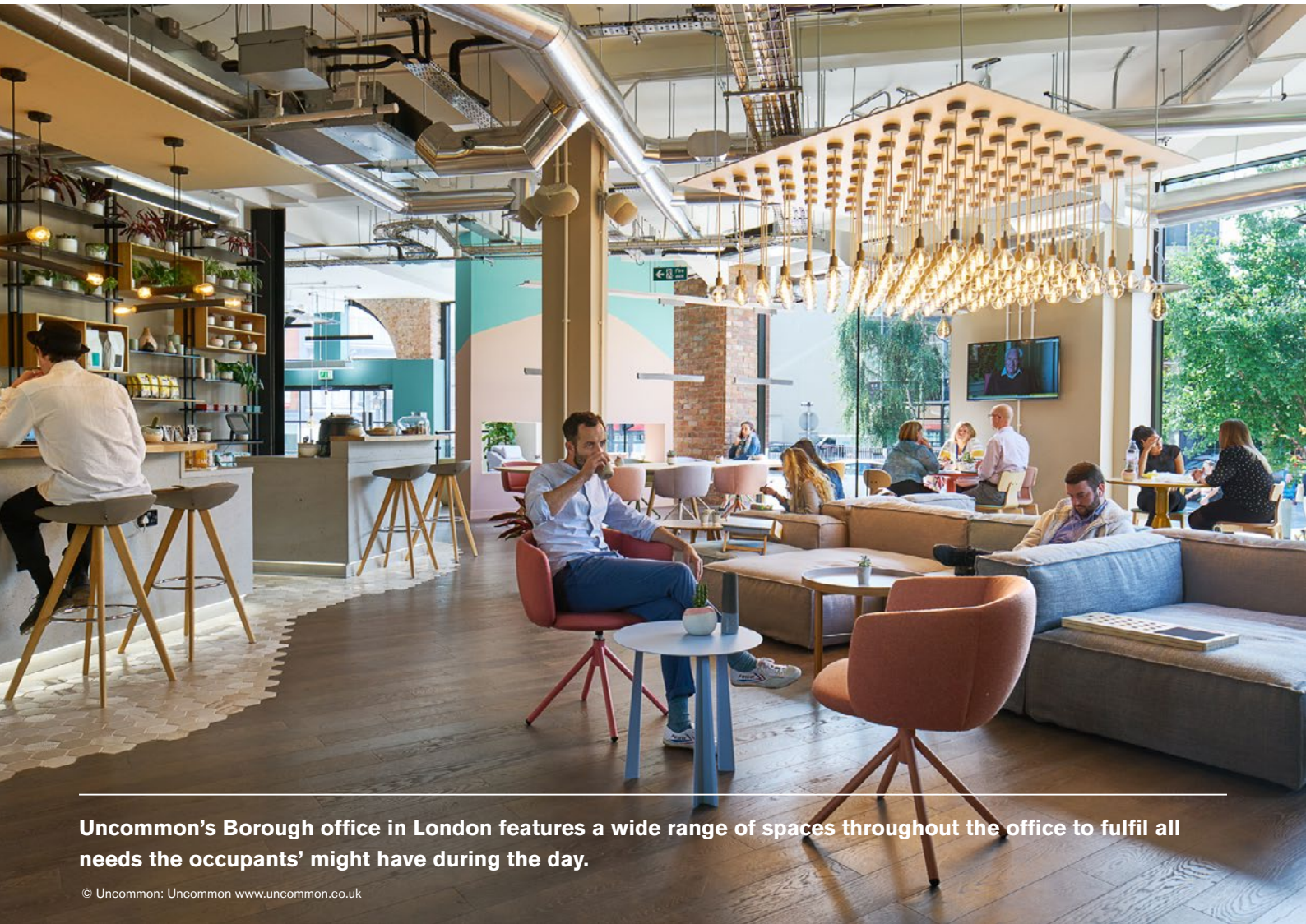
CHAPTER 5: 7 BIOPHILIC FEATURES FOR ENHANCING A SENSE OF COMMUNITY



These features can be played with creatively and combined or adapted to **enhance local communities and neighbourliness** in a range of sectors. You can use them together or individually if there are restrictions on the scale of your project. Some of the design strategies overlap, and so are not strictly separate; these can be good interventions to bring into the workplace as they can have a **greater impact** for a **smaller investment**.

All of our features can be adapted for other sectors where employees could benefit from enhanced community and, subsequently, loyalty to the organisation, such as hospitality, education and healthcare.

So, without further ado, we present you with our **7 Biophilic features for enhancing a sense of community...**



Uncommon's Borough office in London features a wide range of spaces throughout the office to fulfil all needs the occupants' might have during the day.

© Uncommon: Uncommon www.uncommon.co.uk

1 DIVERSITY OF SPACES

Ensuring there are a **range of spaces** available for different needs, preferences and activities that take into consideration the day, project, season and occasion.

Diversity of spaces works well if the areas are **zoned** (Feature 2) to create distinct identities.

KELLERT'S BIOPHILIC THEORY

Direct Experience of Nature: Natural Landscapes and Ecosystems;

In nature, the greater the diversity, the more resilient an ecosystem is because every element in the system fulfils a different role – much like people in organisations or social groups. And with diversity between people comes diversity of needs – so the types of spaces in which we thrive in can vary from person to person.

Evolutionary perspective

Variety in a natural landscape provides for numerous survival needs, and so has the ability to support life. Thus, having a variety of spaces makes for a healthy working environment, as it is supportive of our varying needs.



Ironically, an effective way to enhance a sense of community within a work environment is to incorporate both public and private spaces, thus encouraging people to gather while also providing space for individuals to step away in small groups or to be by themselves to rest, recharge, think and work. Individual space, small gathering and community spaces allow people to flow into the appropriate social and physical environments that meet their needs throughout the day.”

– Elizabeth Calabrese, Calabrese Architects, AIA, NCARB, LEED AP.

WHY?

Having a diverse range of spaces enhances a sense of community through McMillan and Chavis’ reinforcement; helping occupants’ fulfilment of needs within the space. This is crucial in making people feel comfortable and that they want to be part of the community.

Spatial variability fosters emotional and intellectual stimulation, and is most effective when there are both organised and united spaces.⁵⁹ But remember: places that encourage activity, as well as places that encourage passive pursuits such as reflection and relaxation, must be safe, attractive and easily accessible for people to want to spend time in them.⁶⁰

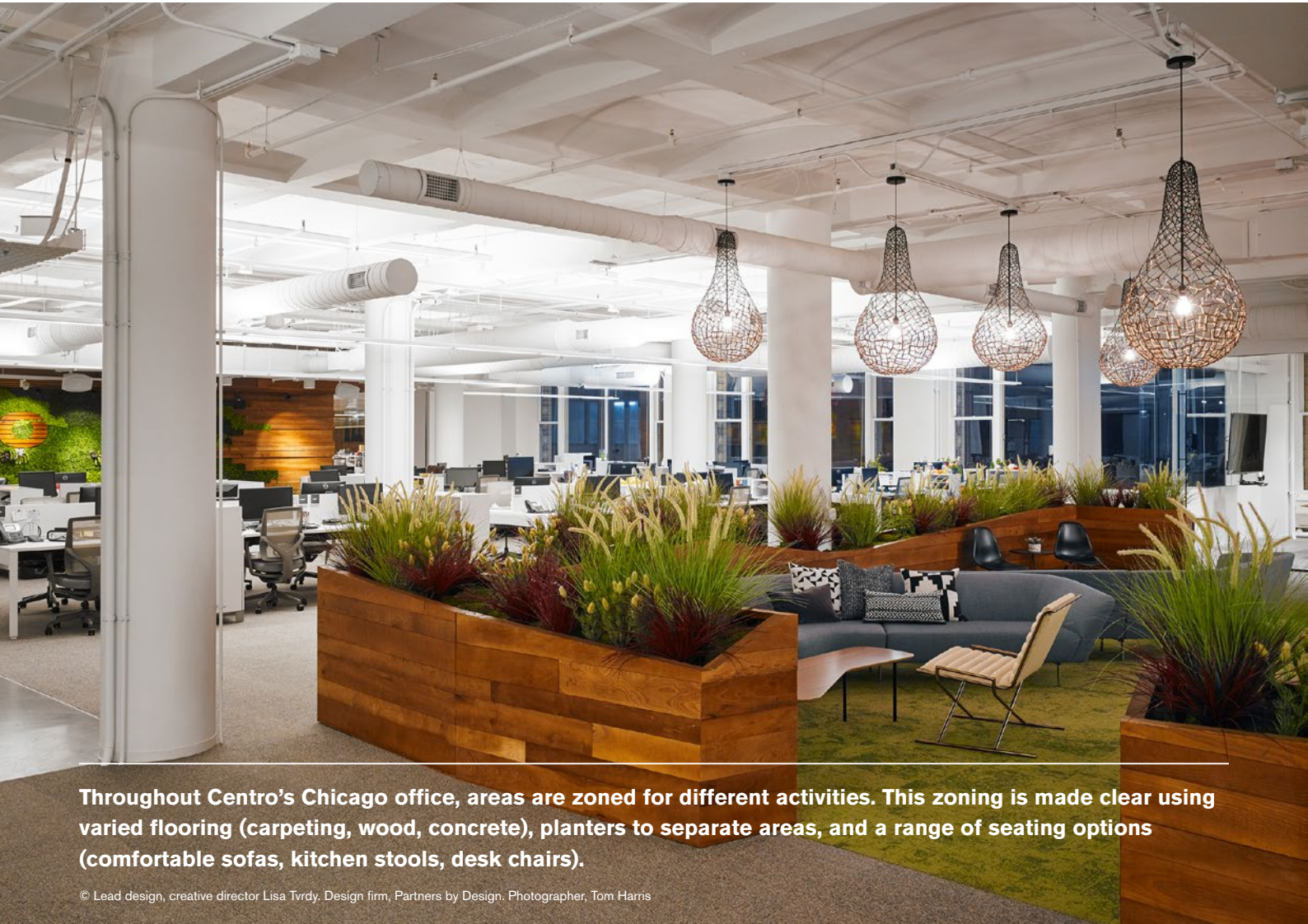
Bringing diversity into workspaces is essential for individuals’ physical, cognitive and emotional needs throughout the day, especially when you consider:

- The number of people who say they can’t concentrate at their desk has increased by 16% since 2008, and the number of those who don’t have access to quiet places to do focused work is up by 13%⁶¹
- For collaboration to be effective, we need to be able to focus alone or in pairs to generate the first ideas before coming together with the bigger group to develop them. After this happens, we need to be able to break off again to process the information. The concentrated space is just as essential in forming new ideas as the collaboration space⁶²
- People tend to go to either enclosed areas or louder public spaces to do things such as take calls, to shield themselves from eavesdroppers.⁶³ Thus, areas should be made for employees to take their calls privately.

