

Re-tuning the Workplace

A new brief for the spaces
we work in

ARCHITECTURE

WT Architecture

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Introduction



Over the last few weeks our places of work, the spaces we ordinarily spend just under a quarter of our time in, have taken on a whole new meaning and character. Our offices and studios have, in the spotlight of necessity, recast themselves as our kitchen tables, our living rooms, the under-used corners of bedrooms, even perhaps (for a lucky few) the garden....

In the space of just a few short days at the end of March we threw up into the air our expectations of what a work place looks, sounds, smells and feels like. And as the cards fell, shaped by the boundaries of our homes, it has been clear to see not just the huge variety possible in what constitutes a working environment but the many different ways in which the cards can play out, in good hands or bad, for our health, wellbeing and productivity.

For some people, this time might have been marked by revelations on how much better the work place can feel when you have the chance to tailor it around your needs rather than group consensus. For others this period might have brought you face to face with environmental factors that ratchet up stress, gnaw away at your focus and knock the pillars of your sense of comfort from under you. But whether this sudden re-imagining has been nourishing or negative, it has seen us focus on what we need (and desire) from our work places like never before. With all that is happening in the world around us right now it, it is easy to overlook the way in which, almost incidentally, we've been taking part in a vast experiment on the design of our work places. All those conversations you might have had with colleagues, with clients, with collaborators and customers on the way in which your particular hand of cards has played out and how it has made you feel; the notes compared or commiserated on and the inspirations followed: these conversations add up on a global scale to a testing ground for the workplace that is nothing short of revolutionary.

So as we look ahead to what lies beyond this sudden tremor in our status quo, whether we are one of the 60%¹ of people who would like to continue working from home to some degree, or amongst those returning to work places which the rigours of social distancing may radically reconfigure, we reflect on how this experience we've all just gone through offers a chance to look afresh at what the space we make for work can be.

The following pages take us through what we believe are the cornerstones of happy, healthy places of work. Every work place has immediate functional requirements which must be addressed if they are to be fit for purpose but the degree to which a brief for a work place engages with the factors we discuss here can be the difference between going to work as an act of drudgery or as a joy.

At WT Architecture, paying attention to the way in which buildings can foster happiness, comfort and wellbeing means incorporating these factors into the brief for any building, whether an office, a home or a place for community. But each building function demands that these cornerstones are translated in a different way and a place to work has very different demands placed on it compared to a bedroom, a hall, a kitchen....even if sometimes the space which these activities occupies is one and the same. As you look ahead to returning to the office, making permanent your unexpected jump into working from home or moving to an entirely new place of work, this time offers a chance to consider the ways, both big and small that can make going to work something to look forward to.

A Room With a View



It might seem like an obvious thing to say that a pleasant view from your place of work is something to aspire to. For all building types one of the first things that people are drawn towards in a brief is the opportunity to capture a view beyond the building itself; we seem to be hard-wired for connection beyond our four walls. But in the case of work-places, where you may stay in the same location and position for long periods of time (more on this later) and where focus and concentration are of particular importance, it is worth looking at the reasons why what we rest our eyes upon becomes so significant.

For many of us, the coalface of our work takes place these days largely in the unchanging world of digital space. We are focused on an environment in which colour, light, pattern and sound are constant: the displays on our computer screens do not shift in the breeze or dapple in sunlight. They are designed around focus on the task at hand and this only.



But engagement with this type of environment speaks to only certain parts of our physiology. Our bodies and minds as a whole are attuned to a much wider spectrum of sensory stimulation: the weather, the time of day, the flux of the natural world in leaf, grass, bird and water, the changing of the seasons. All of these things have an impact on the complex chemical exchanges taking place within us. At a simple level this idea will be familiar to anyone who has noticed how they feel more energised on a bright, crisp day, or how a cloudy morning matches their low mood.

Being able to notice and relate to what is happening in the outside world helps to put what we notice of our own physical and emotional states in context. But the role of a view from our desk goes beyond this, to play an integral part in the degree to which we can successfully engage with those tasks at hand lit up on our computer screens.



When we focus our attention on one thing this is referred to in psychology as Directed Attention.² Giving too much time solely to Directed Attention can lead to mental fatigue, precipitating impatience, stress, irritability and trouble concentrating. Conversely Involuntary or Effortless Attention refers to attention that is automatic, instinctive: attention that requires no conscious effort but instead arrives naturally, the way your eye is drawn to the flight of a bird, the movement of leaves by the wind, shifting patterns of light and shadow.

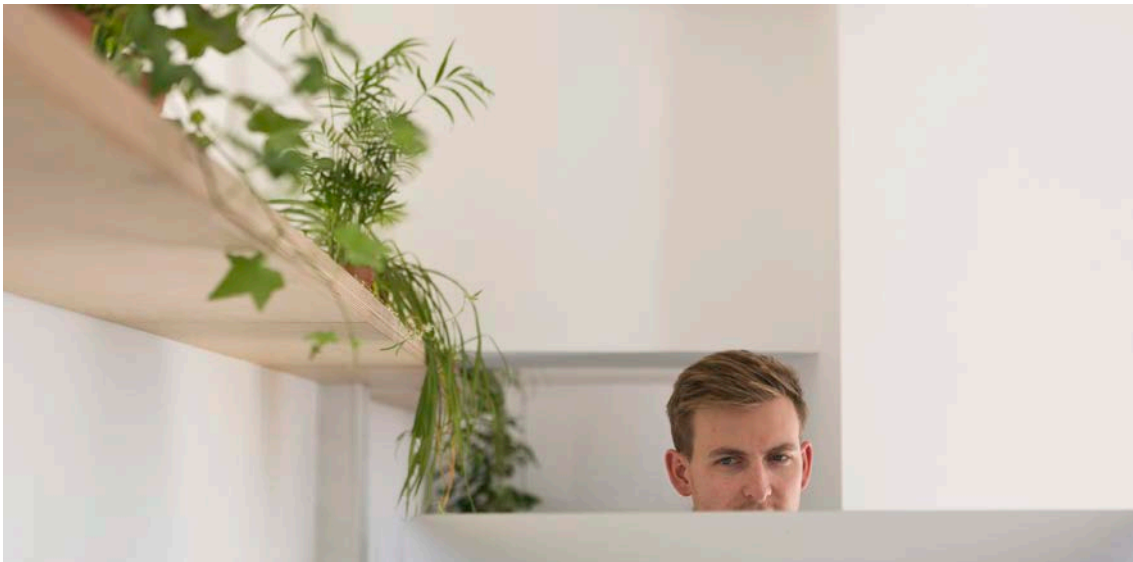
Attention Restoration Theory centres around the use of Effortless Attention to not only rebalance and restore us when we have become fatigued, but to boost our cognitive abilities. The role of nature in this process is particularly important as the natural world has been shown through studies to be highly conducive to Effortless Attention. Dr Kate Lee's 2015 study on 'micro breaks'³, in which participants were asked to take 40 second breaks between a series of cognitive tasks, demonstrated that those looking out on a flowering-meadow green roof were less likely to make mistakes and achieved better results than those whose break view was a bare concrete roof. Looking at the green roof was shown to boost subcortical arousal and cortical attention control. Gazing out of the window it seems, is good not only for combatting fatigue but helps us do our work better too.



