

14 Patterns of Biophilic Design

Europe, Middle East & Africa

AE	+971 (0)4 8189077
AT	+41 44 913 68 00
BA	+387 33 522 534
BE	+32 2 475 27 27
BG	+359 2 808 303
BY	+375 17 226 75 14
CH	+41 44 913 68 00
CZ	+42 0 233 087 111
DE	+49 2151 3718 0
DK	+45 33 79 70 55
ES	+34 932 418 750
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IE	+353 1 679 8466
IL	+972 546602102
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KZ	+7 495 234 57 27
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PL	+48 500 151 101
PT	+351 217 122 740
RO	+40 21 317 12 40/42/43/44
RS	+381 11 414 92 00
RU	+7 495 234 57 27
SA	+966 500615423
SE	08-241 230
SK	+421 911 104 073
SI	+386 1 520 0500 +386 8 20 54 007
TR	+90 212 365 5506
UA	+38(044)238 27 67
UK	+44 (0)1274 698503
ZA	+27 11 6083324



Mission Zero:
our promise to eliminate any
negative impact our company
may have on the environment
by the year 2020.



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Nature In the Space

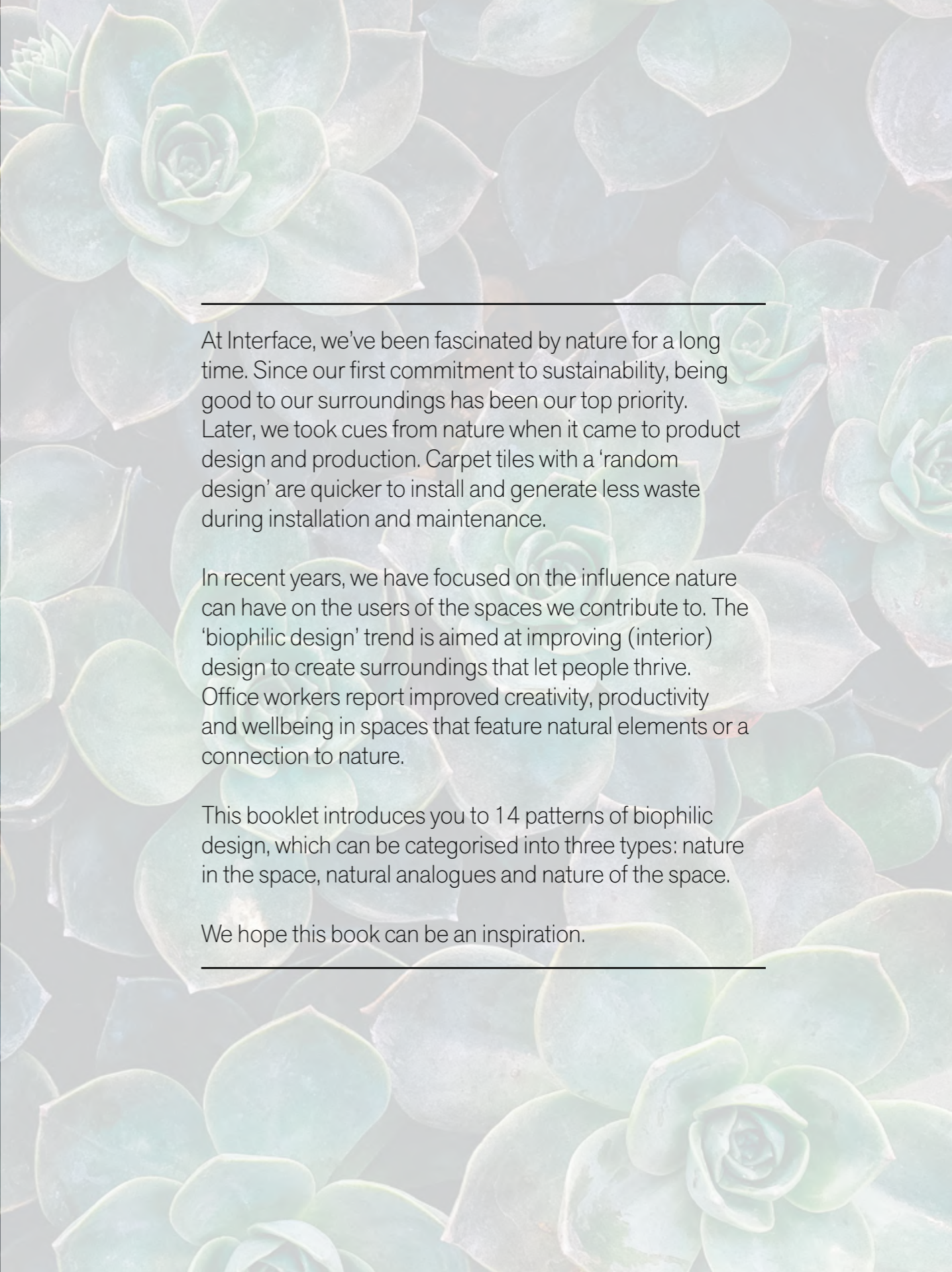
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At Interface, we've been fascinated by nature for a long time. Since our first commitment to sustainability, being good to our surroundings has been our top priority. Later, we took cues from nature when it came to product design and production. Carpet tiles with a 'random design' are quicker to install and generate less waste during installation and maintenance.