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

We can mimic the diversity of natural landscapes and ecosystems by:

- Delivering a variety of **spaces** that facilitate the **collaborative** process (acoustics must be carefully considered in each):
 - Large and small meeting rooms
 - Individual workspaces
 - Places for refuge and recuperation
 - Collaborative open spaces
- Including a range of **furniture** that offers people the choice of **how to work**:
 - Both individual and communal desks
 - Adjustable standing desks
 - Places for refuge and recuperation
 - Comfortable seating for informal meetings, relaxation and restoration (both in and outdoors, and individually or in groups)
- Using a rich diversity of interior plants and greenery to aid place making and way-finding



Throughout Centro's Chicago office, areas are zoned for different activities. This zoning is made clear using varied flooring (carpeting, wood, concrete), planters to separate areas, and a range of seating options (comfortable sofas, kitchen stools, desk chairs).

© Lead design, creative director Lisa Tvrdy, Design firm, Partners by Design. Photographer, Tom Harris

2 ZONING SPACES

(with natural features and materials)

This is a method of **place-making**, or creating the **identity of spaces**, so that they have a distinct look and feel according to their purpose.

KELLERT'S BIOPHILIC THEORY

Experience of Space and Place: Organised complexity;

Expanding on **Diversity of Spaces**, we must recognise that different spaces suit particular activities & tasks.

Cultural & Ecological Attachment to Place; We can form a bond, or attachment, with both natural and built environments. Different methods of placemaking can enhance this, and subsequently increase both loyalty to, and comfort in, a physical space.

Evolutionary perspective: We feel more secure and less stressed when we know what a space is for. For example, if we know a place is secure, it is a place of refuge where we can rest without fear of predators. Likewise, if we know a place has clean water, that's where we'll head to when we get thirsty.



When considering placelessness from a biological and evolutionary standpoint, as recently as 10,000 years ago the majority of human beings were a hunting and gathering culture profoundly connected to place. We were emotionally and physically connected to the terrain, patterns, textures, seasons, weather, flora, and fauna and we were drawn to the things that helped us survive and procreate as a species—we were at one with our surroundings. Have you ever gone into a room and you have nothing in common with that space physically or emotionally where all seems uncomfortable, alien or barren to you? There is nothing about the space that you feel attracted or connected to, so it's not your space, it's somebody else's territory, someone else's ecosystem. To this day, we remain intuitively drawn to environments that promote our own ability to thrive and flourish as territorial and nesting creatures.”

– Elizabeth Calabrese, Calabrese Architects, AIA, NCARB, LEED AP.

WHY?

Zoning Spaces can enhance **emotional safety** through being able to understand what each space is for and how it is used.

The most successful collaborative workplaces create room for solitude within an otherwise busy space.⁶⁴ According to research, the average employee in the US in the 1980s reported needing quiet areas to concentrate, and 52% felt that their workplace lacked these **designated areas**. However, in the late 1990s, this fell to 23%, along with 50% feeling as though they needed more access to other people. From this, we increased areas for collaboration, however perhaps a little too much. It is now being indicated that employees, once again, are craving more privacy within the workplace.⁶⁵ So let's try to get the balance right this time!



Urban designers use pattern on floor to move people... the floor can be this space where you can actually create wayfinding pathways... to define spaces, to create spaces, to create meeting points, collision spaces, all those things.”

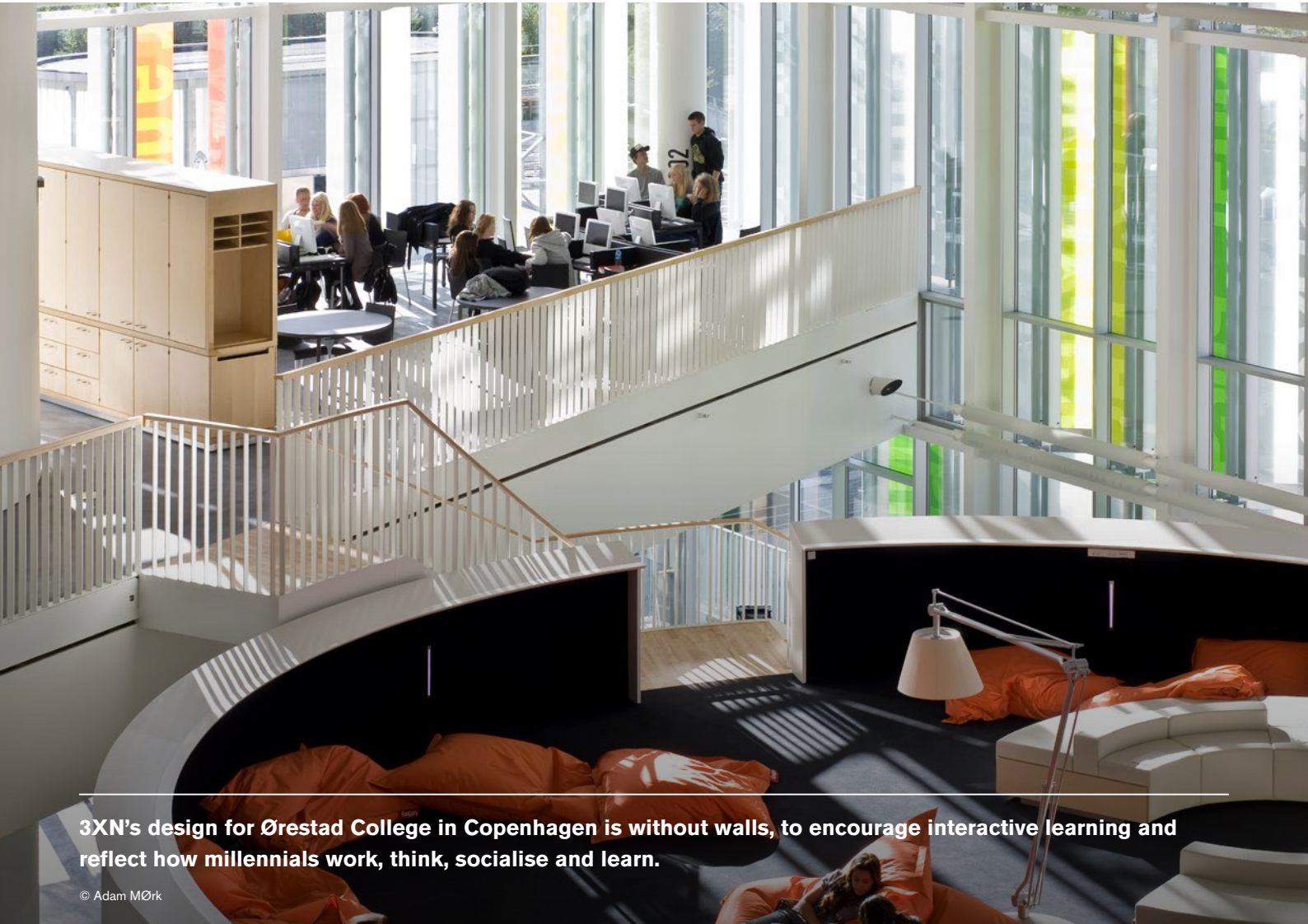
– David Oakey, Founder of David Oakey Designs

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

We can create distinct identities for spaces using:

- Colour*, patterns, and materials that relate to the local ecosystem or environment:
 - Locally grown or reclaimed timber e.g. from an iconic building that has been demolished
 - A colour scheme that mimics the local ecology e.g. rock or soil, plants, body of water etc
 - Patterns that mimic the native flora and fauna to aid placemaking
- Lighting to define space and enhance activities, allowing for:
 - A place of retreat (peace and emotional safety, slightly darker)
 - Areas for sociability (bright and energising)
 - Exposure to natural light
- Plants and planter partitions to divide and zone spaces.
- Acoustics to define areas, such as using water features for sound masking in private areas.
- Textural variations in flooring or furniture material for different spaces, such as softer textures and materials in relaxation spaces.

***The Ecological Valence Theory**⁶⁶ proposes that colours can be used to evoke different moods and affective states. For example, reds, oranges and yellows promote activity, as they imply the presence of food, whereas blues and greens create a more calming and restorative atmosphere, as they imply presence of water and healthy landscapes.



3XN's design for Ørestad College in Copenhagen is without walls, to encourage interactive learning and reflect how millennials work, think, socialise and learn.

© Adam Mørk

3 SOFT BOUNDARIES

(softening boundaries between spaces)

The boundaries between spaces can either prevent or enhance the permeability of interior spaces, or the division between the interior and exterior. Creating softer boundaries can make it easier to transition between spaces that are accessible, attractive and welcoming, to get people to gather and interact.

KELLERT'S BIOPHILIC THEORY

Experience of Space and Place: Prospect & Refuge: Having fewer boundaries between spaces can allow for feelings of comfort, due to better vantage or sightlines through a space. From an **evolutionary perspective**, this is like being in a safe hiding place looking out over a savannah, able to spot predators or prey, or looking out across the terrain to see opportunities for gathering water.

Transitional Spaces: Offering clear connections between distinct areas that link allows for easy movement between them. From an evolutionary perspective this is essential for navigation and survival. Additionally, in nature, the transition between spaces is generally fluid.