So as we re-think the design of our work places it pays therefore, to really consider how to provide that nice view, not just as the icing on the cake but as one of the most effective tools for concentration available. How can you start to make the shift from thinking of views as a distraction towards making them a core part of your working world (to say nothing of the joy, contentment, interest and sense of connection that they can afford). And for those for whom a beautiful panoramic vista is out of reach, take heart. Providing these kinds of balms for the eye and mind can take all sorts of forms, both macro and micro.

A room with a view might focus on just one element: a single tree, the moss on the wall of the building opposite, the clouds skimming the rooftops. One of the most relaxing sights can come in the form of fractals: "a self-repeating pattern of a shape that varies in scale, rather than being repeated exactly" Our eyes themselves are fractal in structure so when they perceive fractal patterns they "lock into place". As Lucy Jones describes in her book 'Losing Eden', studies on fractals "discovered that patterns with fractal dimensions of 1.3 (most fractals in nature fall between 1.3 and 1.5) provoke high alpha waves in the frontal lobes and high beta waves in the parietal area, suggesting a relaxed yet focused state."⁴

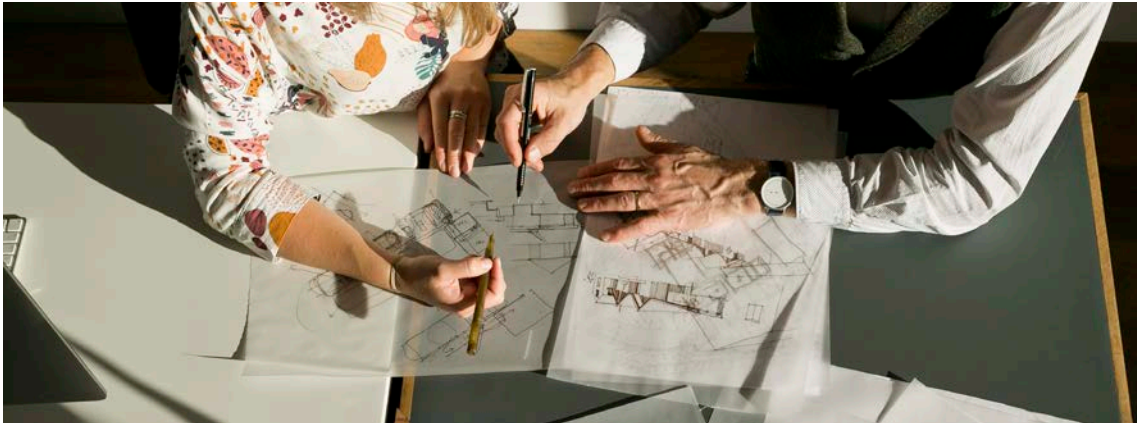
So even if it is not possible to rest your eyes on the wide sweep of a bay, a hillside, a forest, find the fractal in a glimpse of a branch, the grass in the courtyard below, even in the pot plants across the room.





Let Me
Hear
Myself
Think...



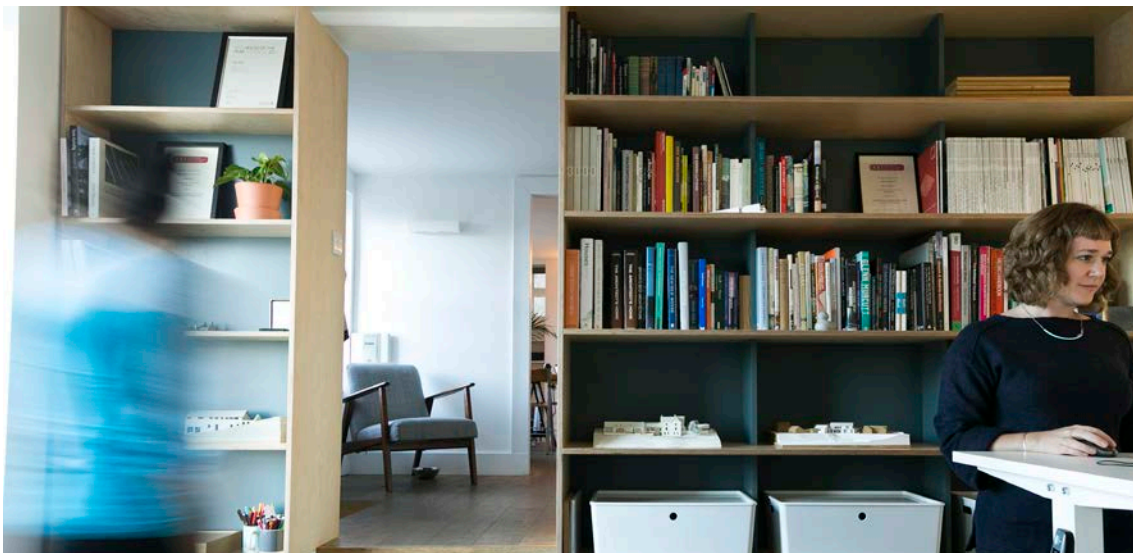


Perhaps more than any other factor the experience of lockdown has held a magnifying glass over the relationship between our ability to work productively and the acoustic environment we find ourselves in. Whether you have been working in a quiet space alone or sharing with a partner, children or flatmates will have shaped so many other aspects of your working life: when and how you can take part in meetings, when and where you are able to concentrate on writing or reading or other deep focus tasks or conversely whether you find yourself in a space too unchanging, too quiet, not stimulating enough. The relationship between sound and work is deeply personal and what is 'just right' in terms of background noise varies hugely from person to person.

One of the reasons for this lies in the degree to which individuals carry the genetic structure of an introvert or extrovert. There is a common misconception that these terms relate to how sociable a person is: the extrovert is the gregarious, friendly one, the introvert the quiet, shy type. But introversion or extroversion has more to do with the way in which people react to experience and sensory stimulation. Introverts are literally thin-skinned, reacting to temperature more sensitively than their extrovert counter-parts⁵; their bodies chemically react to sensory stimulation such as the sour taste of a lemon in a more heightened way than extroverts. And where sound is concerned, that 'just-right' level for concentration and calm varies too: the optimum level being 55 decibels for introverts whilst extroverts feel most comfortable with 72 decibels.⁶

70% of today's employees work in open plan offices⁷ where the control of sound levels is very difficult to constantly regulate. These are work environments designed for the best performance of extrovert individuals, full of background conversations and bustle and multi-faceted interactions; a rich melting pot of sensory stimulation that extroverts thrive on. And so the shift to the privacy of one's own home for work over lockdown and beyond has provided for the majority of workers a striking contrast to the norm. Whether this has improved or hindered your ability to work, the experiences that have been thrown up by this sudden, radical change give us an opportunity to listen in on the critical role that the soundscape of our work has on our wellbeing and productivity.

