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The Boundless Office: how work and workplaces have broken the shackles of time and place

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Foreword

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Ever since people first started working in modern offices just over a century ago, we've grown accustomed to the idea of a constantly evolving workplace. Trends in office design have tracked those in management thinking, social attitudes, technology, demographics, architecture, the economy and legislation.

Yet for most of that elongated century, there were some underlying principles that remained pretty constant. This was true even in the revolutionary years at the turn of the Millennium as technology became more mobile, Internet access became ubiquitous and flexible working became commonplace. Even then, most people still worked in the same office for relatively fixed periods and at certain times of the day. Those that didn't, including those that worked at home, did so in a time and place that aped the structures of the corporate HQ. Over the past ten years or so those structures have begun to crumble and fall and we are entering a new era.

This does not mean that the office is dying, as some people may claim, but that it is reinventing itself within the context of a new set of ideas about where, how and when work is carried out. Where once the office was solely a building, the modern workplace now consists of a wide range of physical, virtual and cultural spaces of which the office is just one of the more important.

The boundless nature of this rapidly emerging new form of work is not merely altering the way we design, manage and use offices but is actually changing their very nature. This level of change inevitably has some profound implications and we set out some of the most important here and explore how they are defining the changing relationship between people, place and technology. As a consequence, this not about some spurious ideas about the office of the future, these are all observable developments right now.

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One of the most intriguing aspects of this revolution is the cross fertilisation of form and function that means the old boundaries between different types of space are crumbling and will eventually erode almost completely.

The future is one in which a coworking space, a traditional office, a hotel lobby, a club or an airport business lounge will become almost interchangeable. Time and place will be irrelevant in the era of the boundless office.

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The Boundless Office

A fundamental shift in the way we work

The most profound change in the way we work in a generation is the shift away from full time employment for a large number of people and the final demise of the lifelong career. In January of 2016, the ONS reported that the number of self-employed people in the UK had risen by 98,000 in the three months leading up to November 2015, compared to the same period in 2014.

This is a well established trend. An earlier report in 2015 from the Prime Minister's Enterprise Advisor Lord Young found that over the previous five years, the number of small firms in the UK had increased by 760,000 to stand at 5.2 million. However, within this overall figure there had been an increase of 650,000 in the number of people described as freelance and self employed. There are now nearly as many self-employed people in the UK as there are people working in the public sector.

In the immediate aftermath of the economic downturn, we could have ascribed this increase to people looking for ways to earn an income in the face of a difficult jobs market. Not any more. A report from the Royal Society of the Arts (RSA) found most people (73 percent) weren't forced into self-employment by financial necessity or as a way of escaping unemployment in a tight jobs market. Perhaps most tellingly, it also found that while freelancers generally earn less and are more isolated than their employed contemporaries, they are also happier and enjoy their work more.

The implications for the workplace

This looks as though it may have long term implications for the relationship between people and work. A 2015 study from software company Intuit claimed that just 13 percent of British workers think they will be in traditional employment in 2025. Similarly, a new report presented at the World Economic Forum in Davos suggest we are entering a 'Fourth Industrial Revolution' that will transform the world of work.

This level of change clearly has profound consequences for the relationship between people and place. We are already seeing the first consequences of this shift with the growth of coworking. Those working in the new gig economy of freelancing and self-employment have no interest in long term leases and fixed

There are now nearly as many self-employed people in the UK as there are working in the public sector, nearly a fifth of the entire working population.

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locations. They consume the workplace as they would any other service which is why they are perfectly happy working in hotels and cafes as well as at home and on client premises.

Coworking is disrupting property markets and the principles of office design

Coworking is already having a major disruptive effect on commercial property markets worldwide, according to a study from the corporate real estate trade association CoreNet Global. Their report found that the two most disruptive trends in the market over the short to medium term are flexible working environments (64 percent) and new technology (64 percent). The

report claims that coworking spaces are capitalising on these trends to have a major disruptive effect on local property markets and are particularly attractive to occupiers from specific sectors such as those working in financial technology.

The most high profile new company to pioneer this new approach is WeWork. Last year, WeWork announced that it had opened the UK's largest space of its kind in Moorgate in East London and was looking to acquire over 1 million sq. ft. of space in the capital over the next 18 months as it seeks to provide coworking space for its growing customer base of young creative and technology businesses and other start ups. Instead of occupiers in the traditional sense,

Above: WeWork's new coworking offices in Moorgate point a way ahead for local property markets and mainstream workplace design

it has members who pay a subscription to use its offices wherever they may be.