Transitional spaces within and between built and natural environments often foster comfort by providing access from one area to another.”⁶⁷

– Stephen Kellert⁶⁸

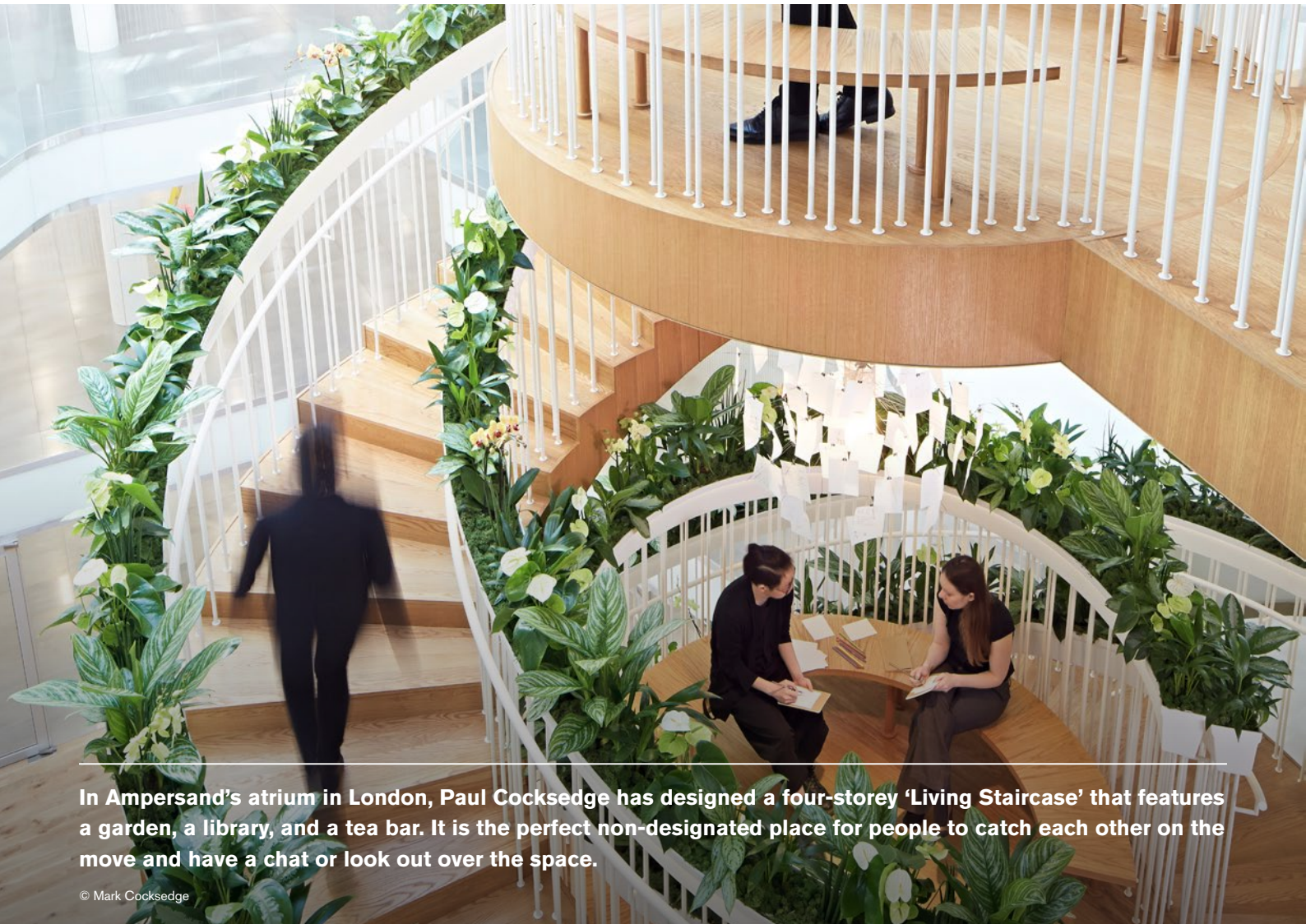
WHY?

Whilst some boundaries are needed to create the type of emotional safety that allows people to speak openly and bond,⁶⁹ having **softer boundaries** can reduce feelings of separateness. Mimicking the natural environment and **easing transition** between spaces can enable our cognitive, physical and emotional states to adjust to different environments as we would in a natural landscape, which in turn makes us more comfortable. If we make the **transition** from one space to another as **gentle** as possible, this will also lessen the sense of perceived ownership of spaces, and thus there is no feeling of 'trespassing' on other people's territories.

Creating sightlines from one area to another connects spaces and can create a sense of intrigue, mystery, and a desire to explore. This encourages movement around a space, increasing the chance of people bumping into one another and interacting.

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

- Semi-screening partitions between spaces. For example, using glass, open shelving, planters, or water features instead of solid walls. Using water features to separate spaces could mitigate potential acoustic issues – maintaining a sense of privacy as well as introducing natural sounds to benefit wellbeing.
- Platforms within the space that create seating or meeting points.
- Use curved lines to encourage unplanned wandering and exploration of spaces.
- Use filtered or diffuse sunlight to promote observation and evoke feelings of connection, particularly between indoor and outdoor areas; connected pools of light also draw people into and through spaces without boundaries.⁷⁰
- Create entrances that soften the boundary between the interior and exterior, offering a moment of de-compression.
- Space where people can prepare themselves for their next activity with sight lines into and out of the building.
- Don't forget – people still do like privacy, so softening boundaries too much could result in occupant dissatisfaction. To ensure more of a balance, it's a good idea to still include some private meeting rooms, and quiet nooks and booths in the design.



In Ampersand's atrium in London, Paul Cocksedge has designed a four-storey 'Living Staircase' that features a garden, a library, and a tea bar. It is the perfect non-designated place for people to catch each other on the move and have a chat or look out over the space.

© Mark Cocksedge

4 COLLISION SPACES

Well-designed **shared spaces** between designated areas can encourage positive incidental meetings, and occupants to move around or through the space.

KELLERT'S BIOPHILIC THEORY

Experience of Space and Place: Integration of Parts to Wholes:

Spaces that are for everyone's use can be used to connect the specific zones (with their individual identities) so that they are integrated into the whole space.

Evolutionary perspective

Collision spaces offered neutral territory in which resources could be shared with people from other communities, such as watering holes. In a contemporary context, this could aid the sharing of resources and ideas, enhancing communication, creativity, and innovation.



Facebook’s new eco-friendly headquarters in Menlo Park, MPK20, was built to reflect their mission to connect people: “It really creates an environment where people can collaborate; they can innovate together. There’s a lot of spontaneity in the way people bump into each other, just a really fun collaborative creative space... You can’t really walk through this space without bumping into people.”

– Lori Goler, the company’s Chief People Officer⁷¹

WHY?

Creating more opportunities for contact with others can enhance a **Sense of Belonging**, one of McMillan’s aspects of **Membership**, helping individuals feel part of an organisation or space through connecting with others.

Much like with Soft Boundaries, in spaces designed for collision, there is no ownership of space and subsequent infringement on others’ privacy. Can you see a theme here? We are enhancing community through making people feel comfortable in the workplace and subtly promoting increased interaction.

These are spaces where anything can happen; frequent contact with fellow employees can make us more open to others’ ideas, sharing and innovating whilst encouraging emotional openness. If we do not move around a space, we limit our contact with others and opportunities for chance encounters.

On top of that, businesses that increase opportunities for employees to move around the office and take physical exercise see benefits such as reductions in absenteeism and staff turnover.⁷² And with increased employee retention comes longevity of relationships between co-workers, thus creating a better opportunity for a real sense of community to develop over time.

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

- Entrances should be places where people can comfortably pause on their way in, or out, to encourage bumping into others.
 - Standing tables to set down laptops, bags or anything else being carried
 - Seating – for a quick perch at a table or for waiting and relaxing more comfortably
 - Good lighting (natural where possible) to connect to the exterior conditions – encouraging visibility, and facilitating working, or rejuvenating
- Make sure interior staircases are well-lit and ventilated with passing and pausing spaces if possible.
- Create ‘townhall steps’ with both high and low back seating to allow for prospect and refuge (softening boundaries whilst you’re at it).
- Create appealing informal third spaces like kitchenettes or water cooler areas where people can chat whilst hydrating (these also provide sensory spaces).

This needs to be done in response to the available space, but the key is to deliver welcoming spaces that can be used by anyone. The lack of ‘ownership’ or designated role of the space can make it adaptable and open to all if designed well.



Space Encounters designed the Joolz office in Amsterdam to feature lush tropical greenhouses that separate the concentration and social areas, which employees walk through and sit in. They have a variety of other seating areas to maximise choice, green spaces to aid relaxation and comfort, and even a firepit for occupants to meet around.

© Jordi Huisman Photography

5 GROWING SPACES

Spaces that **adapt and evolve with the users** and require personal investment and responsibility. These create ongoing longer-term interactions and relationships through bonding over time.

KELLERT'S BIOPHILIC THEORY

Direct experience of Nature: incorporating **Natural Light, Air, Plants, Water, Natural Landscapes and Ecosystems.**

Indirect Experience of Nature: Aging and the Passage of Time: the adaptability of the space means it changes over time according to need, or the materials age in a way that demonstrates time passing; mimicking the way nature is dynamic and constantly evolving.

Both approaches can enhance the **Experience of Space and Place: Cultural & Ecological Attachment to Place**, furthering the fulfilment of Kellert's Biophilic Principles, as we make ecological investments within a space that can increase our attachment to it. Using local flora, fauna and materials for place making connects people to their local environment.

Evolutionary perspective: Having continual growth within a space aids our ability to assess the climate, the availability of daylight hours and what kinds of food can be found according to season.



Historically as a species, we were empowered with the ability—and at times required—to respond to our immediate environment to survive. However, modern technology has allowed for hermetically sealed and static buildings which is antithetical (in contrast) to how we evolved. Empowering people with the authority and ability to control the space around them is profoundly important when fostering a sense of community—a sense of belonging. If I’m hot, I can open or close a window, I can choose the quality and quantity of light, air and sounds around me. Everyone is different and our needs change throughout the day and seasons. Many engineered spaces are environmentally static—yet there is nothing static about us as a species.”

– Elizabeth Calabrese, Calabrese Architects, AIA, NCARB, LEED AP.

WHY?

Spaces that grow with, or adapt to, their occupants enhance **Membership** by creating opportunities for **Personal Investment** in the space.

It is thought that giving employees some control over their physical environment, for example the temperature, light levels or amount of privacy, makes them feel like they are a valued member of the community.⁷³

Shared growing projects (like community gardens) that require personal investment and commitment have been found to solve social problems, create a sense of community, and enhance moods and immune functioning.⁷⁴

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

This is not only about giving occupants the responsibility to grow things – although that is one way to create a personal investment; The space should also be able to grow and adapt to fit the occupants’ needs.

- Unfinished or adaptable areas that offer choice and enable individuals to be involved in how it is used or functions. For example, interior or exterior areas that have lightweight, moveable tables and chairs so that people can choose where to sit or move to join others.
- Create adaptable spaces by using movable partitions and screens.
- Plants on desks, planters inside, in window boxes or on balconies, and rooftop allotments that individuals can tend to and take responsibility for.
- Modular or adaptable furniture and furnishings that can be changed, not just according to use and need, but style preference too.
- Operable windows, adjustable thermostats and lighting controllers.