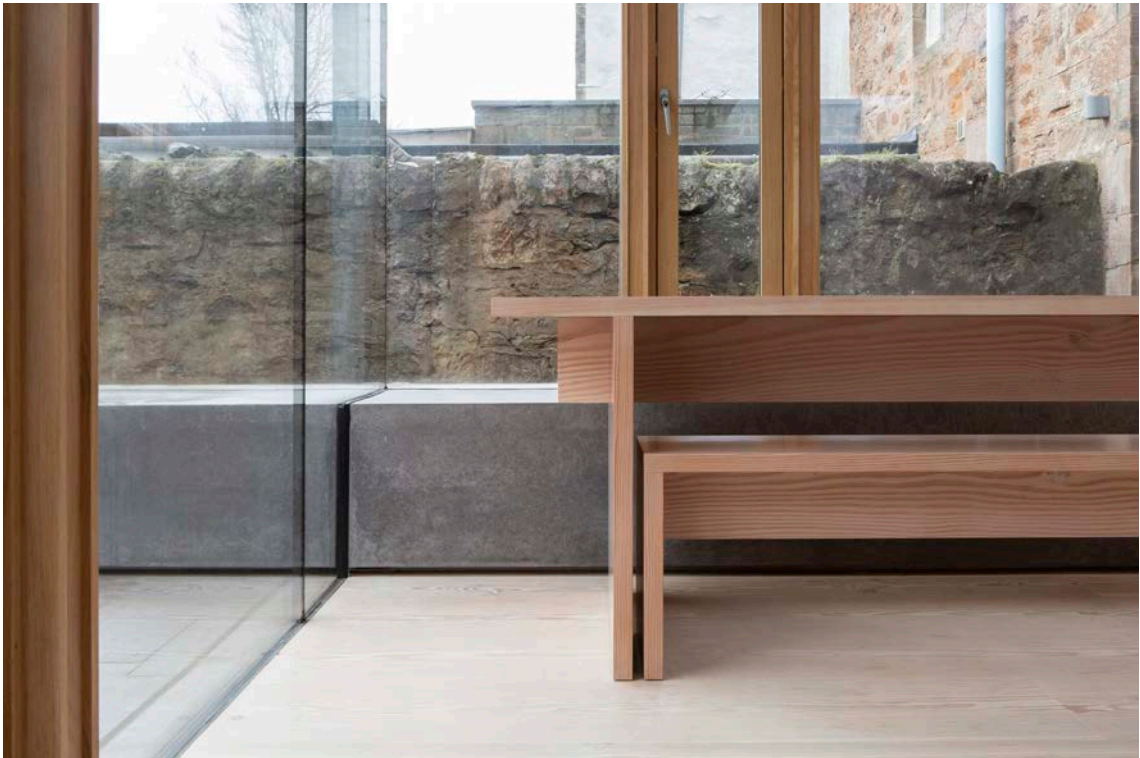
Perhaps you have been surprised at the degree to which you feel calmer and more focused working in the peace, quiet and solitude of home? Or you might be painfully aware of the assault on your concentration that sharing space at close quarters with the noises of your family around you effects. In these instances you might have found that online space (typically considered a noisy place) actually affords you greater control and sense of 'quiet' than you encounter in real life. If either of these scenarios resonates you might be more of an introvert than you had first imagined. Alternatively you may have struggled to focus without the usual hum of activity, interaction and sound around you that your typical work environment offers. For many people the relative quiet of the past few weeks has triggered feelings not of calm but of restlessness, unease and sadness. This is especially heightened for extroverts.

