

Designing better spaces: Increasing workplace productivity by improving our connection with nature



@Oliver_Heath

@human_spaces

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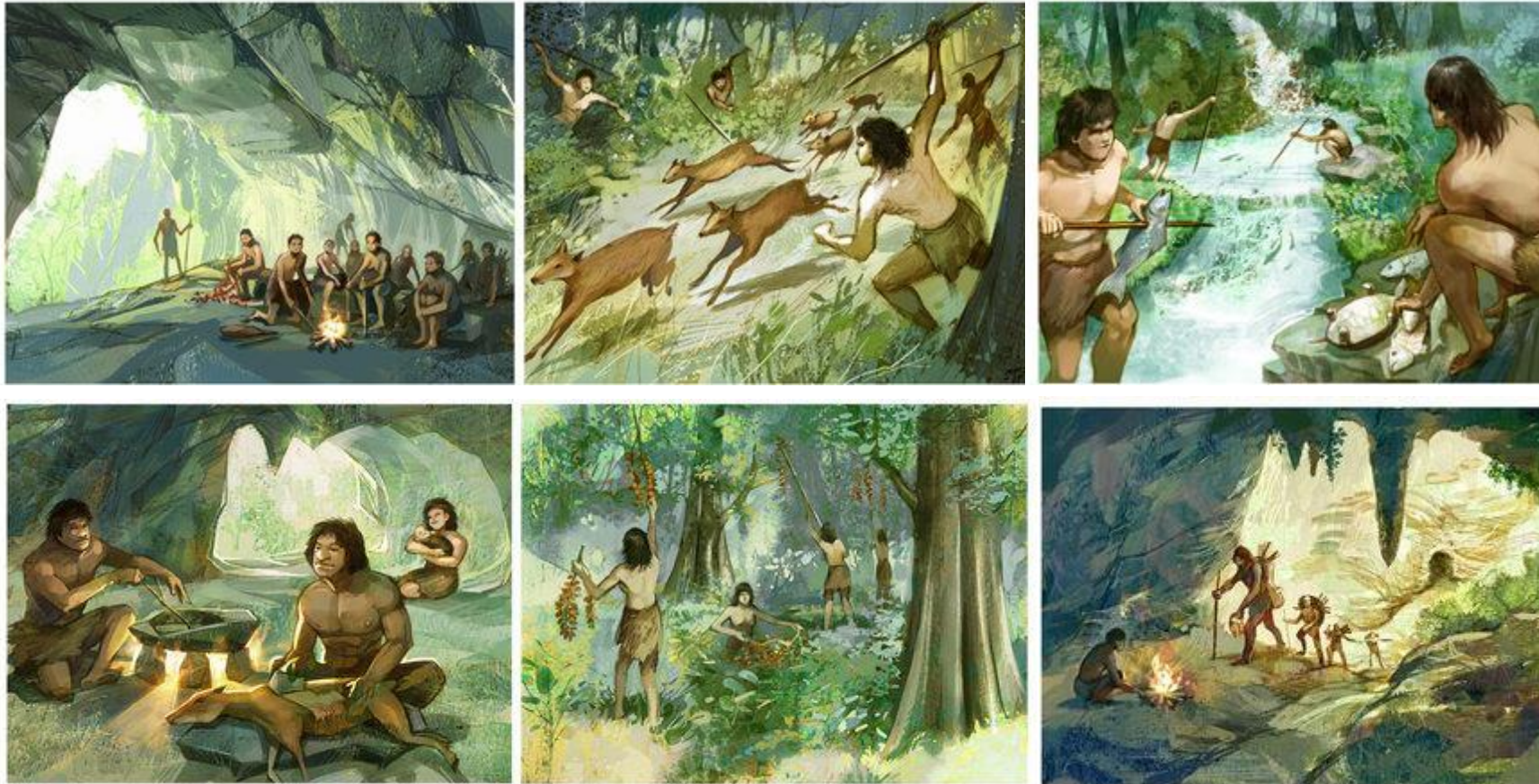
Biophilia – The innate human attraction to nature and natural processes



Image: Michelle Karpman

Our Genetic Heritage:

survival; savannah landscapes; animals; food; water;
clear views; vantage points; shelter; defence; warmth