The consequences of these developments are also being felt across the entire spectrum of the workplace design and management function. Even those people in so-called traditional forms of employment are likely to work in increasingly agile ways and so there is an unmistakeable aesthetic and functional intersection between mainstream office design and what were once considered public spaces such as clubs, hotels and cafes and the coworking spaces that are a hybrid of the two.

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The growth of flexible and agile working

It may be hard to imagine nowadays but flexible working was once seen as something to offer a minority of staff, often to help them deal with childcare commitments. While that remains an important consideration, the drivers behind it have shifted significantly in recent years. In part this is due to new legislation which extends the right to request flexible working to both fathers and mothers, offering families more choice about how they manage childcare, especially in the increasingly common case where the woman is the main breadwinner.

But the main issue is the way in which flexible and agile working methods are now increasingly seen as the norm for how people work rather than the exception. A report from employee benefits provider Unum found that four out of five employers (79 percent) already offer some form of flexible working.

Similarly, according to a recent report from CBRE, a greater choice around where, when and how to work is now viewed as more important to employees than either specific position within the office, or access to particular pieces of technology. The firm's annual Occupier Survey of 120 organisations also suggests that the flexible working agenda is "dynamic" and time spent in the office should offer "a high-quality experience wherever it happens to be". This view of office space as

something to be "consumed" by employees brings with it a need for personalisation, state-of-the-art technology and connectivity and a range of amenities.

This is a clear sign that the needs for such an approach to office design is shared by both freelancers and people working in traditional jobs. It also challenges the suggestion that the office will die out completely. Instead, it will evolve into a space among many that people go to when they want or need to. Firms will also enjoy the benefits of providing a space that people want to use, not least in maintaining a culture and identity.

The advent of truly inclusive design

The idea of inclusive design was once most commonly associated with the provisions of workplaces that could address issues related to physical abilities. That remains an important consideration and, indeed, a 2015 study from the Recruitment Industry Disability Initiative (RIDI) found that disabled staff continue to face a large number (often unwitting) forms of discrimination at work despite the fact that the Disability Discrimination Act requires all organisations to make reasonable adjustments to make the workplace accessible, including in the design of the building itself.

One of the main champions of change in this area has long been the Helen Hamlyn Centre at the Royal College of Art. They have also been instrumental in ensuring

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that the idea of inclusive design extends to the creation of working environments that meet the physical and psychological needs of everybody who works in them.

One of the most notable aspects of this is the development of a multigenerational workforce. While the digital natives of Gen Y continues to hog most of the headlines, the reality is that the workforce is ageing and becoming more diverse. Many workplaces must now meet the needs of four generations of employees and, according to new data from the Department of Work and Pensions, there have never been more over 50s in work in the UK than there are right now. There are around 2 million more over-50s in jobs than there were 15 years ago and they will form a third of the workforce by 2020. The figures from the DWP show the number of people aged 50 to 64 in employment is around 8 million, which is not only an increase in overall terms but also represents a jump in the proportion within the total workforce.

Another topical debate that highlights the need to create a flexible and inclusive workplace is

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that surrounding the differing needs of introverts and extroverts. There is an understandable and reasonable assumption that when the default office design standard in the UK is the open plan, then that is not the ideal solution for everybody.

This point was confirmed by a January 2016 report from the British Psychological Society which claims that personality has a significantly major impact on the type of office environment people prefer to work in. Modern features such as shared space and open-plan floors appeal mainly to extroverted workers and made introverts uncomfortable. The results showed that many of the features and common characteristics of the modern workplace were more likely to be preferred by extroverts than by introverts extroverts were significantly happier at work and had higher levels of job satisfaction.

What this suggests is that the most effective solution to the essential conundrum of how to create an inclusive workplace regardless of people's character, abilities and age primarily rests on offering them choices about how and where they work. This can

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best be accomplished within a building that provides them with a range of spaces and then creating a parallel culture that empowers them to make informed choices about where they can be most productive and happy.

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Recruitment, retention and productivity

To design a great workplace you need to have an intimate understanding of the culture of the organisation. The look and feel of the organisation needs to reflect the culture, just as the brand of a company reflects the products or services it provides. A good corporate and human resources strategy will be able to distil the company's culture and the workplace's design will bring it to life.

A related challenge is the creation of a workplace that helps to engage employees and so foster their creativity, collaboration and productivity. Get employees on-board to buy into the vision and mission of the organisation, and have clarity about their role in the success of the company, and productivity increases. Creativity and innovation are another two key aspects of business growth. Understanding the roles employees have and how workplace design can foster collaboration are critical aspects of a successful design.