This kitchen area at 1stdibs' New York office has a bar area for sitting and talking while others prepare drinks or food – a very homely, communal feel. Whilst it opens out to the office, the low lighting and suspended ceiling create a cosy nook that feels like a retreat from the work area.

© 1stDibs

6 SENSORY SPACES

Spaces that are designed to appeal to or have a positive effect on a **range of senses** – including sound, smell, touch and taste rather than just appealing to sight.

We have highly attuned sensory systems that have developed for our survival. For example, our sense of smell attracts us to healthy food and deters us from something rotting. Likewise, our hearing has evolved to identify a source of danger, and our sight can lead us to safety. We need to ensure that, when we design our spaces, all the senses are considered.

KELLERT'S BIOPHILIC THEORY

Indirect Experience of Nature: Information Richness: using mixture of visual, tactile and auditory stimuli.

Kellert also discusses: **Representation of Nature (and how it transforms), Natural Patterns & Processes, Artworks & Materials, Shapes, Forms & Geometrics, Evoking Nature** & using **Biomimicry**.

Direct experience of Nature: by including **Natural Light, Air, Plants, Animals** (think fish tank or an office dog rather than bringing a horse into work), **Water, Natural Landscapes & Ecosystems**, and **Weather & Fire**.

Evolutionary perspective We are used to, and therefore comfortable, being outside in information rich natural landscapes. In the built environment, our senses can be deprived of this sort of stimulation or overwhelmed by artificial stimuli.



In these modern technological times, we can feel assaulted by the built environment—flashing lights, red lights, crosswalk beeps, sirens, computer dings, text notifications, constant media, artificial lighting and mechanical air. A conscious design effort is required to balance this technological overstimulation and dominance with natural and calming interventions. Creating a more balanced built environment by weaving natural calm and wonder back into our lives has become imperative for our health and wellbeing.”

– Elizabeth Calabrese, Calabrese Architects, AIA, NCARB, LEED AP.

WHY?

This enhances McMillan's **Membership** element, creating opportunities for **Emotional Safety** in spaces where the senses are well considered. Everyone has preferences when it comes to sensory stimuli – people like different smells, temperatures, noise levels, and prefer certain things to look at and textures to touch. Thus, trust, community norms and expected behaviours are established through compromise, consideration and sensitivity to other people's needs in sensory spaces. We must feel able to control these things, at the same time as being willing and able to fit the group.

Ensuring spaces don't deprive or overwhelm our senses can help us feel physically and therefore emotionally secure. Neuroscience research discusses three modes of attention which, on any given day, we may need a little of each:

- **Controlled attention:** tasks that require intense focus which allow us to ignore all external stimuli (here, we might need private and intimate spaces).
- **Stimulus-driven attention:** routine tasks where we might tolerate or welcome distractions/interruptions (for this kind of attention, we might work best in open, social and active spaces).
- **Rejuvenation:** time we take out for our mental and physical rejuvenation, which can involve elements of social engagement (open stimulating spaces with nooks for privacy may enable this level of attention).

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

Consider a range of senses in the design – taste, touch, smell, sight, hearing, thermal comfort, movement & navigation. Often, several can be appealed to through one design intervention. For example:

- Install a coffee maker or make fresh juice available to emit the enlivening smell of freshly brewed coffee or fruits that also appeal to taste buds.
- Include spaces for fresh cut seasonal flowers to be displayed to create visual excitement that have appealing scents (of course, being cautious of allergies).
- Plants, green walls and planting schemes that look dramatic, add visual texture, can improve the air quality and add subtle scenting.
- Provide food spaces, such as a kitchen to allow people to prepare and share food together with communal dining areas and tables to give the space a homely feel and enable organised meals. These areas must be well ventilated.
- Use a range of natural materials and surface textures to stimulate visual and tactile senses.

Or, focus in on individual senses to zone areas:

- Use lighting to set the tone or mood of spaces and introduce colour – warm tones for relaxation, blues to enliven.
- Incorporate atomizers and diffusers to introduce scents that can, similarly to lighting, also be used to enliven or calm.
- Create acoustic landscapes that are designed to suit the activity in the space – consider whether it is a space for restoration or productivity, and whether sound masking or positive acoustics could be used to improve concentration, privacy or communication.



The Salesforce lobby in San Francisco features a 106-foot-long lobby screen to greet employees and visitors as they enter the building. It depicts moving images of natural scenes such as a waterfall or a tropical rainforest.

Photo by Josh Brott. Content creation by Obscura Digital for Salesforce.

7 TRIANGULATION

Designing a focal point into a space that **connects** two (or more) people when they stop to participate or admire. This increases opportunities for conversation or a shared moment of wonder, which can help to bring people together and make them more familiar with one another.

KELLERT'S BIOPHILIC THEORY

Direct Experiences of Nature through the inclusion of natural elements as focal points and **Indirect Experiences of Nature** that evoke nature or have characteristics of the natural world.

Combined, these can create a range of **Experiences of Space and Place**: particularly **wayfinding, and cultural and ecological attachment to place**, all of which aid **integration of parts to whole** (through a shared experience).

Evolutionary perspective: Focal points can emulate the way nature is dynamic and can be unpredictable (for example changes in weather), which can stop us in our tracks. **For example:**

- Staring in wonder as the sun sets and the sky lights up with fantastic colours
- An ominous looking sky making everyone stop what they are doing to respond to what is happening in that moment together, for example run for shelter, gather food quickly or tether things down.



The navigability of natural landscapes is often enhanced by the presence of a centrally perceived focal point. This point of reference frequently transforms what otherwise is a chaotic setting into an organised one that facilitates passage and way-finding... Many successful buildings and constructed landscapes similarly achieve coherence despite complexity and large scale when a centrally organised reference point has been effectively incorporated.”⁷⁶

– Stephen Kellert

WHY?

This enhances what McMillan calls **Shared Emotional Connections** through events, interests, and experiences that **bring people together**.

In a natural setting, this is like the first day of snow. Everyone stops to observe, gets out of the house and talks to their neighbours.

So, the way in which a space is designed can encourage people to stop and take notice of what is going on around them and each other. Let's take fire as an example. Fire has always been important – evolutionarily, it enabled us to cook, protect ourselves and stay warm. More recent research has shown that gathering around a fire has been found to significantly decrease blood pressure, encourage social behaviour and 'cement' bonds between people.⁷⁵

This idea can extend to other focal points, whether that be watching a water fountain, the movement of a kinetic sculpture or a presentation – it is something that brings us together with joint attention, creates an opportunity of wonder and conversation through shared physical or emotional response, or simply a feeling of comfort that can facilitate peaceful encounters.

HOW CAN I ACHIEVE THIS USING BIOPHILIC DESIGN?

Triangulation can be created through experiences or activities that are usually around some sort of focal point. This could include features that depict movement or dynamic change where no two moments are the same (**Non-Rhythmic Sensory Stimuli**)⁷⁷, such as the flickering of a fire or the movement of a water feature, which may relate to the seasons or the local ecology. Consider creating interactive features that create movement or sound.

The novel, the unpredictable and the unexpected can heighten the impact, whether they use natural materials and elements or mimic them:

- Fire pit (internally or externally) with seating around it
- Large fish tanks
- Water features – movement and sound also offer sensory stimuli
- Kinetic sculptures with unpredictability
- Video screens, interactive projections, and LED lighting panels, such as sky panels.

CHAPTER 6: DESIGNING FOR COMMUNITY: GET INSPIRED



Our sense of community is becoming widely recognised as a human need that requires more attention. Projects are now emerging where enhancing community is a key design intent. We'd like to show you some that we think exemplify designing for community within diverse contexts to demonstrate the versatility of the design ethos.

Our first examples are designed for public spaces (where the concept of place-making started). We think the same approach used in these spaces, created to be out in the street, can be brought inside. Then, we'll show you an example that makes the transition between public and private spaces, before finishing with an example of a private space that very much prioritises its community.

MAKING CITIES FOR PEOPLE

Gehl, a global leader in human centred urban design, has created many 'Making Cities for People' projects. One of which took place in Manhattan, New York, between 2007 and 2009. During the project, 400,000 square metres of traffic space was reclaimed for people, creating more places to sit, incorporating more nature and designating more areas for cyclists. According to Gehl, people subsequently "moved out of their homes and offices and onto the streets."⁷⁸ It was found that 86% more people stopped to meet and chat, sit and relax, and 26% more employees began to go outside during their breaks. You can check out their other projects around the world here: www.gehlpeople.com/work/cases



'Simple Pleasures Parklet', San Francisco
©step3studio.com



'Simple Pleasures Parklet', San Francisco
©step3studio.com

San Francisco's 'Simple Pleasures Parklet'

Cost:	\$26,000
Year:	2014
Area:	Three parking spaces
Client:	Simple Pleasures café
Collaborators:	Ron Stanford (Step 3 Studio), Tina Calloway (Urban Farm Girls), Eric Mar.

Copenhagen's 'Instant City Life'

Cost:	850 €/m²
Year:	2014
Area:	12.5 m²
Client:	Leth & Gori
Collaborators:	Christina Parrish, Søren Ejlersen, Heiner Aldinger and Rikke Stenbro

PARKLETS

This moves us onto parklets, as we go on to look at more individual projects that have enhanced community. Originating in San Francisco in 2010, the Groundplay's 'Pavements to Parks' initiative began designing parklets to "temporarily reclaim unused swathes of land and quickly and inexpensively turn them into new public spaces."⁷⁹ Parklets are moveable sidewalk extensions that take up a few parking spaces which are turned into mini parks, with seating for people to stop, sit, rest or socialise. They also usually contain greenery and art, or other visual comforts.

San Francisco's 'Simple Pleasures Parklet' features:

- Heavy, stained wood benches
- Wooden planters
- A view of the ocean
- A variety of plants growing throughout the space.⁸⁰

In 2011, the San Francisco Great Streets Project carried out a Parklet Impact Study⁸¹ to assess the influence of parklets on pedestrian traffic, behaviour and perceptions, by which time over 20 parklets had been built across the city since their 2010 introduction. The study was conducted at three Parklet locations, where it was found that:

- At one location, foot traffic increased by 44%. Thus, the parklets enabled pedestrians to take more ownership of the street by creating more opportunities for meeting and socialising with others.
- There was a large increase in the number of people stopping to participate in stationary activities, particularly in one of the three locations, where this number almost tripled from 4 to 11 people at any given time.
- The number of bikes parked around each location increased, indicating a rise in physical activity and use of the space.
- Overall, perceptions of the areas as being a good, fun and clean place to socialise were reported to increase around the parklets.