Savannah Theory – Ultimate Landscapes





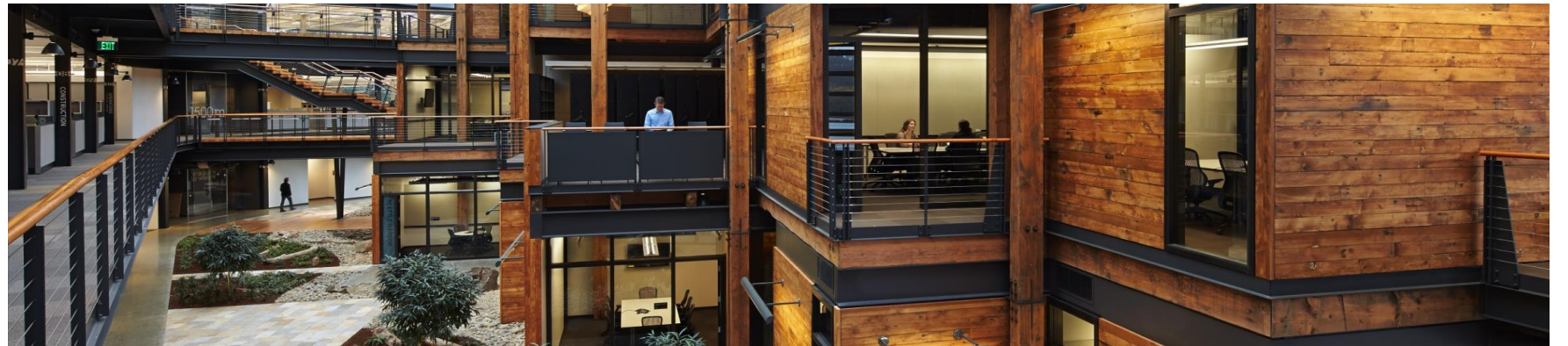
Image: Westfield

Key constructs of Biophilic design

Contact with nature
Water, trees, plants, light



Natural analogues
Evoking a sense of nature



Human spatial response
Energising, relaxing, restorative



Principles – 1. Direct connection with nature



Direct contact with real forms of nature



Visual connection - plants



Non visual connection -
The senses -sounds, smells, touch



Non rhythmic – Heraclitean movement
Ripples across water, fish,
leaves swaying in a tree