In recent years, we have focused on the influence nature can have on the users of the spaces we contribute to. The 'biophilic design' trend is aimed at improving (interior) design to create surroundings that let people thrive. Office workers report improved creativity, productivity and wellbeing in spaces that feature natural elements or a connection to nature.

This booklet introduces you to 14 patterns of biophilic design, which can be categorised into three types: nature in the space, natural analogues and nature of the space.

We hope this book can be an inspiration.

Nature in the Space

Nature in the Space describes the direct, physical and transient presence of nature in a space or place.



Image © art aqua

1. Visual connection with Nature

Pattern

A view to elements of nature, living systems & natural processes.

Experience

- Feels whole
- Grabs one's attention
- Stimulating or calming
- Conveys a sense of time, weather and other living things.



1. Visual connection with Nature

Practical Examples

- Work areas next to windows with a view to natural elements (trees, mountains, water, sky)
- Plants, flowers & green walls in the office space



Image © art aqua



Interface, Net Effect

2. Non-Visual Connection with Nature

Pattern

Other senses than seeing - hearing, feeling, smelling, tasting that cause an intended and positive reference to nature, living systems or processes.

Experience

- Feels fresh & well-balanced
- Ambient conditions are perceived as complex & variable but also familiar & comfortable
- Sounds, aromas, and textures are reminiscent of being outdoors in nature



2. Non-Visual Connection with Nature

Practical Examples

- Sound (animals, conversation, music, water)
- Smells (perfume, fragrant plants)
- Touch (hand rails, water for cooling the space).



Interface, Composure

3. Non-Rhythmic Sensual Stimuli

Pattern

Random & temporary connections with nature that may be analysed but not predicted precisely.

Experience

- Feels as if you are suddenly exposed to something special, something fresh. Interesting, stimulating and energising.
- A brief but welcome distraction.



3. Non-Rhythmic Sensual Stimuli

Practical Examples

- Indoor: kinetic facades (facades with moving elements that can be seen from corner of the eye), interactive design displays.
- Outdoor: swaying grasses, falling water and the buzz of passing insects



Ulemiste Shopping Centre © Oleg Harchenko
Interface, Net Effect

4. Thermal / Airflow Variability

Pattern

Subtle changes in air temperature, relative humidity, airflow across the skin, and surface temperatures that mimic natural environments.

Experience

- Feels refreshing, active, alive, invigorating and comfortable.
- Feeling of both flexibility and a sense of control



4. Thermal / Airflow Variability

Practical Examples

- Windows that can be opened manually & controlled individually
- Workspaces with outdoor balconies
- Visible mechanical ventilation.