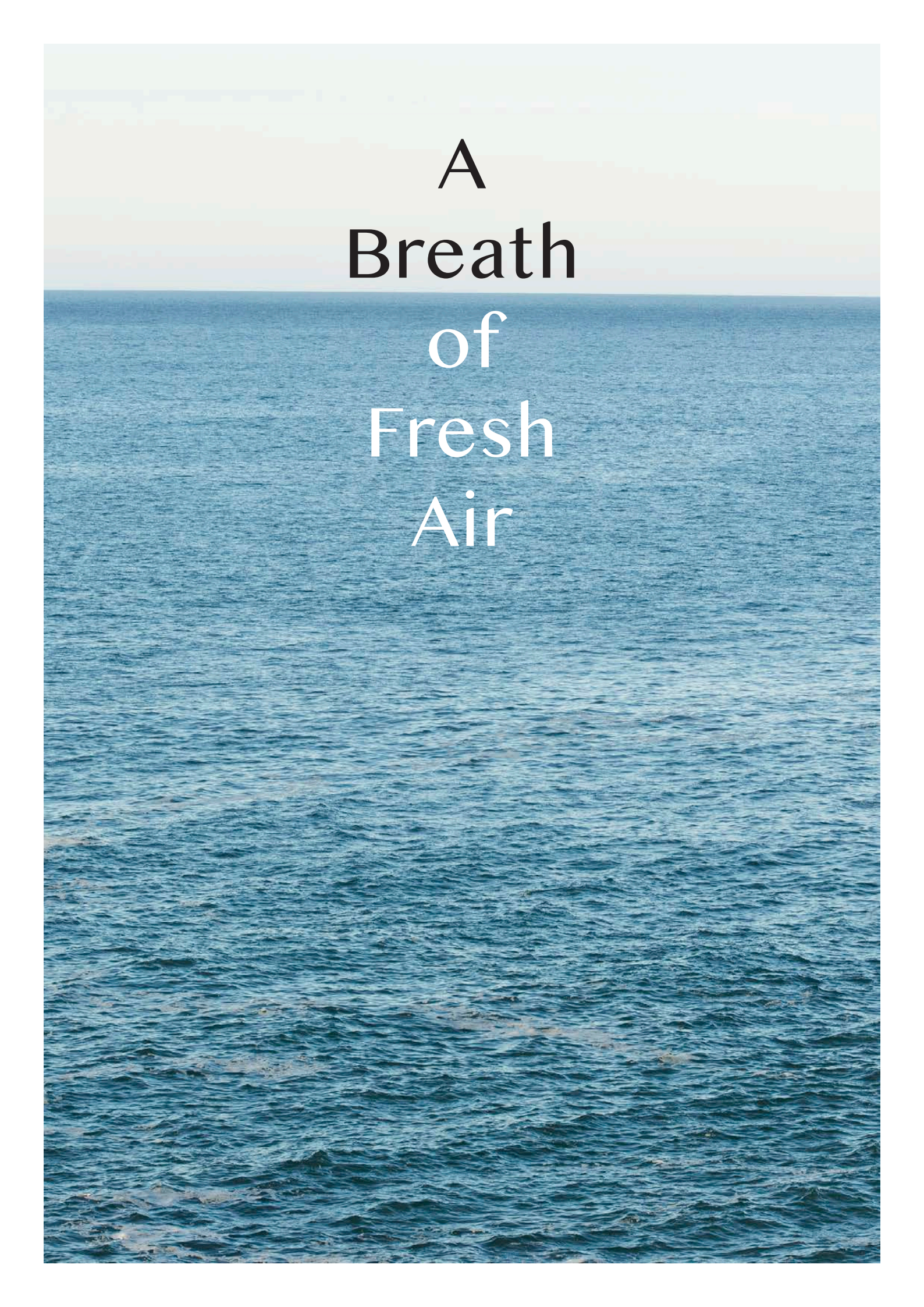


The reason for your reaction, whatever it has been and whatever the circumstances that created it, lies partly in the way your brain reacts to stimulation. Within the limbic system (the part of the brain responsible for processing emotions) lies the amygdala, serving, as described by author Susan Cain, as “the brain’s emotional switchboard, receiving information from the senses and then signalling to the rest of the brain how to respond.”⁸ Studies have shown that for introverts the amygdala is more reactive, responding more strongly to new sights, smells and sounds. When exposed to over-stimulation, an introvert’s amygdala will kick into action, raising the heart rate, dilating pupils, constricting vocal chords and prompting the release of cortisol (the stress hormone) affecting cognitive processing and decision-making. To be in this kind of state is not just stressful, it is unproductive too. Making good decisions is hard to do when your heart is racing. And of course the other side of the coin is that for extroverts the reverse is true. Those with lower reactive amygdala struggle to perform in under-stimulating environments. Silence and solitude are just as likely to interrupt the flow of an extrovert’s attention as they are to help an introvert, whilst a little more background hustle and bustle helps extrovert focus and understanding.

What is interesting about the huge variety of experiences we have just witnessed in lockdown is that it questions the logic of designing our work places for such ubiquitous acoustic conditions. With introverts forming somewhere between a third and a half of the population, the impact of not addressing this erosion of both wellbeing and attention is significant. And for extroverts potentially facing long periods of time working from homes that are too quiet and isolating, the effect on their happiness and productivity is hugely worrying too. Finding a solution in work places where there are large groups of people and very different reactions to sound can be challenging but acknowledging that an acoustic one-size-fits-all approach is unfit for purpose is a start in bringing the sounds in our spaces into the brief for our work places.

This time is an opportunity to get curious about your own personal brief for your working soundscape. To notice when your attention is pulled away from the task in hand and by what. To pay attention to what sounds are surrounding you when you feel calm and focused (bird song for instance seems to aid quicker recovery of the nervous system for instance). To ask your colleagues what constitutes their own level of ‘just right’. And to begin to build a working environment that recognises all these variations and begins the work of fine-tuning to serve our needs.





A
Breath
of
Fresh
Air

Every day each one of us gulps down 10,800 litres of air⁹ so it is not surprising that the quality of that air plays such an important part of our health and wellbeing. And when we were faced with sudden restrictions on our time outside during lockdown, the nature of the air we breathe took on a new and even more heightened importance.

The prospect of escaping the confines of our indoor air quality for a breath of fresh outdoor air became, for a brief period of time, something to really treasure. Yet even under normal circumstances we spend only 1-5% of our time outside¹⁰ and whilst there is a growing awareness of the correlation between air quality and sick building syndrome, ambitions for the air we ingest in our work places seldom reaches beyond a basic need for a reduction in pollutants and temperature.





In terms of health there are three principle factors to consider when considering air flow and air quality in a work place. The first is the basic task of ensuring that an adequate flow of fresh air replaces the carbon dioxide we all exhale. The second lies in ensuring that the fresh air brought in is as free of pollutants as possible; a challenging task in cities where pollutant levels are dangerously high. And the third factor, less frequently discussed, concerns the make up of the air we breath at an atomic level.

You might be familiar with the science behind the feeling of calm experienced when by the ocean: the motion of waves and the body of water creating the conditions for a high proportion of negative ions in the air which in turn increase the serotonin (the happiness chemical) levels in your body¹¹ and increase oxygen levels to the brain. High ratios of negative ions are found in natural places, waterfalls, forests, areas with high levels of sunlight or air motion, but as we travel into our urban environments; to towns and cities and into our buildings the number of negative ions becomes lower and lower whilst the preponderance of free radicals (neutralised where negative ions are plentiful) affecting our health and ageing process proliferate. Office environments have some of the worst ratios of negative ions to free radicals.

Addressing this imbalance on a large scale obviously falls beyond the scope of what you can control within your own home or workplace and ultimately in order to effect change we need to incorporate the quality of air and its make up into the way we approach city design as a whole. But on a smaller scale integrating plant life with your working environment can do a great deal to introduce a higher number of negative ions into the air you breathe at work, to boost your brain activity and to neutralise dust, mould spores, bacteria and allergens. Whether this integration forms part of a truly biophilic design process (putting occupant connection to the natural environment at the heart of the design process) or is something as simple as ensuring you make space for those fractal-view pot plants we touched on earlier, bringing plant life into your working environment is more fundamental than you might at first think.

Beyond immediate health concerns, our recent experience of restricted access to fresh air also gives us the chance to reflect on some of the more nuanced aspects of designing good air into our work places. With the recent memory of that heightened awareness still fresh and with much of the population still working from home, there is an opportunity to become much more discerning about not just the healthiness of the air we breathe but other sensory facets that we might ordinarily overlook. What degree of movement do you enjoy in the air flow or breezes you introduce into your working environment? How can you experiment with temperature; perhaps with cooler air and more localised heating sources? What are the external and internal factors that contribute to the scent of the air in your room? In terms of health and wellbeing scent is a particularly important sense to focus on due to its strong associations with the function of memory and in the case of certain scents its effect on the parasympathetic nervous system. Anecdotally it seems that one of the frequently cited responses to lockdown was a heightened awareness of smell, particularly in relation to plant life, but the choice of internal materials, finishes and wood oils in the workplace is important here too.