Contact with direct nature



Connection with natural systems - seasons



Direct and diffuse light



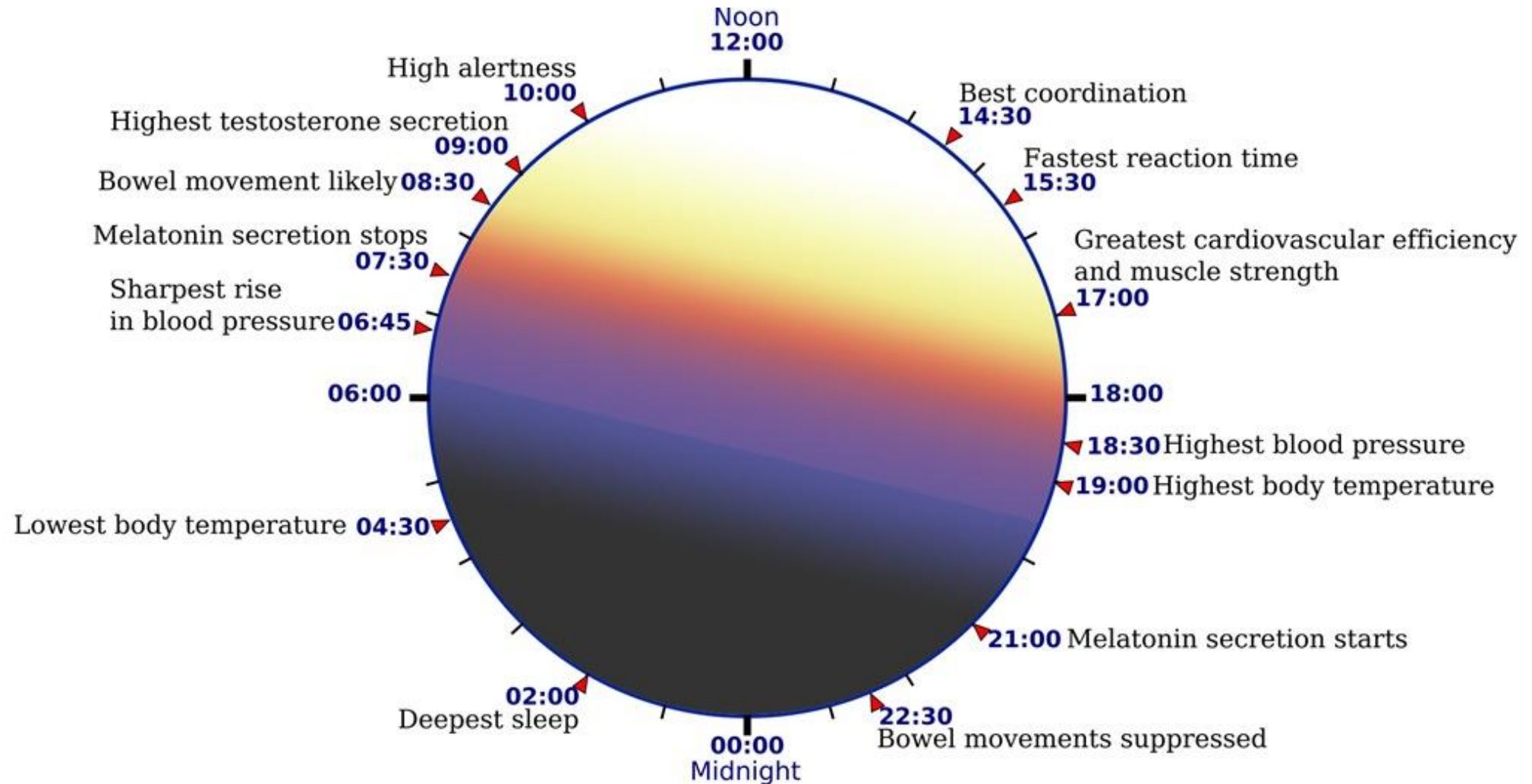
Thermal and airflow variability

Principles – 2. Improve access to natural light



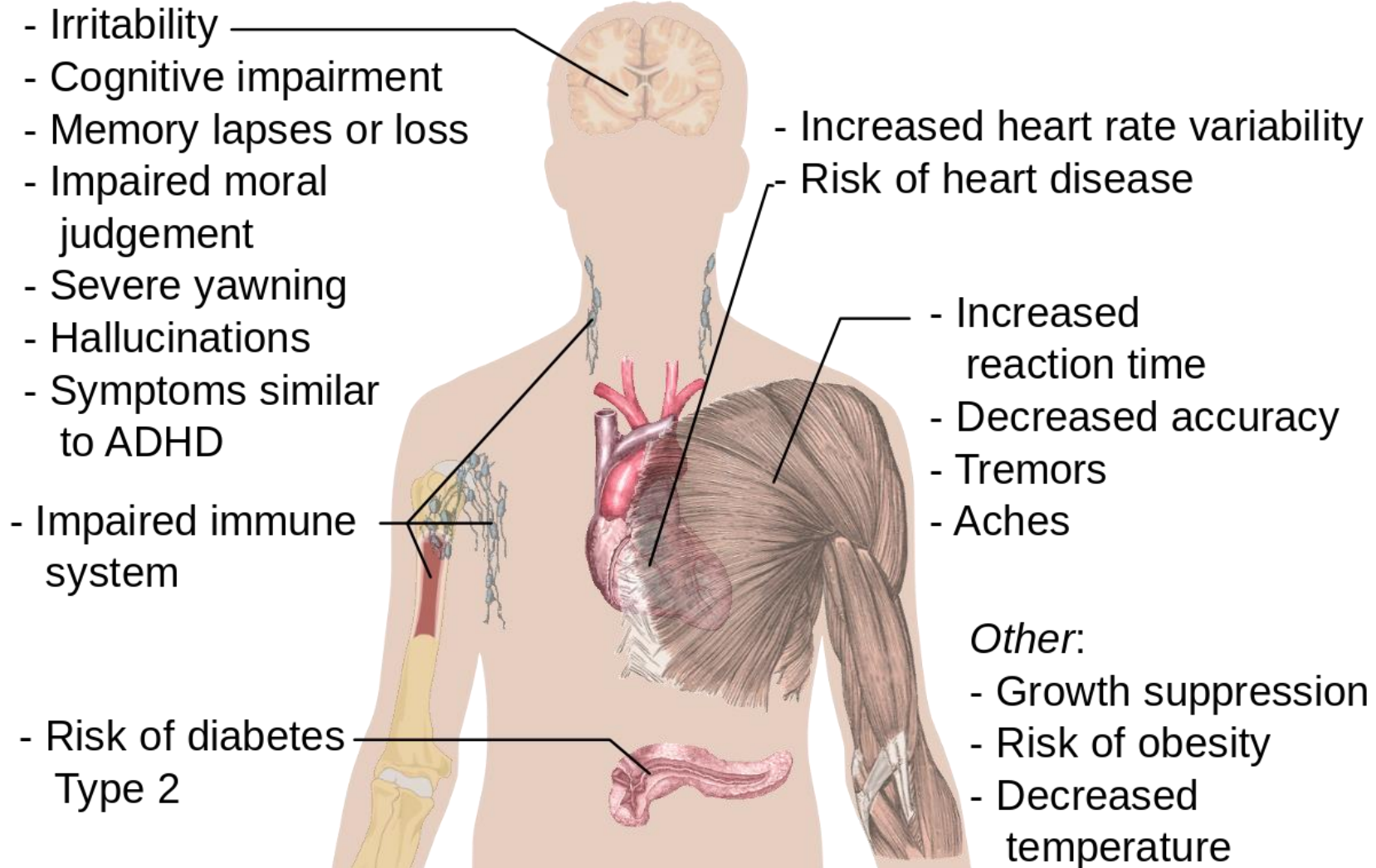
Circadian Rhythms

- The effect of natural light on the body's 24 hour clock