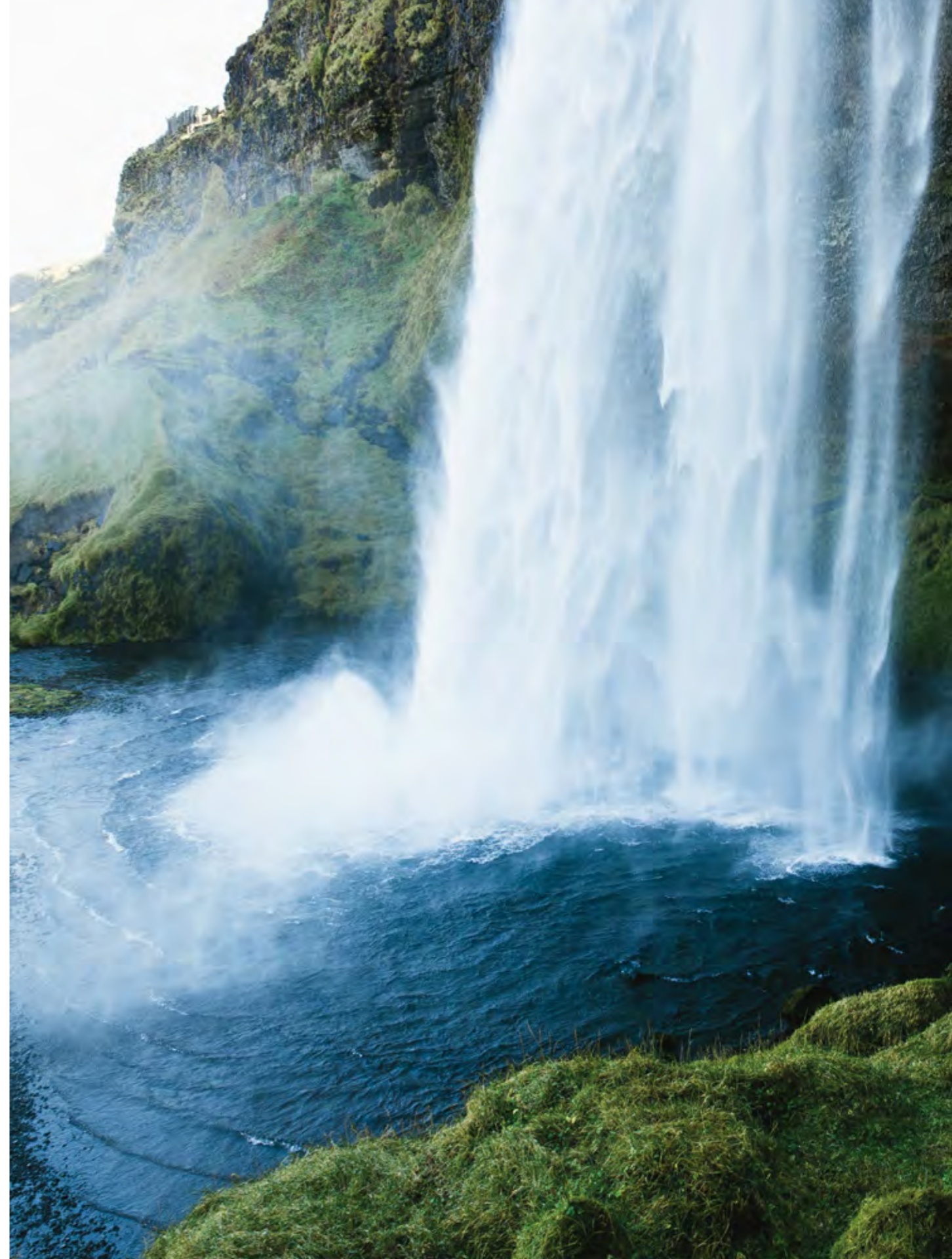
5. Presence of Water

Pattern

A condition that enhances the experience of a place through the seeing, hearing or touching of water.

Experience

- Feels powerful, fascinating and attractive
- Fluidity, sound, lighting, closeness, and accessibility each contribute to whether a space is calming, stimulating or both.



5. Presence of Water

Practical Examples

- Water base in lobby
- Water walls
- Fountains
- Aquarium
- Paintings of Ocean life
- The colour blue



6. Dynamic and Diffused Light

Pattern

Provide varying intensities of light & shadow that change over time to create conditions that appear in nature.