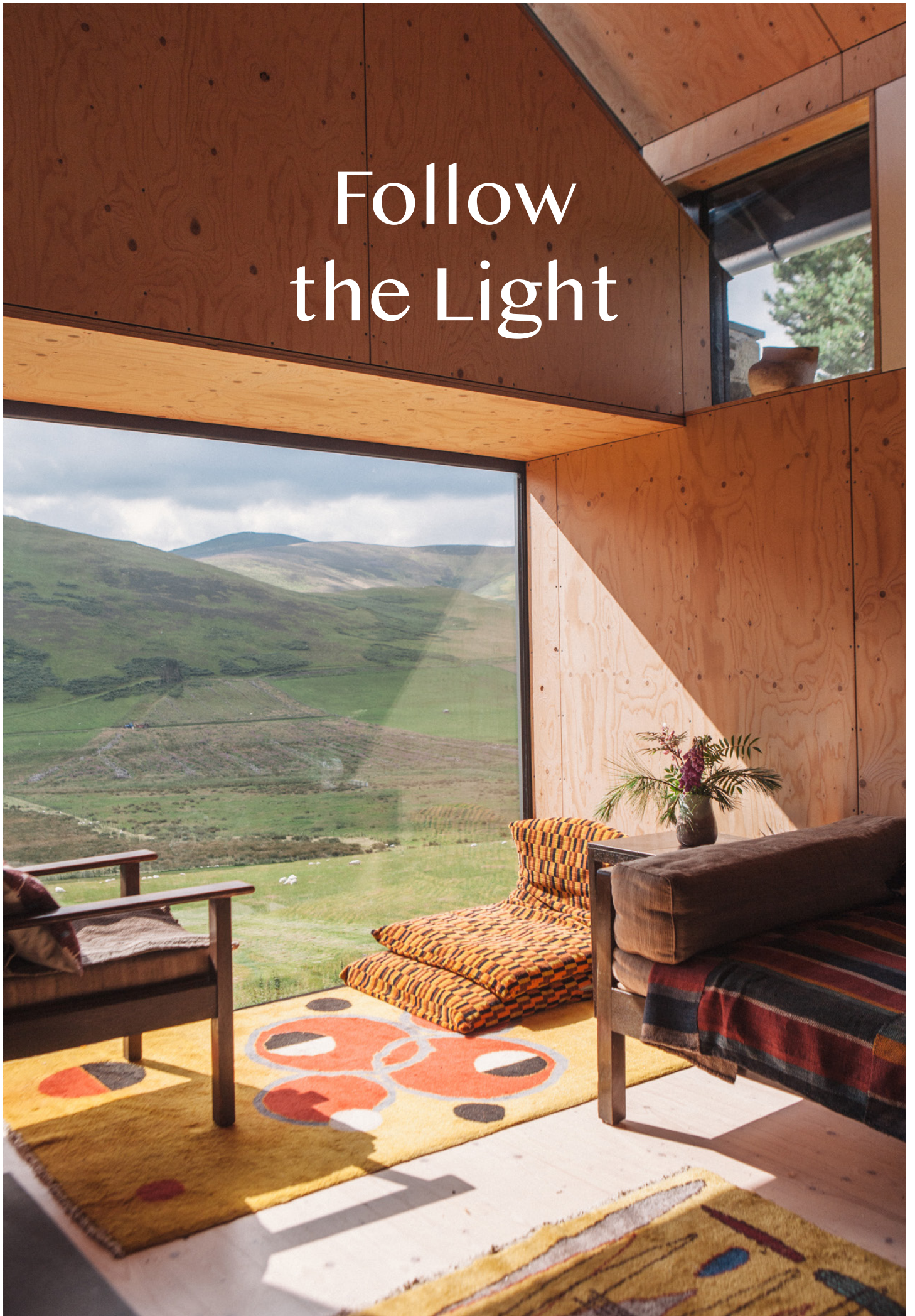
How the supply and treatment of fresh air in your work environment is achieved will differ depending on context, occupancy and the unique requirements of your type of work, but forming a brief for what you need and desire from it can only start when you pay attention to it.

Take a deep breath.





Follow the Light



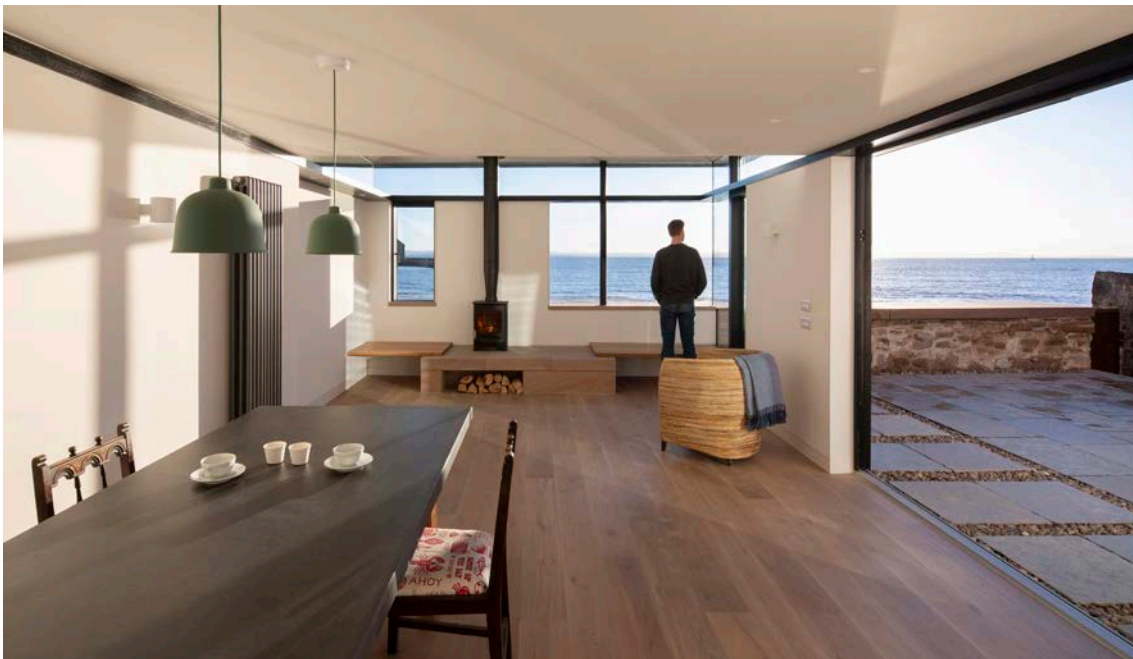
One of the most striking differences between the brief for domestic buildings and those of work places is in the degree to which we expect to remain largely static during our working day.

Our homes are typically arranged around movement between spaces for the different functions of eating, sleeping, washing and leisure and we are used to building typologies that respond at least in some degree to the times of day we expect to occupy these different spaces, and the daylight qualities best suited to them. We enjoy morning light where we eat breakfast, evening light where we sit down to rest at the end of the working day. But when it comes to our work space, the place we spend much of our weekday working hours, we abandon these principles. Partly due to the central role that desktop computers form in our working life, partly due to the increasingly small footprints that we allocate to each employee in shared offices and partly as a hangover of Industrial Revolution work practices predicated on prioritising supervision of work rather than worker autonomy, our expectation of our work spaces starts with the assumption that we spend all day sitting in the one spot.