What happens when we don't sleep properly?

Effects of **Sleep deprivation**



Principles:

3. Natural Analogues- indirect connection

Natural forms, patterns, materials, textures and colours



Natural analogues - evoking a sense of nature

Biomorphic shapes and forms



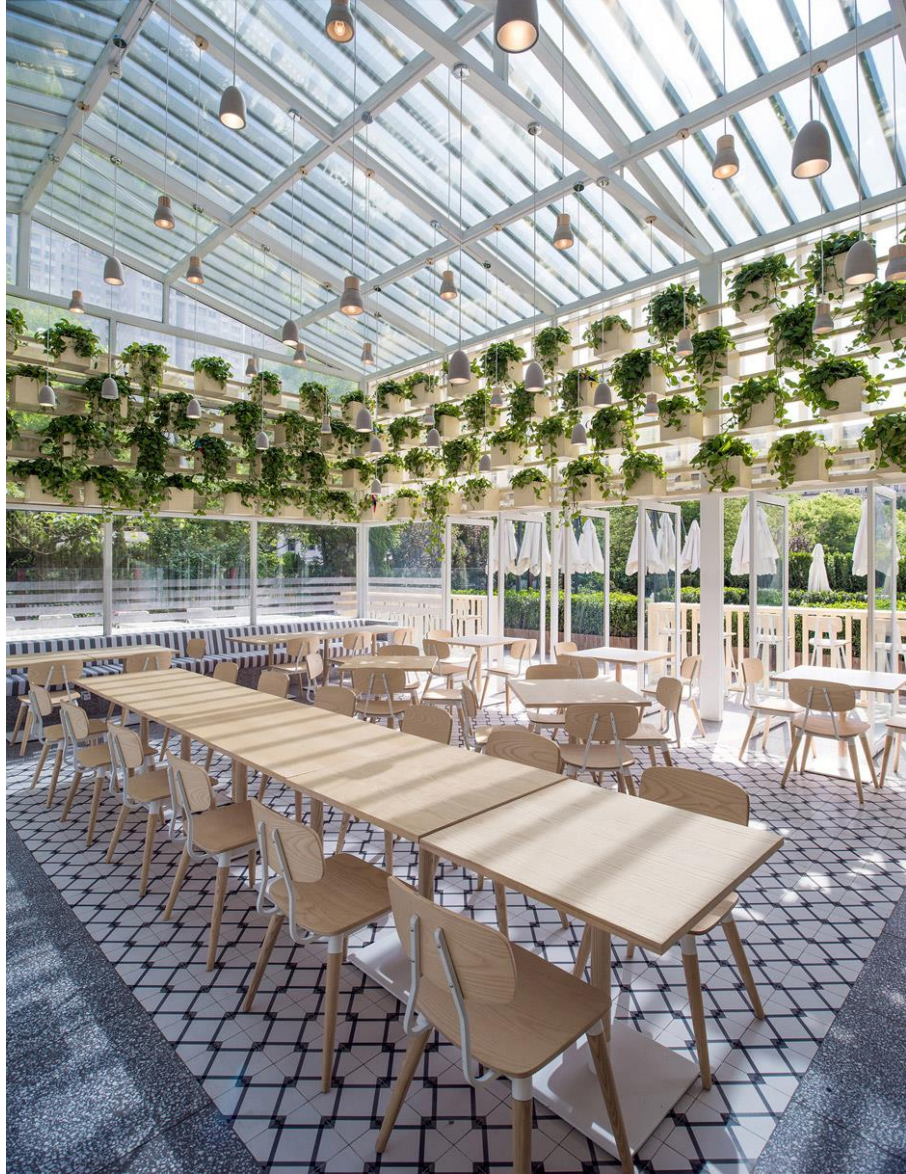
Natural analogues - evoking a sense of nature