Experience

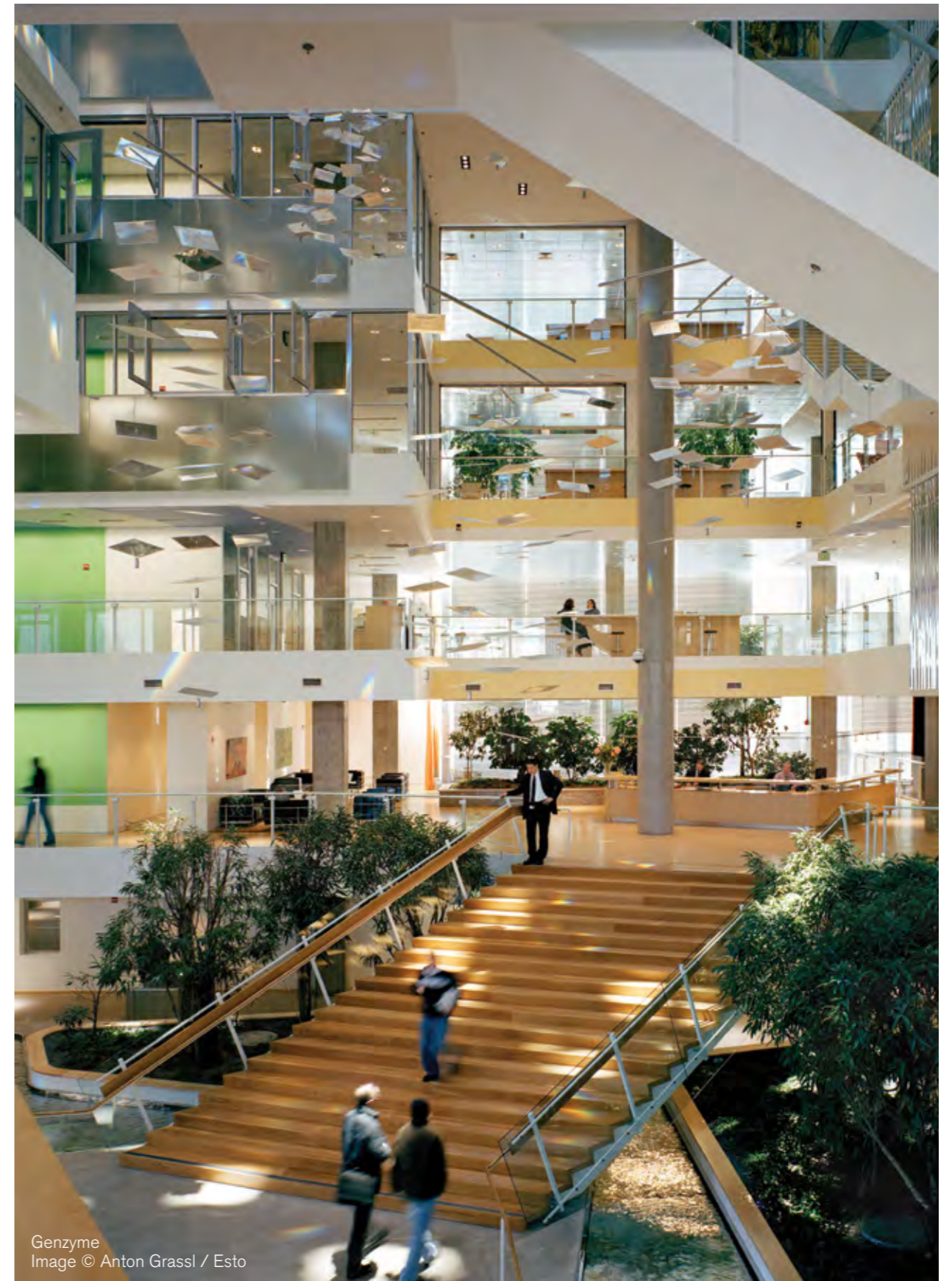
- Shows signs of time and movement
- Causes feelings of drama and intrigue
- Buffered with a sense of time



6. Dynamic and Diffused Light

Practical Examples

- Daylight from multiple angles (glass ceilings, windows)
- Firelight
- Light distribution
- Ambient diffuse lighting on walls and ceilings
- Personal user dimmer controls.