Improved recruitment and increased retention is another important objective. Employees who are proud of where they work,

Nearly half of workers according to a survey of 100,000 respondents feel their workplace does not enable them to work productively.

know that they have the tools and resources at their disposal to effectively do their job and are better advocates for their organisation. When it comes to the war for talent and productivity, the design of the workplace and how it integrates technology and working cultures becomes an important weapon.

The problem is that many people at work today are not engaged. According to Gallup, 63 percent of employees are not engaged and 24 percent are actively disengaged. Many people come to work and lack motivation and just put in the minimum effort they think is expected to them and so are "less likely to invest discretionary effort in organizational goals or outcomes". Also many are "actively disengaged indicating they are unhappy and unproductive at work and liable to spread negativity to coworkers".

Nearly half of workers (47 percent according to the Leesman Office Survey of around 100,000 respondents) feel that their workplace does not enable them to work productively. Conversely, according to a report from Empirica Research and Hassell Architects, "appealing workplace facilities consistently DOUBLE the likelihood of a candidate choosing an employer regardless of the combination of other variables". All of this matters because people are the largest expense and most important investment for any organisation. What may appear as a modest improvement in employee health or productivity, can have a huge financial impact for the organisation.

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Wellness and wellbeing through office design

Office work can be pretty harmful both physically and psychologically. There are many things we can do to address the problems that arise from the workplace and there is lots of legislation to help us avoid harm. However complying with legislation in this regard is often indicative of an essentially negative approach in which rules exist to prevent us coming to harm, rather than enhancing our wellbeing. A more positive approach entails first meeting our legal obligations then moving beyond this basic legislation to help people become fitter, happier and more productive.

These requirements are particularly important to accommodate the needs of boundless workplaces. The old command and control structures and their concomitant health and safety prerequisites are no longer enough in the boundless office.

Lighting

There is plenty of guidance available on lighting, notably from CIBSE, most of it recommending at the very least a basic level of overall lighting in a workplace. Yet while providing 500 lux levels throughout an office with compact fluorescent tubes might provide a good basic level of light at low cost, taking this approach may not always be the best. It does not necessarily address the fact that modern offices provide zones for different types of work, which by definition require different types and levels of lighting.

Neither does it address the basic human need for natural light, which has a completely different spectrum and is essential to our

The old command and control structures and their concomitant health and safety prerequisites are no longer enough for the new breed of offices.

overall wellbeing. There are some pretty good daylight simulation bulbs but there's nothing like the real thing. Some buildings make great use of natural light, others can be improved with intelligent design. A culture that allows people to get some air and light outdoors is equally important.

Air

Although there have been several calls for a maximum workplace temperature standard to be introduced, there is no legal standard in Britain that limits the upper levels of acceptable workplace temperatures.

However, according to the Workplace (Health, Safety and Welfare) Regulations 1992 the upper allowable temperature in workplaces during working hours should be 'reasonable'. That said, whilst around a half of workplaces now feature air conditioning (compared with just ten percent in 1994), many are still not adequately equipped to provide relief on the hottest days in Summer, which have reached 32° C in recent years. There are design and specification solutions that can be used to address these issues, many of them not entirely reliant on HVAC systems. But a culture that takes into account the need for fresh air, perhaps simply by designing a workplace that encourages people to go outdoors is just as important.

Furniture

The Display Screen Equipment regulations are a great starting point when it comes to looking at the issue of ergonomics. However, they do focus on reducing and mitigating harm which leads to the sort of thinking that sees the wellbeing of computer users as largely an issue of posture.

The alternative approach is an idea that has resonance in schools, where there are no ergonomic standards for kids but who nevertheless mitigate all of

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that by moving and doing something else every hour or so. Ergonomics is just as much a design, management and cultural issue as it is a matter of giving people the right stuff and the appropriate training. We need to take a broader view that focuses on improving wellbeing rather than merely mitigating harm. And that means encouraging people to move.

The design clues to encourage people can do this do not just include ergonomic task seating but also in the provision of a wider range of places to work. This is usually framed in terms of providing the right sort of space for a specific task, but it is also important in terms of encouraging people to become more active.

A recent Australian study found that office workers occupying new, active design buildings designed to improve workers' health and connectivity changed workplace physical activity and had health benefits. The researchers from the University of Sydney found that after moving to an active design building, workers spent less time sitting and more time standing.