Further, the Vancouver 2013 Parklet Pilot Program Guide lists benefits of parklets, including providing spaces for people to sit and relax, creating wider pavements, attracting potential customers to local businesses, and fostering a sense of community by making public spaces more welcoming.⁸²



Copenhagen's 'Instant City Life'

So, as you can see, these small areas designated for people to come together has many benefits for both the community and local businesses, which is why the idea has spread to many parts of the world. For example, for World Car Free day⁸³ in Shoreditch (London), Hackney Council took the opportunity to rethink what streets can be used for. A series of pop-up parklets were temporarily placed around the area to test it out.⁸⁴

Further, Copenhagen's 'Instant City Life' exhibition also featured a parklet, for the same reason – to stimulate the re-evaluation of how we value the land in our cities, and how we should be designating more space for people and less space for traffic.

This wooden parklet, situated in one of Copenhagen's 70,000 parking spaces for two months...

- Featured mini 'gardens' that held vegetables that could be planted and harvested by the public
- Created a way for people to get their hands dirty and connect with nature and its systems
- Acted as a social space in which strangers met one another and bonded over the shared experience of the space.⁸⁵

Parklets bring together all 7 of our Biophilic Design features, most notably **zoning spaces** for particular activities, creating the opportunity for the **collision** of people, **softening of boundaries** between the street and meeting points, and a space where things can **grow** and change over time that the public are invested in, all whilst adding to the **sensory** landscape. They also add richness and **diversity** to areas, and destination points (**triangulation**) to the city. All of these things make parklets a perfect example of designing to enhance community.

“

It's kind of a little pop up park and they're happening all over the place. We're starting to see designers taking this concept of a parklet and bringing it indoors.”

– David Oakey, Founder of David Oakey Designs



Now, as David Oakey told us...the success of parklets gives room to wonder what would happen if we took one of these designed areas and applied it indoors. Would this have the same effect in bringing people together to sit and chat when they would have otherwise simply walked past each other, or sat alone at their own desk for lunch? Well, we've picked out a few examples of **interior** spaces that have been designed in a way that we believe greatly reflect OHD's 7 features of Biophilic Design to enhance a sense of community.



Interdisciplinary knowledge sharing stimulates successful innovation. We are moving towards networked organisations and structures. The pioneers in this field are the start-ups working in one community building, each having their own office/studio, but sharing public spaces and facilities to encourage encounters and exchange of thoughts. This helps them network and creates larger project opportunities.”

– Kitty de Groot, design journalist, design strategist, owner of Studiovix.nl.

CO-WORKING SPACES

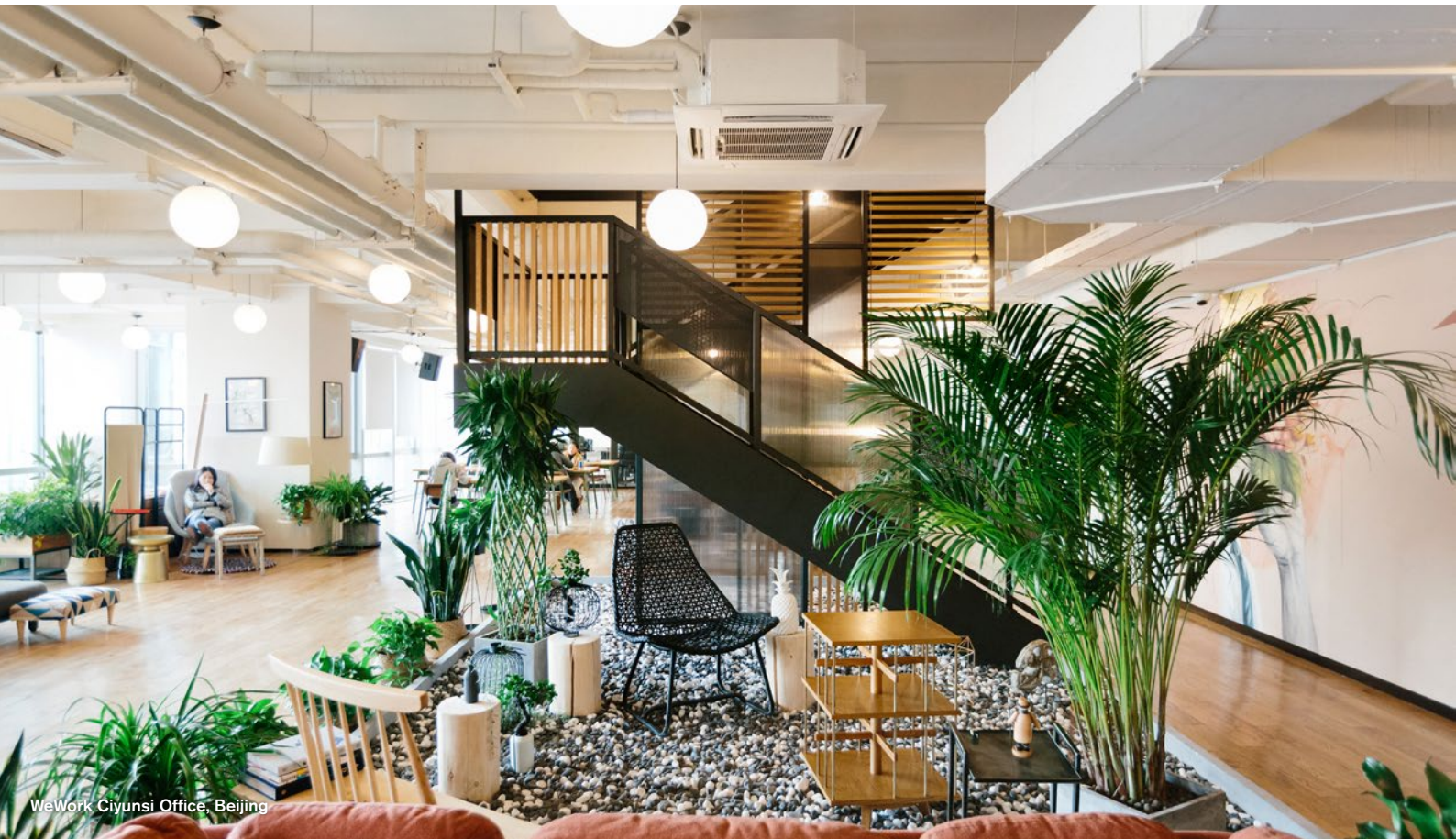
What makes many co-working spaces so effective? Well, unlike the traditional office, they are comprised of people who work for various companies in a range of fields. Thus, there is no single company ‘identity’ that one needs to fit into, but rather an opportunity here for the space to create a common identity. They are also free from ‘territories’ and subsequent feelings of trespassing, allowing for mingling between people with different areas of expertise and interest. This gives way to unexpected collaboration, which of course is great for business. In the co-working Manifesto, an online document signed by members of more than 1,700 co-working spaces, values such as community, collaboration, learning, and sustainability have a strong presence. Thus, these spaces are not only places people go to work, but places that are driving forward a social movement towards a common goal of connection.⁸⁶ Why do you think so many companies are paying to work in these collaborative spaces instead of renting individual offices? Something must be working...

Let’s take WeWork as an example. WeWork is a \$20 billion (as of 2017)⁸⁷ shared working space company founded in Brooklyn, New York, in 2010, ‘where companies and people grow together’.⁸⁸ Adam Neumann and Miguel McKelvey, WeWork’s founders, realised that companies were in search of a sense of shared community, which led them to revolutionise the way in which companies rent office space. They have now reached 62 cities across 21 countries. Businesses can rent either whole office rooms or reserve a specific number of seats within the office space, either in a fixed position or hot desking. This enables new conversations, ideas and collaboration. In fact, WeWork report that 70% of their members have done business together.⁸⁹

WeWork provide both physical and virtual benefits to their members to build up their community, ensuring they create “beautiful, collaborative, physical spaces for teams of any size” to support their community of “over 248,000 members who collaborate in-person and digitally.” The company has “an app that lets members connect and work virtually with other members around the world” as well as “formal and informal events to **encourage connections**” (WeWork Ciyunsi Team). Thus, the community spirit seems to be embedded within and throughout these offices, and we’re sure some great innovations have come out of it.



WeWork Ciyunsi Office, Beijing



WeWork Ciyunsi Office, Beijing



When we started WeWork in 2010, we wanted to build more than beautiful, shared office spaces. We wanted to build a community. A place you join as an individual, ‘me’, but where you become part of a greater ‘we’. A place where we’re redefining success measured by personal fulfilment, not just the bottom line. Community is our catalyst.”⁹⁰

– Miguel McKelvey and Adam Neumann, Founders of WeWork

WEWORK CIYUNSI OFFICE, BEIJING

The WeWork inhouse design team have created a beautiful office in Beijing which incorporates design features that fully embrace and facilitate the community ethos of the organisation. The building is located in an area that has great potential in the future as the city expands, situated within a giant complex with residential and other office buildings. The concept of this space is derived from traditional Chinese “gates” or archway architecture, also known as Paifang. Ciyunsi invokes a warm, zen-like atmosphere to provide occupants with a break from the hustle and bustle of the city. We spoke with the team over at the Ciyunsi office, where they told us “we try to reinvent the idea of indoor/outdoor relationship in the car-centric city of Beijing”, and “according to WeWork Economic Impact Report 2018, **WeWork is 2.5x more efficient with space than a typical office**, freeing up room for new people, businesses, and jobs.”

Next, we list the design features within the Ciyunsi office that fulfil our 7 Biophilic Features for Enhancing a Sense of Community...