With our focus predominantly set within the confines of our screens or desk space, there is a tendency to forget about what is happening elsewhere and even what time of day it is. Our illuminated screens give us no cues on the passage of the sun and in omitting a bodily awareness of time passing it is all too easy to forget to move. Who hasn't experienced the sudden 'coming to' moment of looking up from the blue light of a desktop, neck craned forward, to find that the light in the room has darkened without us noticing and our joints have cramped and stiffened?

This kind of divorce between the way we work and the sensory cues our bodies are waiting for is not only unhealthy but ultimately prevents us from being smarter about the different requirements we have of our environments for the different tasks our work involves. Our circadian clock is tethered to an assumption that we will receive the right prompts at the right time for everything from activating our metabolism, to energy use to cell regeneration. When we do not receive these prompts or they are confused through too much blue light from screens both our short term processing, sleep patterns and energy and our long term health are affected.



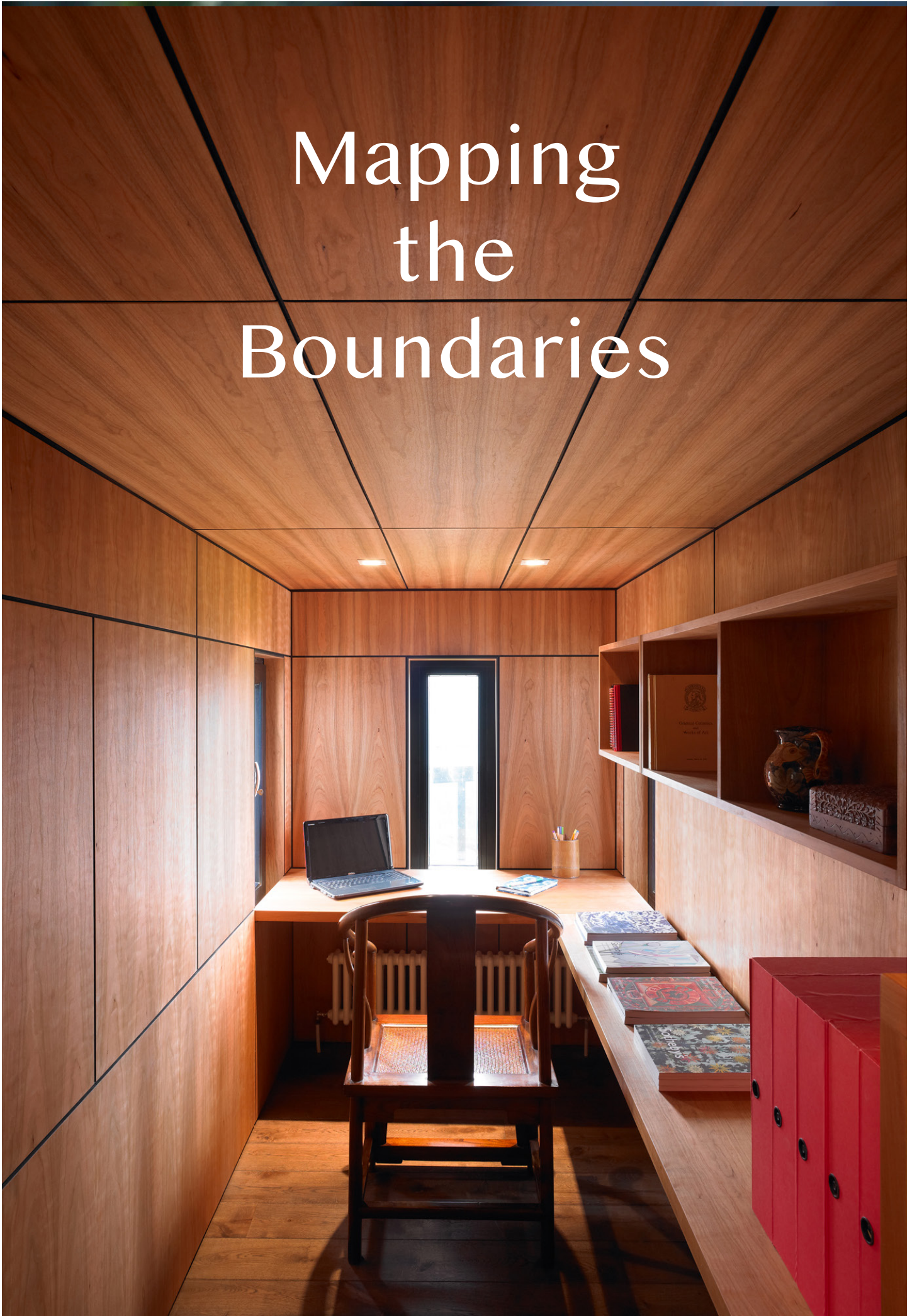


Obviously the need to make space for computers is an important aspect of most contemporary work but this need not necessarily mean that it is impossible to build movement around or between spaces into your working day or that, if staying in the same spot, awareness of the path of the sun throughout the day is obsolete. What tasks can be carried out away from your desk (phone calls, team meetings, reading and research, pen and paper tasks)? What spaces are most inviting at different times of day and how might you occupy them? Even if in a small, single-aspect space, how can you respond, through adjusting artificial lighting levels and temperature to ensure that your environment remains in synch with the changing natural light levels? If you already are familiar with your own pattern of what is best suited to morning or afternoon work what decisions can you make around finding the best environment for each period of time and the work that suits it. There are few simpler pleasures than finding a patch of sunlight to sit in. Must these kinds of pleasures be banished from the work place?