Participants also reported less low back pain. Sixty per cent of participants in the new workplace were in an open-plan office, compared to 16 percent before moving. Participants perceived the new work environment as more stimulating, better lit and ventilated.

> **The building is often beyond the control of the organisations that inhabit it so there are several basic elements to consider to deal with the problem of noise.**

Acoustics

The problem of acoustics has become particularly acute in recent years as more and more sources of noise have been introduced to workplace and as space standards have changed. According to the British Council for Offices most people in the UK work in open plan offices at workstations that are on average about 20 per cent smaller than they were ten years ago. We're closer to our neighbours, so we are more likely to hear them. A study published in the British

Journal of Psychology has highlighted the role that 'irrelevant noise' plays not only in disrupting work, but also in increasing stress levels and decreasing job satisfaction. This is especially pertinent when it comes to disruptions from other people's phone conversations.

Problems and solutions arise first at an architectural level. Sound is prone to bounce off ceilings and follow sight lines so the way a building is designed can have a significant impact on noise levels in its interior.

The type and shape of a building is often beyond the control of the organisations that inhabit them so, regardless of its architecture, there are several basic elements to address to deal with problems of noise in a building, including ceiling systems, sound masking systems, furniture, flooring and interior design. One point that we should always bear in mind is that soft surfaces provide a greater degree of acoustic performance than hard surfaces, so the trend to dedicate less space to desks and more to soft seating and collaborative space can only be positive.

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Biophilic and biomimetic workplace design

We know at an instinctive level that nature and its elements are fundamentally good for us. So it's no surprise to find that the research backs this up. A meta analysis of the research on this subject called Natural Thinking was recently published by the Royal Society for the Protection of Birds (RSPB). It found not only a range of physical conditions could be alleviated or treated with fresh air, daylight and even the sight of some greenery, but also how these same elements fed the soul and so enhanced the psychological wellbeing of individuals. In an academic study cited in the Natural Thinking report, a number of stressed-out subjects were divided into three groups: one of which was shown videos of traffic, another of a shopping mall, another of nature. No prizes for guessing which group showed the best response in terms of their stress levels.

When it comes to office design, the most straightforward ways of enjoying the benefits of nature can be enjoyed with the provision of plants, and a building that provides plenty of daylight and fresh air. But designers are also able to take advantage of the ways in which simple imagery can be used to invoke the same benefits we might gain from a walk in the great outdoors. For

example, new materials and the latest digital imaging and manufacturing technology allows us to put whatever image we like on things and allows us to manipulate the materials in a number of ways. This trend for natural imagery is not necessarily an environmental issue but is often an important motivation for people when developing designs especially for firms who have a strong environmental policy that they would like to depict through the design of their offices.

We are also finding out much more about the way imagery and natural elements have on us. Flooring manufacturer Interface (main image) is one company that is pioneering in this area and worked with researchers Oliver Heath and organisational psychologist Cary Cooper to produce The Human Spaces report which explores how biophilic workplace design supports a healthy and productive working environment. It found that employees who work in environments with natural elements report a 15 percent higher level of wellbeing, are 6 percent more productive and 15 percent more creative. This is one reason why a growing number of workplaces not only use more natural imagery in their design but also feature intelligent planting and even plant walls whose beneficial effects are known to be both physiological and psychological.

Harmony between human habitation and the natural world through design approaches so sympathetic and well integrated with its site that buildings, furnishings, and surroundings become part of a unified, interrelated composition
...Frank Lloyd Wright

An abundance of new colours and materials

One of the main yet least appreciated fields of innovation in the workplace is that of materials and finishes. Underlying this shift is the understanding that, as we develop new materials and design and manufacturing technologies, so we are able to offer people and organisations more choice about how to express their tastes, values and identities and tap into the social, economic and commercial attitudes that define them.

There is a science behind this and tracking changes in taste has some very high profile adherents. One of them is Alan Greenspan, perhaps the world's most famous living economist and the former Chairman of the Federal Reserve and a great believer in the idea that you can get a good idea of the health of the economy by looking at the length of women's hemlines and heels and the amount of money men invest in underwear

and ties and women spend on lipstick and nail polish and the colours they choose.

Attitudes to the world and the economy are important in the way the influence the work of colour forecasters. So when Pantone recently created an infographic to illustrate 50 years of changing tastes in colour, it was able to do so by aligning them with social trends and economic prosperity. That is why the Color Institute at Pantone looks at a range of things when deciding on its colour of the year including cultural trends, tastes, socio-economic factors, current events and the arts. You can argue about their choices (for 2015 it was two shades of pale blue and pale pink), but they're prepared to back up their choices with evidence.