Natural materials and textures – sensory benefits through touch, vision or sound



Natural analogues - evoking a sense of nature

Natural patterns - complexity and order – visually stimulating



Principles

4. Quality of air— toxins, air movement, CO₂, temp/ humidity



Principles

5. Prospect – elevated and enticing views through spaces



Principles:
6. Retreat – recuperative spaces to retreat into



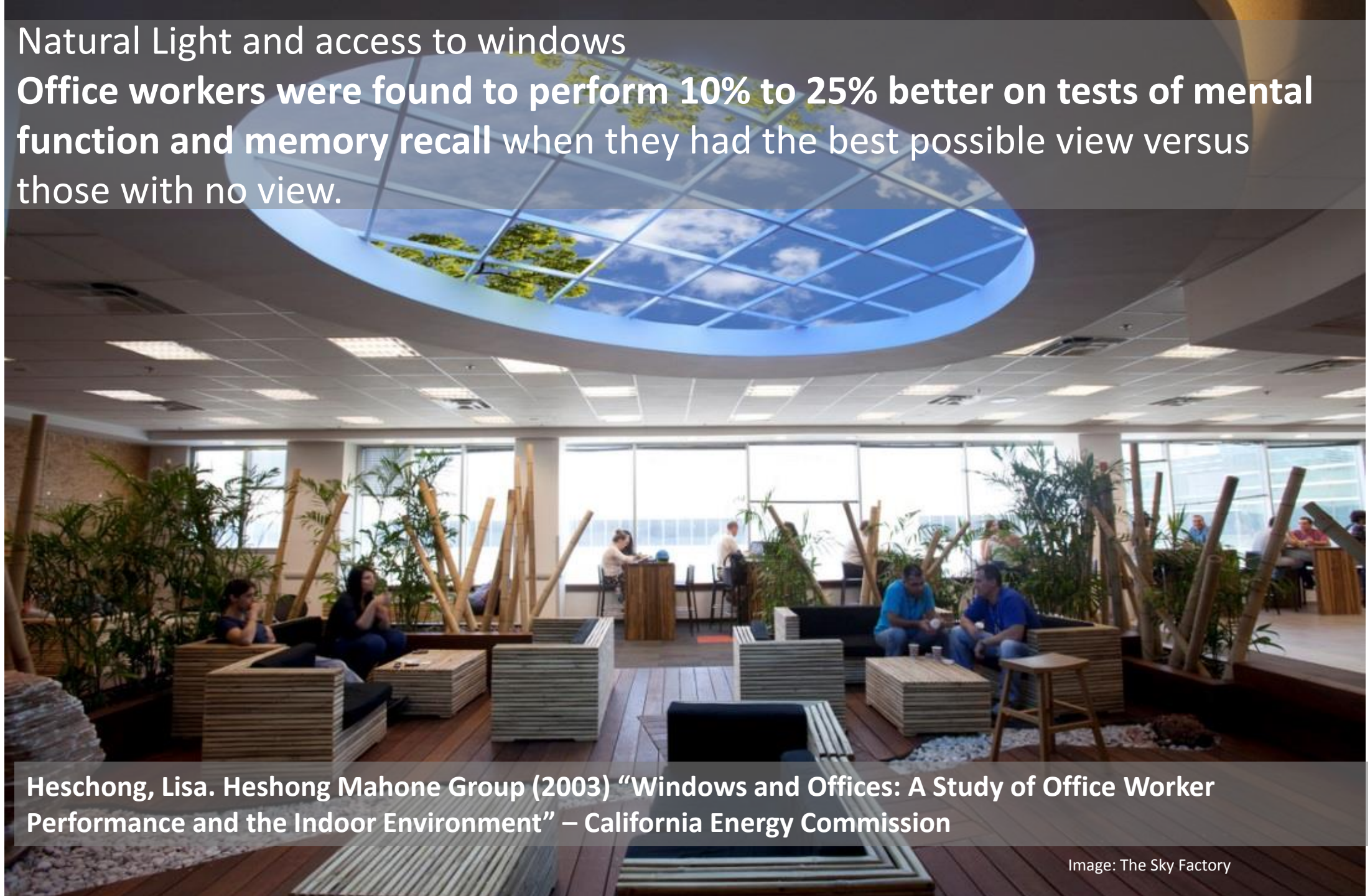
Offices – Alleviates stress, reduces absenteeism, increases productivity and staff retention