7. Connection to Natural Systems

Pattern

Awareness of natural processes, especially seasonal and temporal changes characteristics of a healthy ecosystem.

Experience

- Evokes a relationship to a greater whole
- Makes one aware of seasonality and cycles of life
- Relaxing, nostalgic, profound or enlightening, and frequently anticipated.



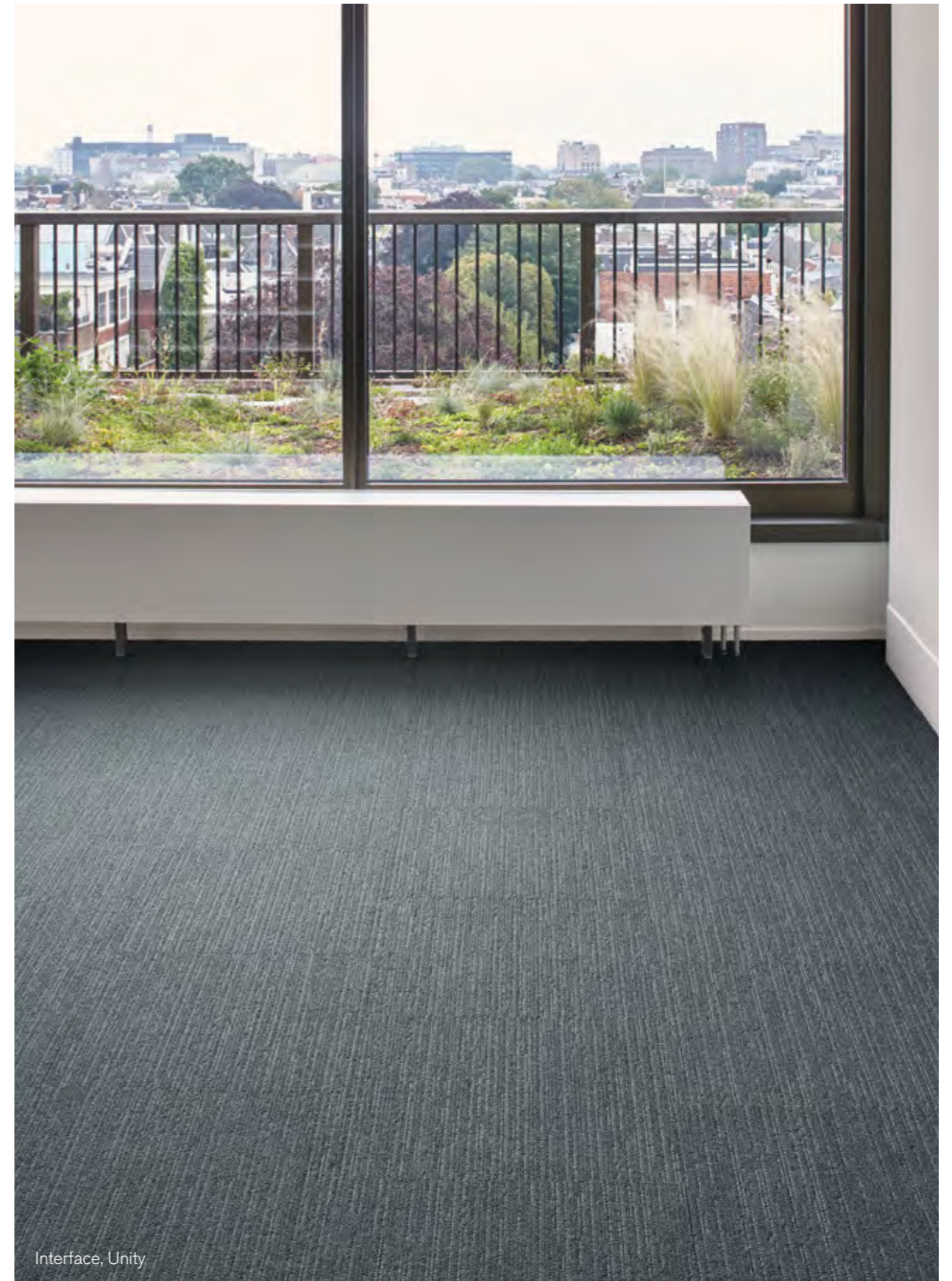
7. Connection to Natural Systems

Practical Examples

- Offices with patios or roof top gardens
- Native plantings that grow & die with the seasons.