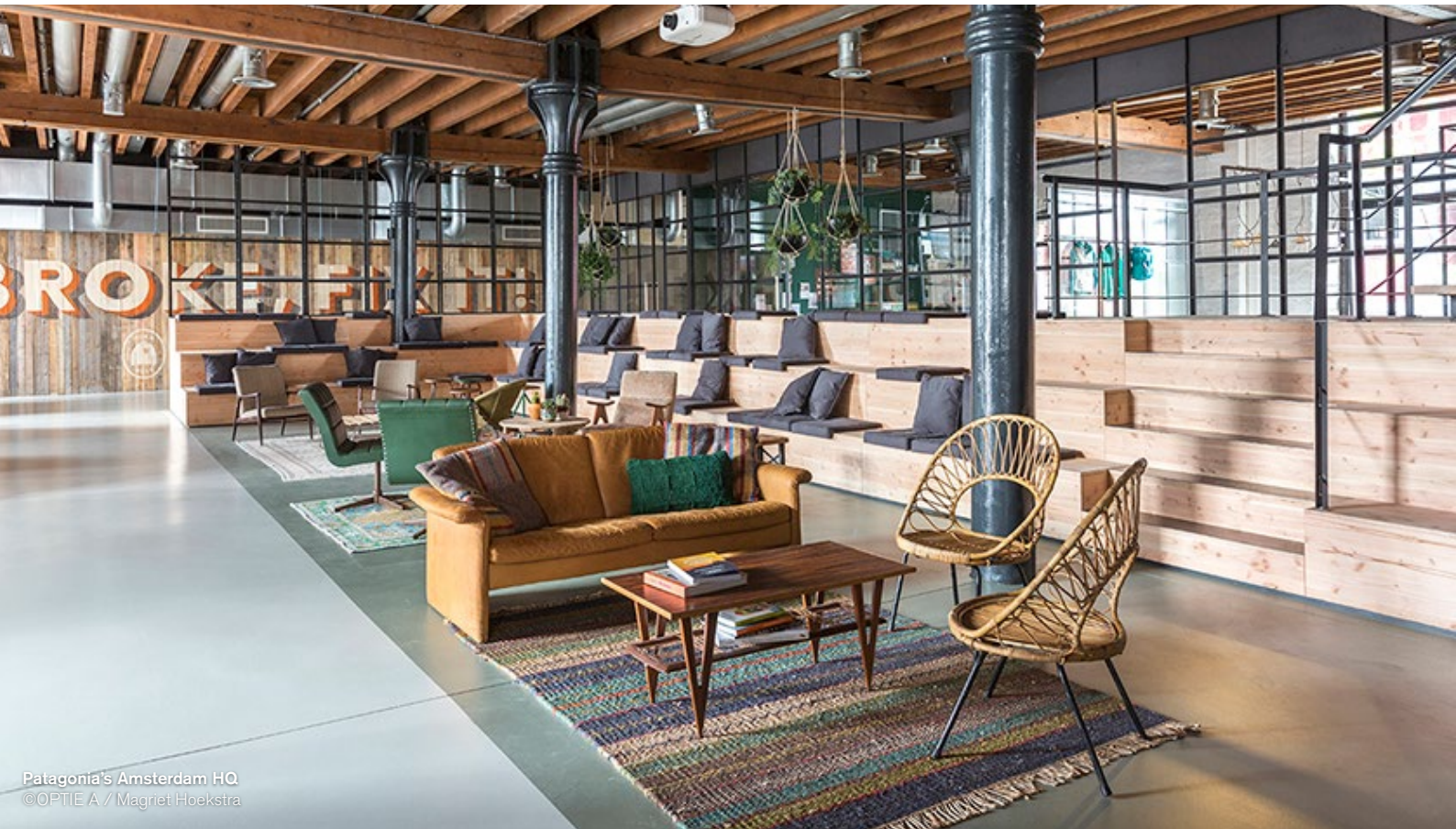


WeWork transforms buildings into dynamic environments for creativity, focus, and collaboration. More than just a new way of working, though, this is a movement toward a new way of living. We humanize the way people work and live.”

– WeWork Ciyunsi Team

Feature	Community Elements
Diversity of Spaces	<ul style="list-style-type: none"> ▪ The office is spread over two lofty and sunlit floors of private offices, coworking space, kitchens, conference rooms, and even an arcade ▪ A communal area where all community activities take place ▪ A small stone garden for brainstorm sessions ▪ A private wellness room for nursing mothers, praying, and meditation
Zoning Spaces	<ul style="list-style-type: none"> ▪ Carpets are used within comfortable seating areas, which contrasts with the wooden floor of the walkways that connect them ▪ A variety of furniture and lighting is used to promote different activities, for example kitchen tables and bar stools in the brightly lit, social kitchen. In contrast, wooden cocoon-like chairs hang underneath a display of homely lamps and plants that look out over Beijing, providing privacy with a sense of both prospect and refuge ▪ Rich and diverse use of plants to break up seating areas and line walkways
Soft Boundaries	<ul style="list-style-type: none"> ▪ Whilst the use of plants does break up the spaces, on one of the floors there are soft boundaries between different seating areas, which include eating areas with wooden tables and chairs, alongside soft furnishings, sofas and coffee tables for informal meetings or restoration ▪ Glass walls separate office spaces and entrances, allowing sightlines through the building and inviting occupants into other areas (instead of them being closed off and 'private')
Collision Spaces	<ul style="list-style-type: none"> ▪ Long and wide corridors offer circulation with interest points ▪ Visible internal staircases connect members on each floor; "For traditional offices, companies on the same floor even don't know each other. But the staircase is more like a tie between members; with the narrow passage, they have to make eye contact even if they are strangers. This is how we increase the chances or possibilities for them to connect in the same space." – WeWork Ciyunsi Team ▪ Kitchen, lounge areas and shared seating areas offer informal pausing spaces where interactions can happen
Growing Spaces	<ul style="list-style-type: none"> ▪ Moveable stools, chairs and tables can be orientated according to individual or group needs ▪ Hanging seats can offer seclusion looking out over the exterior vista or be turned around to connect with interior activities
Sensory Spaces	<ul style="list-style-type: none"> ▪ A pantry where members can take a break and enjoy freshly brewed coffee and fruit water ▪ A variety of plants used throughout the office, improving air quality and providing subtle scenting ▪ The use of cosy and calming earthy materials, such as wood, cork, concrete, matt tiles and gravel, alongside the soft furnishings within informal areas, such as leather sofas and woollen blankets, make the office very different from other working environments in Beijing and stimulate visual and tactile senses
Triangulation	<ul style="list-style-type: none"> ▪ A ping pong table for short breaks ▪ A movie screening room for entertaining ▪ The first Karaoke room in Beijing for after work amusement or team building ▪ Large murals created by local artists that create a connection to the area and act as focal points





Patagonia's Amsterdam HQ
©OPTIE A / Magriet Hoekstra



Patagonia's Amsterdam HQ
©OPTIE A / Magriet Hoekstra



Not only are we feeding our employees good food, but we are building a community, too. Socializing is important. We also have on-site child care for our employees. That was my wife Malinda's idea, and it was radical when we first introduced it, in 1981. It really does take a village to raise a child, and we don't live in villages anymore. So companies need to be more like villages. I think the kids who come out of here are Patagonia's best products"⁹¹

– Yvon Chouinard Founder of Patagonia

PATAGONIA'S AMSTERDAM HQ

Patagonia, a sustainable and environmentally conscious outdoor clothing company, has designed its offices with the idea of community at their heart, whilst reflecting the founder and employees' shared passion to protect and appreciate our planet.

We spoke to Alberto Zanini*, Visual Merchandising and Design Manager Europe at Patagonia, who told us that the three main requests at the time of designing the Amsterdam HQ were:

- "To have a central element that was to bring everyone together"
- "That all the space should be open, nobody should have their own office – even senior management"
- "To create as much meeting space as possible"

Again, we'll show you how these requests were fulfilled and how it all fits in with our 7 Biophilic Features for Enhancing a Sense of Community.

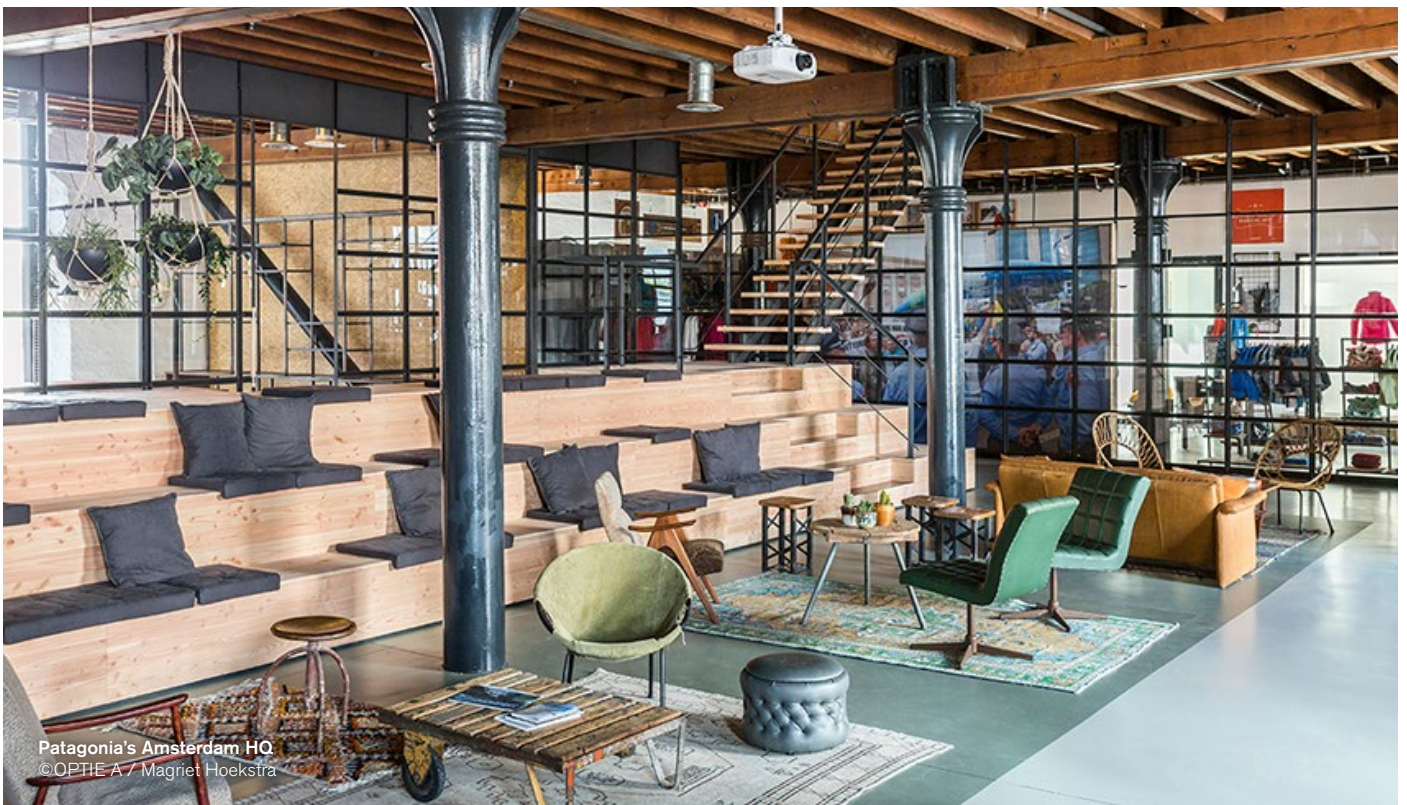


From an office space point of view, sometimes it's like being on a table with your own family where everyone has their own opinion. You can start endless conversations because people aren't thinking twice before talking. Everyone is used to talking and sitting with the General Manager or the director and discuss work/food etc. It really helps the family feeling."