Image: HOK London

Natural Light and access to windows

Office workers were found to perform 10% to 25% better on tests of mental function and memory recall when they had the best possible view versus those with no view.



Heschong, Lisa. Heshong Mahone Group (2003) "Windows and Offices: A Study of Office Worker Performance and the Indoor Environment" – California Energy Commission

Views onto nature
views from plants have been shown increase productivity by 15%

The Relative Benefits of Green Versus Lean Office Space: Three Field Experiments
Marlon Nieuwenhuis, Craig Knight, Tom Postmes, and S. Alexander Haslam
2014



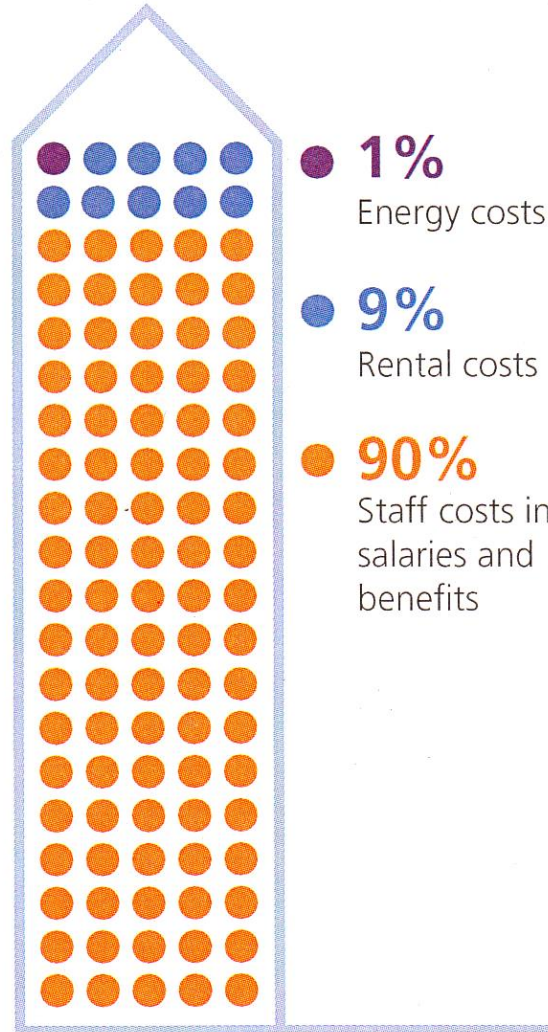
Natural textures, colours and patterns

When natural features have been applied a 15% reduction in absenteeism has been reported



Romm, Joseph J. and William D. Browning (1994) "Greening the building and the bottom line." Rocky Mountain Institute, Colorado