Interface, Heuga 580



Interface, Unity

Natural Analogues

Natural Analogues are organic, non-living and indirect evocations of nature.

Objects, materials, colours, shapes, sequences and patterns found in nature, are present in artwork, ornamentation, furniture, décor, and textiles in the built environment.



Interface, Human Nature

8. Biomorphic Forms and Patterns

Pattern

Symbolic references to contours, patterns, textures or numerical arrangements that exist in nature.

Experience

- Feels interesting and comfortable
- Possibly feels fascinating, attractive, thoughtful or even absorptive.



8. Biomorphic Forms and Patterns

Practical Examples

- Organic shapes
- Natural colours
- Spirals
- Fractals
- Curves
- And, other geometrical forms



9. Material Connection to Nature

Pattern

Material and elements from nature that, through minimal processing, reflect the local ecology or geology to create a distinct sense of place.

Experience

- Feels rich, warm and authentic
- Sometimes stimulating to the touch



9. Material Connection to Nature

Practical Examples

- Materials that reflect the native ecology, such as specific types of wood, clay, leather, stones, wool and other fabrics.



Interface, Urban Retreat



10. Complexity and Order

Pattern

Rich sensory information that adheres to a spatial hierarchy similar to those encountered in nature.

Experience

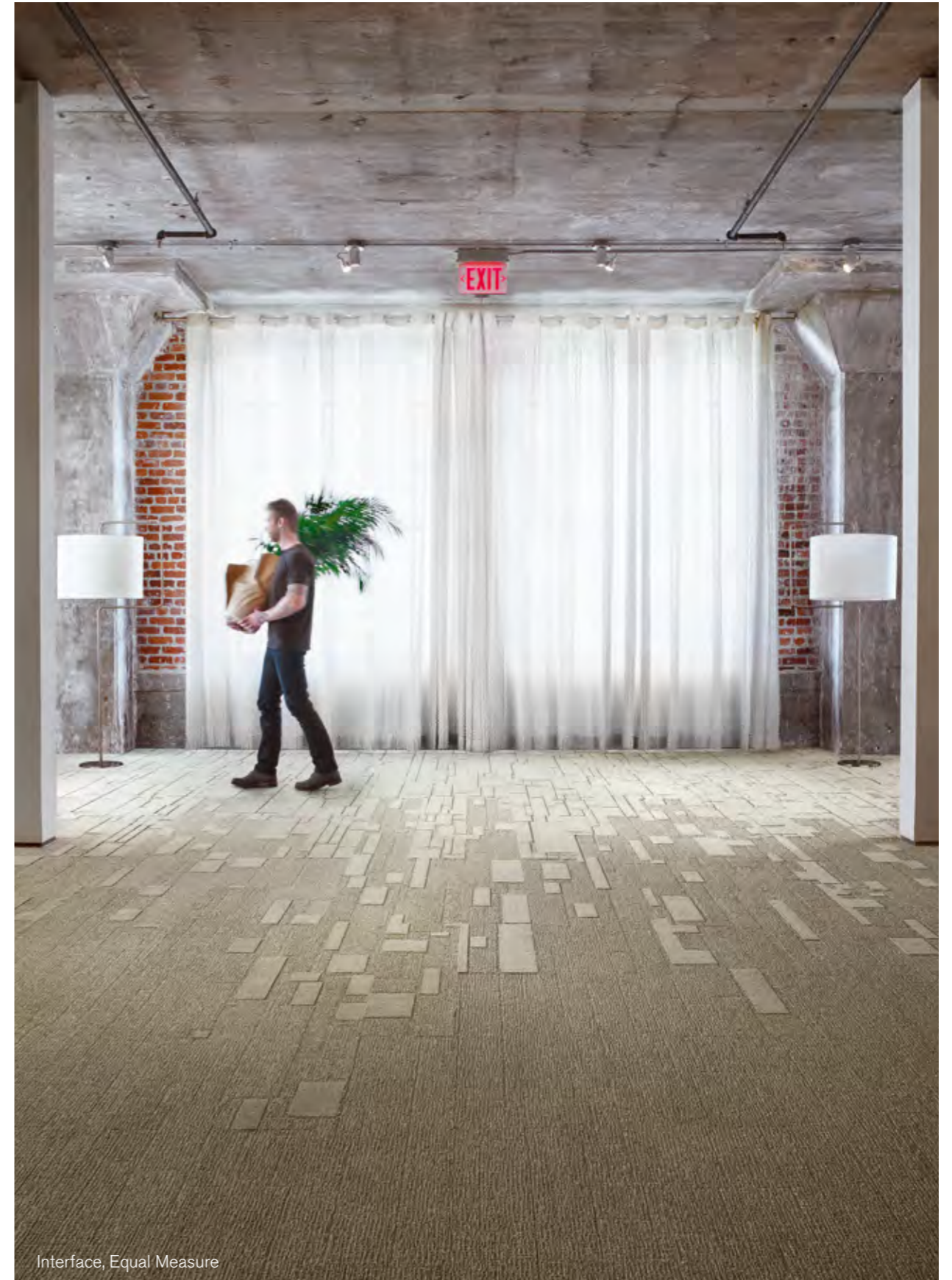
- Feels engaging and information rich
- Intriguing balance between boring and overwhelming