Colours and materials trends may matter in fast moving sectors such as fashion and design where tastes can change in a period of months and for products that people are happy to discard once

This is not just a simple matter of finish but also the materials themselves which tap into both practical concerns and changing tastes.

they deem them passé. Yet it also applies in more nuanced ways in slower moving sectors such as the automobile industry and in workplace design. There are always default options that most people find undemanding, but we have the technology to offer a huge choice of colours and textures for those who want to convey a particular idea or value or simply want to stand out.

This is not just a matter of finish but also the materials themselves which tap into both practical concerns and changing tastes. For example one of the world's largest fabric manufacturers, Camira, has launched a range of bast fabrics (pictured) which consist of hybrid materials that combine wool with natural fibres from hemp, nettles, flax and jute. Not only are these fabrics natural and sustainable, they also exhibit a range of very practical characteristics including flexibility, strength and durability. This is yet another example of how natural materials are not only appealing to humans at a visceral and emotive level, but also exhibit useful characteristics and even superior performance compared to artificial materials.

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The changing face of green building design

While it's important for suppliers to be able to provide the accreditations needed to meet the environmental sections of tender, many buyers are looking beyond this at a range of other factors to meet their own environmental and ethical standards. What they're finding is that they can not only create a genuinely green building but there are other advantages too.

The debate about the economic, commercial and social benefits of green building design continues to evolve rapidly. Where once it was primarily focussed on environmental issues and related cost savings, the world's major champions of eco-building are now making the case for sophisticated building design that has a broader range of benefits for organisations and individuals. The most significant report in this regard for some years has recently been published by the

World Green Building Council. Its study Health, Wellbeing and Productivity in Offices: The Next Chapter for Green Building offers "overwhelming evidence" for the ways in which office design significantly impacts the health, happiness, wellbeing and productivity of people. The report covers a wide range of that influence the wellness, job satisfaction and performance of office workers. It identifies the ways in which these undoubted benefits add a new layer of sophistication to the case for organisations to invest in better, healthier and greener buildings.

It argues that, with salaries and benefits typically responsible for 90 percent of an organisation's expenditure, any higher construction or occupation costs are far outweighed by even small improvements in staff performance. The report is ahead of the curve in many ways but

many companies are already investing significantly in green building design. A recent report from CBRE and Maastricht University found that, over the past decade, there has been a transformation in the way occupiers and the commercial property market in the US approaches the environmental design of buildings.

Many of these buildings will have been commissioned and constructed based on the ethical standards and desire to keep down energy costs of their potential occupiers. Now that the business case for green building is increasingly focussed on improving the wellness and productivity of the people who work in them, we might expect a new surge of interest in the design of environmentally friendly buildings.

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Conclusion

One of the great questions that hangs over workers in the new era of boundless work is this: When you can choose to work from anywhere, where will you choose to work?

It's not just a question for the growing army of workers who find themselves unfettered from the traditional times and places of work. They will naturally choose to work in the places they feel make them most productive and happy, which nurture their wellbeing and chime with their values.

The challenge for the owners and the occupiers of offices is to create the working environments that will draw people to them. We are already seeing the forms these new workplace will take. It is apparent in the form of the new generation of coworking spaces and in the new generation of offices being created by the world's technology giants such as Apple, Facebook, LinkedIn and Google.

Indeed, these are the companies that demonstrate the best solution to the conundrum. There is a tacit understanding in the design of these remarkable offices that with regard to many forms of work, people collaborate best and have their best ideas when they are together in the same space.

This does not mean that we should use design to return to the old rigid structures of time and place, but instead create environments that increase the choices people enjoy. The boundless office is not about any one type of space being replaced by another but instead the creation of new forms of space that draw people to them, make the best use of technology and foster their creativity and knowledge.

When you can choose to work from anywhere, where will you choose to work?

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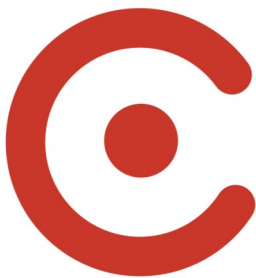
Connection are specialists in developing innovative furniture and products that make spaces work. From their home in Huddersfield, they have built a business by establishing great relationships with their customers – understanding, meeting and exceeding their needs. As a result they now work with clients and partners in over fifty countries worldwide.

They are experts in the workplace. They know what it takes to create inspirational environments and they understand the ever-changing needs of the workforce.

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