– Alberto Zanini

Feature	Community Elements
Diversity of Spaces	<ul style="list-style-type: none"> Formal and informal meeting spaces on both the ground and first floors Spaces for more private meetings, such as with external suppliers and customers A separate family room for parents to bring their children in if they are sick or there is trouble with childcare, laid out in the style of a classic Amsterdam house for a relaxing, homely feel More space upstairs for private work away from the noise of the rest of the office
Zoning Spaces	<ul style="list-style-type: none"> Designated areas for different activities that are identifiable by materials used, for example: a corner with a sofa and armchair for people to comfortably sit and chat, high tables, and an area with pillows, for varied seating options "The use of plants for us is... something that we use to keep the warm homely feeling, to keep a smile in the space. Plants in the building help to create a healthy environment. In the meeting room, for example, now there's a huge plant... The intention was to bring a bit of green healthiness to the building.."
Soft Boundaries	<ul style="list-style-type: none"> Making the office open plan to encourage communication between people A view of the main river that flows out to the sea, which employees swim in during the summer
Collision Spaces	<ul style="list-style-type: none"> Stairs integrated into a central meeting stage, allowing people to connect between floors and never feel too separate in any place. "Every day at different times there are people on the stage having informal meetings, having a chat, having a coffee. That was intentional!"
Growing Spaces	<ul style="list-style-type: none"> "We go running together. A lot of us are keen cyclists. So, we go in the summer lunch breaks to cycle together. People from different departments. We go climbing together. We also have a yoga room and an exercise room. We have a trainer and facilities and a shower. Sport is really encouraged here."
Sensory Spaces	<ul style="list-style-type: none"> A kitchen area where employees are encouraged to eat their lunch on a separate floor as a destination point separate from work areas. This has been found to "help everyone to share and communicate between departments." Free beers in the kitchen at five o'clock on Fridays for socializing and starting the weekend, which has been described as "a good shared experience" Reclaimed materials used where possible, for example reused corrugated metals, stairs built out of recycled desks, reclamation within the flooring and other areas, recycled wood - sustainable materials used throughout, such as Douglas Fir sustainable timber The recycled wood "gives the spaces a warm feeling and connects to what we do and what we love. We are an outdoor company, so we are closely connected to the outdoor environment, to spaces with a lot of wood. At the same time, we are outdoor lovers – most people in the office are connected to skiing, mountain biking, outdoor activities. This kind of element therefore makes us feel very at home."
Triangulation	<ul style="list-style-type: none"> Only having one coffee machine in the office – in the kitchen – brings people together throughout the day A stage at the centre of the ground floor where people frequently gather for events, screenings and talks at lunch time or in the evenings, some of which are even open to the public, which furthers the sense of community Having key speakers in to bring together the whole Patagonia community

*All quotes throughout this case study are taken from our conversation with Alberto Zanini



Interestingly, the design requests in themselves indicated that Patagonia's employees craved having connections with others in the workplace. And as you can see, they have really focused on creating a space in which people feel comfortable and connected, where their needs are being met, and a place that employees enjoy spending their time in. That's the key to this, after all! We hope these case studies have inspired you to do the same in your projects.

CHAPTER 7: JOIN THE COMMUNITY



The concept of community is a big topic, with plenty of psychological research into the benefits of having a sense of community and what is necessary to achieve it. We have merely scratched the surface of it in this design guide. The references throughout the paper will lead you to more information on everything we've mentioned.

Across different sectors, people are starting to think about how design can have an important role in bringing a sense of local community inside buildings. For example, in healthcare – Maggie's centres prioritise creating spaces for people to meet, sit and talk. Whilst place-making has become a driving force in urban planning.

As human-centred design becomes further embedded into the industry, it will become increasingly important for Architects and Designers to integrate it into their practice and be able to communicate the value of designing for community to their clients. As such, more research is needed to measure the impact and economic implications of designing for community. This will help it gain further industry recognition and can be enhanced by Architects and Designers engaging with this approach and measuring the effects of their designs on the people who inhabit them.

CALCULATING COMMUNITY

Pre- and post-occupancy studies (POE): These are a method of gathering information from occupants before and after a design intervention. Qualitative research can measure the effect of design within an office setting, through simple methods such as interviewing occupants, whilst quantitative studies compare productivity, absenteeism and staff turnover before and after an office move or refurbishment. **Our next Design Guide** will demystify the POE process and walk you through how you can begin to measure the human-centred benefits of your designs or buildings.

CERTIFYING COMMUNITY

WELL™ and other human-centred design **building standards** are measuring and certifying buildings that take occupier wellbeing into consideration (see our guide to Creating Positive Spaces using the WELL Building Standard™ - info.interface.com/whitepapers-en_GB). At the time of writing, the International Well Building Institute (IWBI) are piloting the **WELL Community Standard™** to support 'health and well-being through inclusive, integrated and resilient communities,¹⁹² in which they have built upon the original WELL Building standard to add the consideration of how features within spaces, both buildings and outdoor public spaces, can foster social interaction and engagement. (You can check it out here: <https://www.wellcertified.com/node/3592>)

WELL™ is also expanding on their original 7 concepts. They will have 10 concepts in total, one of which being 'Community'; the IWBI are making steps to enhance the health and wellbeing of the community within buildings, for example making sure occupants have access to healthcare, promoting policies and programs that encourage healthy behaviours and conducting occupant surveys to evaluate the experience of occupants. New parents could also be given additional support, whilst civic engagement, organisational transparency, inclusivity, access and safety are encouraged in WELL certified buildings.

All of these indicate the much-needed shift towards enhancing a sense of community within the built environment. Long may it continue!

GET INVOLVED

We hope this guide has given you something to think about. Perhaps you are considering how you can put designing for community at the centre of your building or next project. If that's the case, we would love to hear what you're planning to do and see the results. That way, you can add to the growing number of case studies demonstrating how design can improve people's wellbeing through **Creating Positive Spaces**.

If you need support in thinking about your next step towards designing for community, Interface has a team of designers and consultants who can support you in this process.



Yeip, San Francisco, USA

REFERENCES

¹<https://officeinsight.com/officenewswire/biophilia-pioneer-stephen-kellert-1943-2016>

²Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.

³McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of community psychology*, 14(1), 6-23.

⁴Gusfield, J. R. (1975). *The community: A critical response*. New York: Harper Colophon.

⁵McMillan, David W., and David M. Chavis. "Sense of community: A definition and theory." *Journal of community psychology* 14.1 (1986): 6-23.

⁶<http://thecommunitymanager.com/2014/02/06/4-elements-to-creating-a-sense-of-community-by-dr-david-mcmillan/>

⁷Barton, H., & Grant, M. (2006). A health map for the local human habitat. *The Journal for the Royal Society for the Promotion of Health*, 126(6), 252-253.

⁸Maslow, A. H. (1943). A theory of human motivation. *Psychological review*, 50(4), 370.

⁹<https://www.nhs.uk/conditions/stress-anxiety-depression/improvemental-wellbeing/>

¹⁰<http://the-reply.com/the-importance-of-community-and-belonging/>

¹¹Vaillant, G. E. (2012). *Triumphs of experience*. Harvard University Press.

¹²Isen, A. M., & Levin, P. F. (1972). Effect of feeling good on helping: cookies and kindness. *Journal of personality and social psychology*, 21(3), 384.

¹³<https://youngfoundation.org/wp-content/uploads/2013/02/Understanding-neighbourliness-and-belonging-September-2008.pdf>

¹⁴<http://www.if.org.uk/research-posts/2018-if-index-how-does-the-wellbeing-of-todays-twenty-somethings-compare-to-previous-cohorts/>

¹⁵<https://www.thersa.org/discover/publications-and-articles/rsa-comment/2010/02/jaron-ianier-admirable-apostate-of-the-digital-revolution>

¹⁶<https://youngfoundation.org/wp-content/uploads/2013/02/Understanding-neighbourliness-and-belonging-September-2008.pdf>

¹⁷Waldrop, M. M. (1996). The trillion-dollar vision of Dee Hock. *Fast Company*, 5(October/November), 75-86.

¹⁸<http://www.communiteam.org/cbinworkplace.pdf>

¹⁹Cohen, D., Prusak, L., & Prusak, L. (2001). *In good company: How social capital makes organizations work* (Vol. 15). Boston, MA: Harvard Business School Press.

²⁰<https://www.forbes.com/sites/johnbaldoni/2017/01/22/fostering-the-sense-of-belonging-promotes-success/#7cc151c10f26>

²¹https://en.wikipedia.org/wiki/Grant_Study

²²<http://www.businessinsider.com/the-10-largest-family-businesses-in-america-2011-11?op=1&IR=T#ixzz2UhjVrUJ>

²³<http://futureproof.bitc.org.uk/sites/default/files/BITC%20-%20Youth%20Survey%202015%20-%20key%20findings.pdf>

²⁴<https://www.forbes.com/sites/carolkinseygoman/2017/10/12/why-ibm-brought-remote-workers-back-to-the-office-and-why-your-company-might-be-next/#69ce2e0d16da>

²⁵http://www.interfacereconnect.com/wp-content/uploads/2012/11/The-Economics-of-Biophilia_Terrapin-Bright-Green-2012e_1.pdf

²⁶Battistich, V., Solomon, D., Watson, M., & Schaps, E. (1997). Caring school communities. *Educational psychologist*, 32(3), 137-151.

²⁷Jarvenpaa, S. L., & Leidner, D. (1999). Communication and trust in global virtual teams. *Organization Science*, 10(6), 791-851. doi: 10.1287/orsc.10.6.791

²⁸Paul, D. L., & McDaniel, R. R., Jr. (2004). A field study of the effect of interpersonal trust on virtual collaborative relationship performance. *MIS Quarterly*, 28(2), 183-227.