10. Complexity and Order

Practical Examples

- Repetitive & symmetrical shapes
- Pattern order in wallpaper, carpet design
- Exposed structure & mechanical systems facades,
- Spandrel & window hierarchy
- Floor plan



Nature of the Space

The strongest experiences are achieved through the creation of obscured views and revelatory moments; co-mingled with patterns of Nature in the Space and Natural Analogues.



Interface, Touch & Tones 101, 102 & 103

11. Prospect

Pattern

An unblocked view over a distance for surveillance & planning.

Experience

- Feels open and freeing
- Gives a sense of safety and control, particularly alone or when in unfamiliar environments.



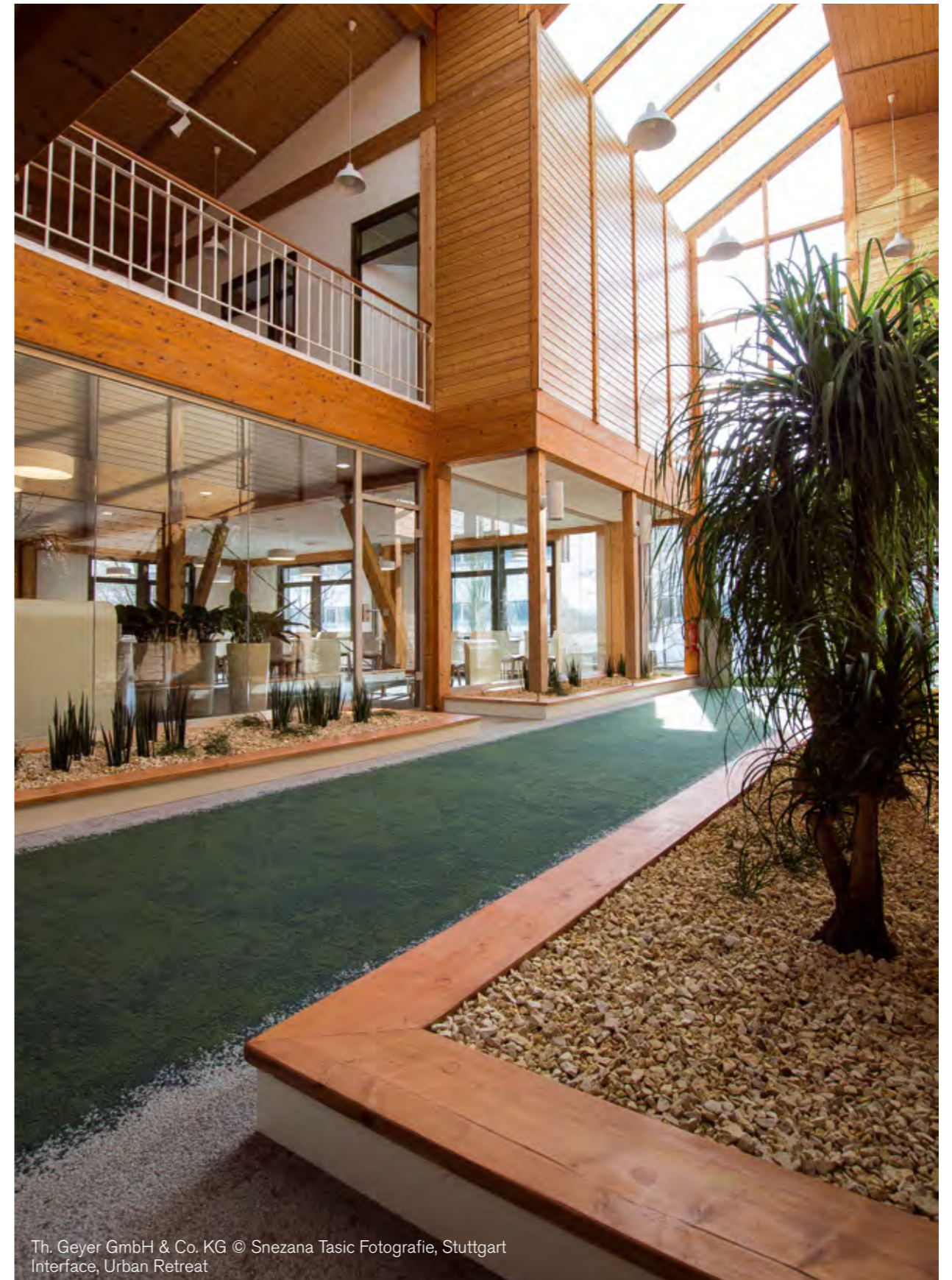
11. Prospect

Practical Examples

- Views (longer than 6m)
- Partition heights
- Transparent materials
- Staircase landings
- Elevated planes
- Open floorplans



Buhl Data Service GmbH. Image © BOS Büro- und Objekteinrichtungen GmbH
Interface, Human Nature



Th. Geyer GmbH & Co. KG © Snezana Tasic Fotografie, Stuttgart
Interface, Urban Retreat

12. Refuge

Pattern

A place for withdrawal, from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.

Experience

- Feels safe & provides a sense of retreat & withdrawal – for work, protection, rest or healing
- Feels separate or unique from surroundings
- Spatial characteristics can be thoughtful, embracing & protective but not necessarily disconnected.



12. Refuge

Practical Examples

- Modular refuge (small protection like high-back chairs)