Mapping the Boundaries



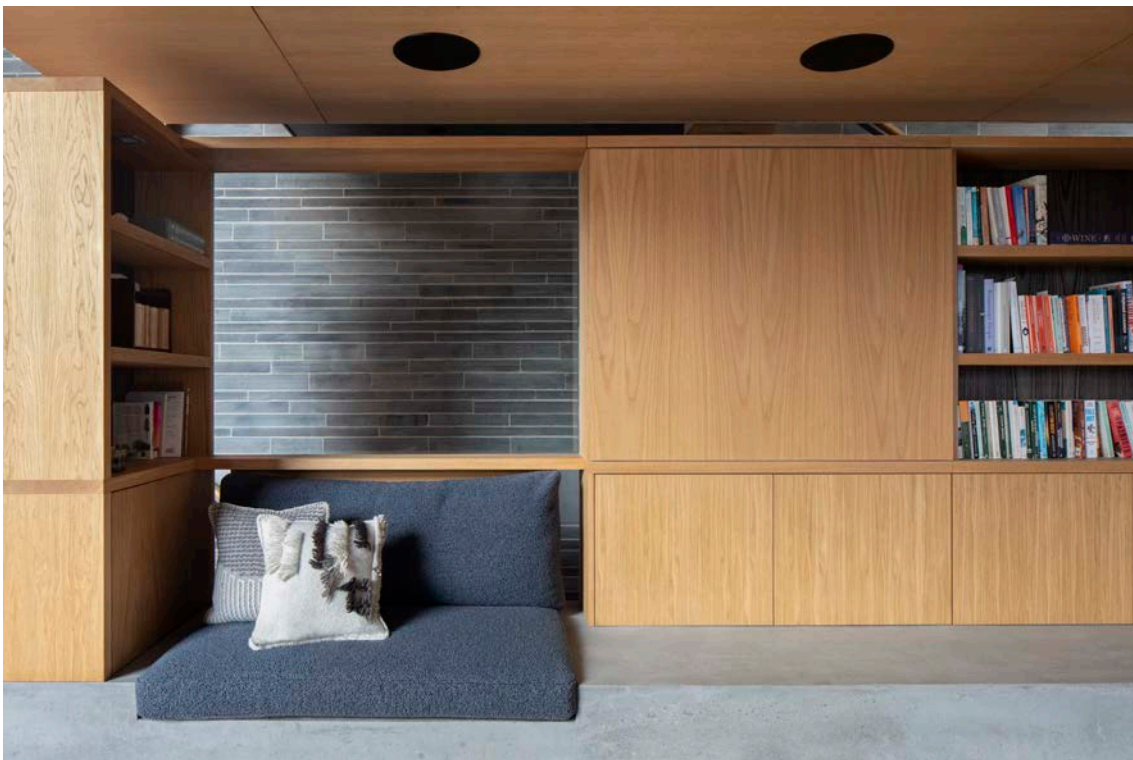


One of the things that many people have had to contend with over the past months of lockdown is the breaking down of boundaries between their working life and home. The checks and balances that are usually held in place by means of separate parts of town, separate buildings or separate rooms for work life have been eroded and this can make it difficult to engage with either work or home life in the way that you might want to.

The compartmentalisation that we are accustomed to has been challenged and can not be easily reconstructed when rooms and tables have to wear the many identities of office, partner's office, kitchen table, school room, play room or bedroom.

Home spaces that would ordinarily remain private have been opened up to the public domain and both work and personal identities have been rendered visible to one another. Our sense of what 'professionalism' looks like has had to evolve to amalgamate sights and sounds traditionally excluded from the working world: the cries and the laughter of children, the preparing of food in the backgrounds of kitchen table work spaces, all the personal and intimate ways we express our private personalities through decor and ornamentation, colour and pattern in the privacy of our home.

Those who rely on a physical definition of work space to provide focus and calm during the working day and to enable escape from the cares of work at the days end have had to contend with that sense of sanctuary being intruded on, and conversely, work life leaching into the sanctuary of home.





Personal and professional space have each laid claim to what has become disputed territory and the map of what we call work space has been hastily redrawn. We have had to reconsider how we 'switch on' and switch off'. Depending on your personal requirements for focus (remember the introvert/extrovert spectrum) this might have seen you struggle to settle into work or alternatively to find you grappling with containing the pressures of work within the hours of the working day.

Add to this the way in which we've already seen that the digital spaces on which we are increasingly reliant can all too easily become divorced from our physical reality and the cumulative effect can be a working environment that feels untethered and ill-defined.

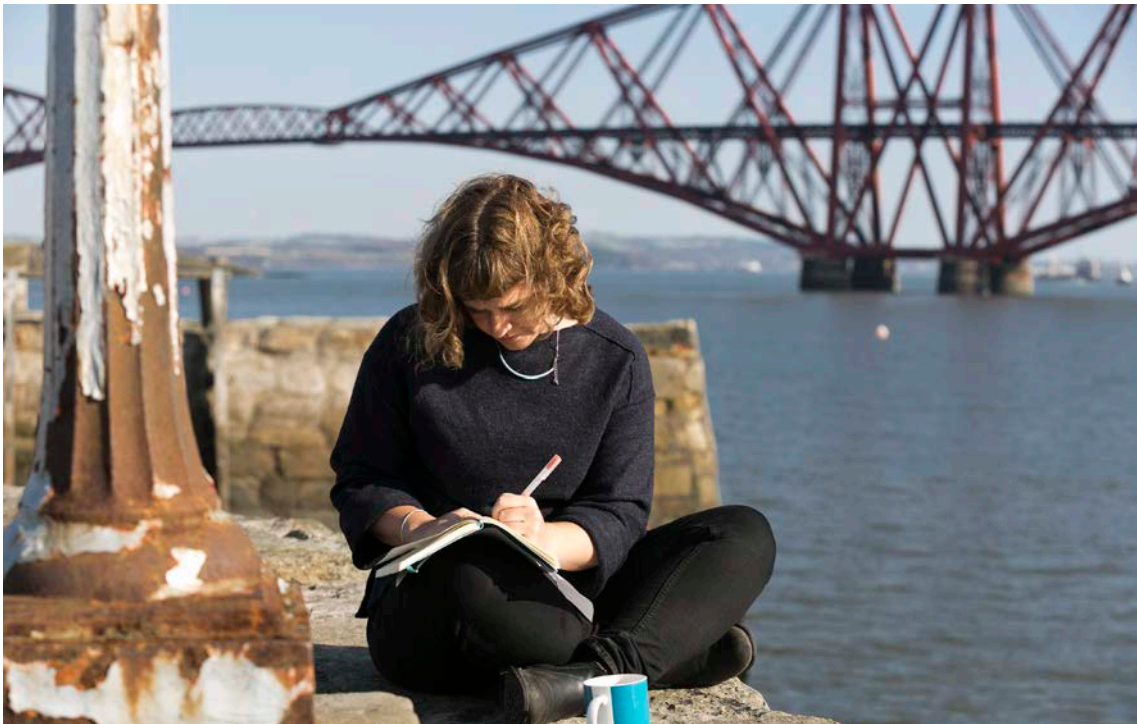
Looking ahead it is clear for our health, wellbeing and the quality of our work that a sense of definition is important. But re-building the boundaries of the working environment will require more than simply re-constructing the old walls.



Many people will continue to work at home long term or split their time between an office and home. For those returning to offices, these spaces will be re-configured not only according to new requirements of physical distancing but in recognition of shifting understandings of what work-places represent as hubs of community, engagement and collaboration rather than individual, autonomous labour. Having had to readjust our perception of professional contacts as rounded human beings with roles that encompass not just worker but mother, father, sister, brother, daughter, son, friend, carer or partner, will we be so willing to return to anonymous work spaces or to feel the need to protect so fiercely our private personalities? Our future work boundaries may have to be at once more robust as the worlds of work and home crush closer towards one another, and more porous as personal and private flow in, around and through one another. But porous does not mean non-existent and robust does not have to mean impenetrable.