²⁹Zolin, R., Hinds, P. J., Fruchter, R., & Levitt, R. E. (2004). Interpersonal trust in crossfunctional, geographically distributed work: A longitudinal study. *Information and Organization*, 14(1), 1-24.

³⁰<https://www.forbes.com/sites/carolkinseygoman/2017/10/12/why-ibm-brought-remote-workers-back-to-the-office-and-why-your-company-might-be-next/#69ce2e0d16da>

³¹<http://www.yourthoughtpartner.com/blog/bid/44390/Leading-in-Person-6-Reasons-to-Communicate-Face-to-Face>

³²Aaron Wolfgang (Ed.). (1984). *Nonverbal behavior: Perspectives, applications, intercultural insights*. Hogrefe & Huber Pub.

³³<https://www.forbes.com/sites/carolkinseygoman/2017/10/12/why-ibm-brought-remote-workers-back-to-the-office-and-why-your-company-might-be-next/#5822852916da>

³⁴Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems*, 14, 29-64

- ³⁵Rosen, B., Furst, S., & Blackburn, R. (2007). Overcoming barriers to knowledge sharing in virtual teams. *Organizational Dynamics*, 36(3), 259–273. doi:10.1016/j.orgdyn.2007.04.007
- ³⁶<https://www.forbes.com/sites/carolkinseygoman/2017/10/12/why-ibm-brought-remote-workers-back-to-the-office-and-why-your-company-might-be-next/#69ce2e0d16da>
- ³⁷<https://hbr.org/2016/10/how-microsoft-used-an-office-move-to-boost-collaboration>
- ³⁸Kim, J., & De Dear, R. (2013). Workspace satisfaction: The privacy-communication trade-off in open-plan offices. *Journal of Environmental Psychology*, 36, 18-26.
- ³⁹<https://www.microsoft.com/en-us/research/publication/can-we-make-distance-matter-less/?from=http%3A%2F%2Fresearch.microsoft.com%2Fapps%2Fpubs%2Fdefault.aspx%3Fid%3D74361>
- ⁴⁰<https://hbr.org/2016/10/how-microsoft-used-an-office-move-to-boost-collaboration>
- ⁴¹Allen, T. J. (1984). *Managing the flow of technology: Technology transfer and the dissemination of technological information within the R&D organization*. MIT Press Books, 1.
- ⁴²Kraut, R., Egido, C., & Galegher, J. (1988, January). Patterns of contact and communication in scientific research collaboration. In *Proceedings of the 1988 ACM conference on Computer-supported cooperative work* (pp. 1-12). ACM.
- ⁴³Sensenig, J., Reed, T. E., & Miller, J. S. (1972). Cooperation in the prisoner's dilemma as a function of interpersonal distance. *Psychonomic Science*, 26(2), 105-106.
- ⁴⁴Cohen, D., Prusak, L., & Prusak, L. (2001). *In good company: How social capital makes organizations work* (Vol. 15). Boston, MA: Harvard Business School Press.
- ⁴⁵Terrapin Bright Green (2012). *The Economics of Biophilia: Why Designing with Nature in my Mind makes Financial Sense*.
- ^{46,47}<https://www.takingcharge.csh.umn.edu/enhance-your-wellbeing/environment/nature-and-us/how-does-nature-impact-our-wellbeing>
- ⁴⁸Kellert, S., & Calabrese, E. (2015). *The practice of biophilic design*. Retrieved from [biophilic design. com](http://biophilicdesign.com).
- ⁴⁹Prezza, M., Amici, M., Roberti, T., & Tedeschi, G. (2001). Sense of community referred to the whole town: Its relations with neighboring, loneliness, life satisfaction, and area of residence. *Journal of community psychology*, 29(1), 29-52.
- ⁵⁰Zelenski, J.M., Dopko, R.L., Capaldi, C.A. (2015). Cooperation is in our nature: Nature exposure may promote cooperative and environmentally sustainable behavior. *Journal of Environmental Psychology* 42, 24-31.
- ⁵¹<http://www.rochester.edu/news/show.php?id=3450>
- ⁵²<https://www.terrabinbrightgreen.com/report/economics-of-biophilia/>
- ⁵³Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons. (page 15)
- ⁵⁴Kellert, S., & Calabrese, E. (2015). *The practice of biophilic design*. Retrieved from [biophilic design. com](http://biophilicdesign.com).
- ⁵⁵Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.
- ⁵⁶Kellert, S., & Calabrese, E. (2015). *The practice of biophilic design*. Retrieved from [biophilic design. com](http://biophilicdesign.com).
- ⁵⁷McMillan, David W., and David M. Chavis. "Sense of community: A definition and theory." *Journal of community psychology* 14.1 (1986): 6-23.
- ⁵⁸<http://thecommunitymanager.com/2014/02/06/4-elements-to-creating-a-sense-of-community-by-dr-david-mcmillan/>
- ⁵⁹Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.
- ⁶⁰https://www.landscapeinstitute.org/PDF/Contribute/PublicHealthandLandscape_CreatingHealthyPlaces_FINAL.pdf
- ^{61,62,63,64,65}https://hbr.org/2014/10/balancing-we-and-me-the-best-collaborative-spaces-also-support-solitude?referral=03759&cm_vc=rr_item_page.bottom
- ⁶⁶Palmer, S. E., & Schloss, K. B. (2010). An ecological valence theory of human color preference. *Proceedings of the National Academy of Sciences*, 107(19), 8877-8882.
- ⁶⁷Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.
- ⁶⁸Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.
- ⁶⁹Ehrlich, J. J., & Graeven, D. B. (1971). Reciprocal self-disclosure in a dyad. *Journal of Experimental Social Psychology AND Wood, H. G. (1971). An analysis of social sensitivity. Dissertation Abstracts International*, 32(2-B), 1200
- ⁷⁰Kellert, S. R., Heerwagen, J., & Mador, M. (2011). *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons.

REFERENCES

⁷¹<https://www.cnbc.com/2015/05/22/inside-facebooks-futuristic-new-headquarters.html>

⁷²<http://webarchive.nationalarchives.gov.uk/+http://www.dwp.gov.uk/docs/hwwb-healthy-people-healthy-profits.pdf>

⁷³https://hbr.org/2014/10/rules-for-designing-an-engaging-workplace?referral=03759&cm_vc=rr_item_page.bottom

⁷⁴<https://www.takingcharge.csh.umn.edu/explore-healing-practices/healing-environment/what-are-healing-gardens>

⁷⁵<https://www.telegraph.co.uk/news/health/11248182/Roaring-fires-help-reduce-blood-pressure.html>

⁷⁶Kellert, S. R., Heerwagen, J., & Mador, M. (2011). Biophilic design: the theory, science and practice of bringing buildings to life. John Wiley & Sons.

⁷⁷<https://www.terrapinbrightgreen.com/reports/14-patterns/>

⁷⁸<http://gehlpeople.com/cases/new-york-usa/>

⁷⁹<https://richmondsfblog.com/2014/04/21/new-parklet-opens-outside-simple-pleasures-on-outer-balboa/>

⁸⁰<http://pavementtoparks.org/parklets/featured-parklet-projects/simple-pleasures-parklet/>

⁸¹https://nacto.org/docs/usdg/parklet_impact_study_sf_planning_dept.pdf

⁸²<http://vancouver.ca/streets-transportation/parklets.aspx>

⁸³<http://news.hackney.gov.uk/carfreeday/>

⁸⁴<https://hackney.gov.uk/parklets>

⁸⁵https://www.arquitectes.cat/iframes/paisatge/cat/mostrat_projecte.php?id_projecte=9752&lan=en

⁸⁶https://hbr.org/2015/05/why-people-thrive-in-coworking-spaces?referral=03759&cm_vc=rr_item_page.bottom

⁸⁷<https://www.forbes.com/sites/stevenbertoni/2017/07/10/wework-hits-20-billion-valuation-in-new-funding-round/#68d4581d1194>

⁸⁸<https://www.wework.com/>

⁸⁹<https://www.wework.com/benefits>

⁹⁰<https://www.wework.com/mission>

⁹¹<https://www.inc.com/magazine/201303/liz-welch/the-way-i-work-yvon-chouinard-patagonia.html>

⁹²<https://www.wellcertified.com/en/resources/well-community-standard-pilot> and <https://v2.wellcertified.com/v2.1/en/community#>



Philips DACH, Allemagne

Interface want to share their innovative approach to human centred design and help architects, designers and decision makers pave the way towards innovative ways of creating sustainable buildings with wellbeing at their heart.

Other Design Guides available as date of publishing:

- Creating Positive Spaces - WELL Building Standard™
Published January 2018
- Creating Positive Spaces - Using Biophilic Design
Published June 2018

Authors:

Oliver Heath – Founder and Director of Oliver Heath Design
Victoria Jackson – Senior Researcher and Writer at Oliver Heath Design
Eden Goode – Researcher and Writer at Oliver Heath Design

We would like to thank WeWork and Patagonia for giving consent for their case study material to be included in this publication. We are especially grateful to those who gave their time to providing information, images and quotes to include throughout this Design Guide.

Publishing date: March 2019



This brochure is printed on 100% recycled paper

Europe, Middle East & Africa

AE	+971 (0)4 8189077	NL	+31 33 277 5555
AT	+43 1 8102839	ME	+381 11 414 92 00
BA	+387 33 522 534	MK	+389 2 323 01 89
BE	+32 2 475 27 27	NO	+47 23 12 01 70
BG	+359 2 808 303	PL	+48 500 151 101
BY	+375 17 226 75 14	PT	+351 217 122 740
CH	+41 44 913 68 00	RO	+40 21 317 12 40/42/43/44
CZ	+42 0 233 087 111	RS	+381 11 414 92 00
DE	+49 2151 3718 0	RU	+7 495 234 57 27
DK	+45 33 79 70 55	SA	+966 554622263
ES	+34 932 418 750	SE	08-241 230
EG	+(202) 3760 7818	SK	+421 911 104 073
FR	+33 1 58 10 20 20	SI	+386 1 520 0500
GR	+30 211 2120820	TR	+386 8 20 54 007
HR	+385 14 62 30 63	UA	+90 212 365 5506
HU	+36 1 349 6545	UK	+38(044)238 27 67
IE	+353 1 679 8466	UK	+44 (0)1274 698503
IL	+972 546602102	ZA	+27 11 6083324
IT	+39 02 890 93678		
KZ	+7 495 234 57 27		

www.interface.com



Climate change is undeniable. And reversible. Our mission is to prove it. Join the #ClimateTakeBack and help create a climate fit for life.