- Partial refuge (several sides covered) reading nooks, booth seating etc...
- Bay window seats
- Canopy beds
- Gazebos
- Canopy trees
- Arcades & covered walkways or porches
- Extensive refuge (sleeping pods, tree houses)



Interface, Touch & Tones 101, 102 & 103



OffX CoWorking © If5, Andreas Rudolph
Interface, Urban Retreat

13. Mystery

Pattern

The promise of more information achieved through partially hidden views or other sensory devices that stimulate the individual to travel deeper into the environment.

Experience

- Tangible sense of anticipation, or of being teased
- Offers the senses a kind of denial and reward that make one want to investigate further
- Makes one want to understand and / or explore.



13. Mystery

Practical Examples

- Labyrinths
- Winding paths
- Peek-a-boo windows
- Auditory stimulation from an imperceptible source
- Hidden views from the focal object



SCA, Urban Retreat



RIE Credit Agricole Saint Quentin

14. Risk/ Peril

Pattern

An identifiable threat coupled with a reliable safeguard.

Experience

- Feels exciting, and with an suggested threat, maybe even a little harmful or negative
- Feeling of danger, but intriguing all the same, worth exploring and possibly even irresistible.



14. Risk/ Peril

Practical Examples

- Heights
- Gravity
- Water
- Double-height atrium with balcony or catwalk
- Transparent railing or floor pane
- Passing under, over or through water
- Life-sized photography of spiders or snakes.



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