For some people the solution will still be to go to a separate building or to close the door on distractions. But for others the outline of work space will need to be more nuanced, whether this is due to lack of space, juggling of roles or a desire or willingness to actively engage with a work boundary that is more blurred than before.

There are no easy architectural solutions to the problem of trying to work in spaces shared between young and old or where there is physically too little space to accommodate all working members of a household. The solutions to these issues will require architectural responses to work alongside social, managerial and economic proposals. But in architectural terms, for many people the definition of the work environment may come to rely less on hermetic sealing and more on a sense of withdrawal and the employment of immediate visual, ergonomic and tactile tools to create new cues and rituals for the beginning, duration and end of the working day. A place of work in the home may be somewhere acoustically separate but visually connected (or vice versa). A sense of withdrawal might be something as simple as a change in level. And for many of us, the boundary that we draw around the space we call work may be even smaller and more subtle.



What we have seen over the past few weeks is that work is ultimately not coupled to a particular place or space but is centred on you, the worker. In this respect, when we seek to recast the space defined as our work environment, it makes sense to start with the immediate space available: that of the space taken up by your own body, the surfaces it touches and your immediate field of vision.

Our brains are wired to find meaning in every experience we encounter. Each experience is analysed and cross-referenced with those that have gone before; appropriated into the vast library of memory and meaning that we hold in our minds. Over time we build up strong associations and expectations of all sorts of sensory information we encounter: colours, patterns, sounds, smells, materials, movements. Some of these meanings are processed consciously, some not. Either way paying attention to the messages we supply ourselves with in the most immediate tactile sense can help to construct those much needed signals for whether we are at work or at play.

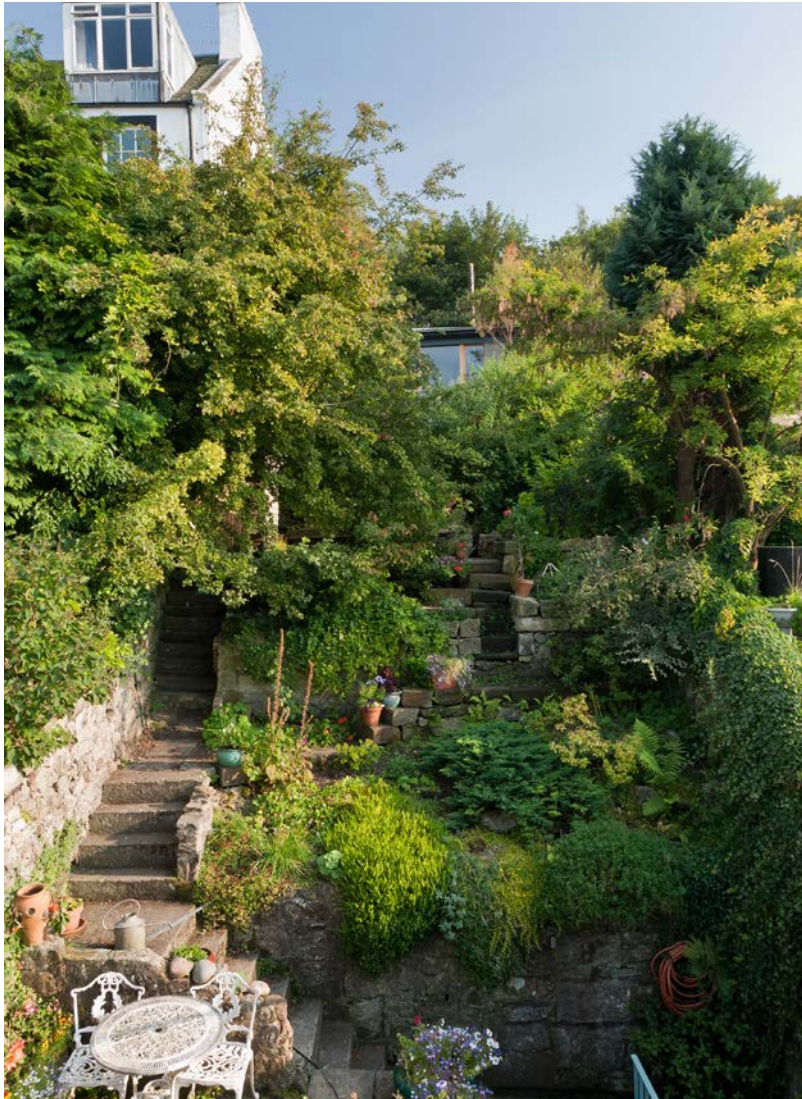


For those who are working from home this can be as simple as considering what surfaces you come into contact with as you work; the ground beneath your feet, the material your wrists rest on as you work, the particular chair you sit on, whether you use a different lamp for work than you would for the rest of your time. Are these things that you can apply or remove at the start and end of the working day? Are there certain rituals regarding the surfaces and objects closest to you that you can ascribe exclusively to work? As you build your particular web of these associations pay attention to the way that you can co-opt memories and meaning that give you the signals best equipped to create a micro environment that is healthy, happy and productive for you. In choosing the nature of surfaces that your body comes into contact with, what subconscious messages are you sending your brain about whether you are in comfort or discomfort, inspired or deflated? Are there ways that you can co-opt your memories to introduce a different narrative around work?

It is no accident that the image called to mind by the aspirational corner office is one which co-opts tactile signals more usually associated with domestic environments than work spaces. The chair is plusher and more comfortable, the lighting is softer and lower, the walls are personalised in colour and art. The expectation is that to be at work is to be as comfortable as at home. In contrast, those further down the pecking order are supplied with harder surfaces, harsher lighting; a multi-layered message that work is hard and uncomfortable. But now you are working at home. It would seem a sadly missed opportunity if we were to import that expectation of background discomfort that so much of the working population sadly come to expect of their workplaces. In the autonomy of your own home there is an opportunity to pick apart the details of what best supports you: to take the time to experiment; to adjust the ergonomics of where you sit, the lighting, the rug under your feet, the objects you surround yourself with. And if and when the time comes to venture back into the office, take this language of comfort and focus with you.







Re-Tuning



All of these different facets of the space of work are open to a multitude of interpretations. The specific extent and way in which they will be applicable will depend on the context of your work, your home, the companies or organisations you work for, the land or buildings around you, your colleagues or family. And the success of applying them to architectural solutions for your work place is dependant on the degree to which they are tailored to that context. There is no one size fits all solution.

Finding whatever solution is best tailored to you and your situation is also not necessarily an instant process. It may not be possible to change the tune of the working environment overnight. But perhaps, with a little attention, with the heightened awareness of this odd time we've been living through, we can begin to re-tune the instruments by which we set the melody of the working world, to play a song that is more harmonious. Perhaps we can start to change the brief we set and in time the buildings will follow.

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