Typical business operating costs¹



10% Variation

A 10% variation applied equally to each cost has a far from equal impact

+/- 0.1%

Energy costs

+/- 0.9%

Rental costs

+/- 9.0%

Staff costs

Human Spaces Report

Global Impact of Biophilic Design in the Workplace



85%

Globally 85% of office workers surveyed
are based in an urban environment*

Global office landscape



47%

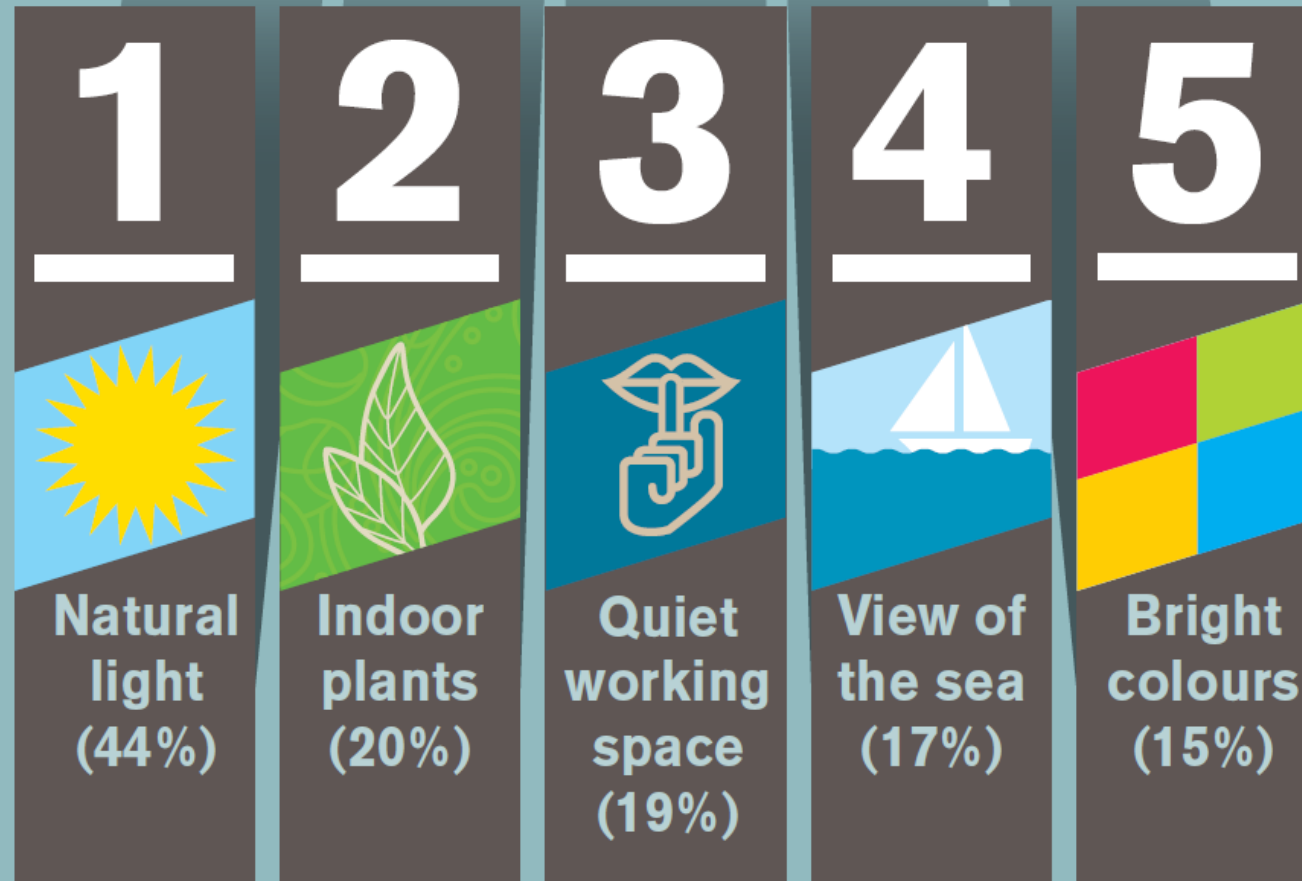
have no
natural light



58%

have no
plants

Top five elements most wanted in the office space



**Urban environment includes city centre, city suburb, downtown and town*

Workers in office environments with natural elements, such as greenery and sunlight



report a

15%

higher level
of well-being

are

6%

more
productive

and are

15%

more
creative



Google Mountain View campus
Thomas Heatherwick, Studio BIG

WHAT IS HUMAN SPACES? WATCH THE VIDEO ▾

EXPLORE THE WORLD OF BIOPHILIC DESIGN



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How to bring an office to life

13 OCTOBER 2014 | 0 COMMENTS | SIR CARY COOPER

We spend so much of our time at work, so it is no surprise that we want our office environment to be attractive and appealing, more than just four clinical walls and a plain desk. The place...

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Human Spaces report

What makes work feel good? Let's explore the role of biophilic design in creating environments that support employee health and well-being.



DOWNLOAD THE REPORT



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The three major findings of the Human Spaces report

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The Science and Style of Biophilic design



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