Why do we need DAY-LIGHT?

The **Daylight Academy** promotes international interdisciplinary and trans-disciplinary cooperation among scientists, architects and other professionals working on daylight with the objective of facilitating innovative ideas in daylight research and its applications.

Representing twelve different countries and a wide variety of fields, the members instil life into the Academy and give it its unique profile. Annual meetings and other activities such as workshops and summer schools offer a platform for exchange beyond disciplinary boundaries.

Why Daylight?

Daylight is central to public health and the environment. Half of the world's population now lives in urban areas. For many, their access to daylight is limited by a poor built environment and air pollution. Clean, renewable sources of energy are a pressing need, as is a greater recognition of the hazards of living and working indoors. Disrupted biological rhythms, sleep and mood disorders, inadequate vitamin D levels and myopia are just some of the health risks that insufficient exposure to daylight brings with it. Furthermore, access to daylight also favours other aspects seen as beneficial for humans, such as the view out and the contact with the natural environment.

So how do we restore this contact? And, when daylight is not available, how do we produce light that is both healthy and efficient?

What is Daylight?

One obstacle to an appreciation of the importance of daylight is the lack of an agreed definition. Daylight means different things to different people. Here is a definition formulated by Daylight Academy members:

Daylight is a combination of sunlight and skylight:

- *Sunlight is solar radiation that has reached the earth's surface as parallel rays, which is why it produces strong, clearly defined shadows.*
- *Skylight is solar radiation that has reached the earth's surface after scattering in the atmosphere.*

Daylight plays a significant role in many areas such as art, aesthetics, wellbeing and health. Promoting daylight and its characteristics in all these aspects benefits humanity and nature.

Olafur Eliasson, The Domadalur daylight series (south), 2006
Photo: Fabian Birgfeld / PhotoTECTONICS © 2006 Olafur Eliasson

What Characteristics of Daylight should we strive for?

In indoor settings where daylight is insufficiently available, we should mimic daylight characteristics (spectrum, color temperature, distribution, and its 24h dynamic cycle) with electric light as much as possible. We should not unnecessarily cut off natural light if it is there unless it produces glare.

Optimising daylight in interiors while limiting glare is recommended in the new European Daylighting Standard EN 17037 “Daylight in buildings”. This document specifies elements for achieving an adequate subjective impression of light indoors, and for providing an adequate view out. Furthermore, recommendations are given for the duration of daylight exposure within occupied rooms.

Light for Health

The discovery of light therapy to treat winter depression evolved into a broader recognition of light being necessary for health. We now know that blue-sensitive photoreceptors in the eye provide light information to the brain clock to synchronise daily rhythms and to directly affect mood, sleep, cognition and many other functions. Thus we need bright, blue-rich white light during the day and low intensity warm white light after dusk. By bringing more daylight into buildings and encouraging people to actively spend time outdoors in natural light, as well as limiting light exposure during the night, we can prevent many illnesses and promote healthy behaviour.

The Aesthetics of Daylight

Our world is suffused with the everchanging beauty of daylight, the evanescence of twilight, and the mystery of night. Urbanism and architecture, as forms of visual language, play with the moving patterns of light entering inner space, art that inspires and weaves light through our emotions. This quality of human existence would be lost without daylight.

The **Daylight Academy** was established in 2016 to create more awareness of the benefits of daylight and address daylight-related challenges. The Academy brings together international experts in science, architecture, art and other disciplines to investigate and promote daylight in all its aspects.

The cultural and philosophical significance of daylight in our lives, although harder to define, is also of great importance for the work of the Academy. The aim is to bring a truly cross-disciplinary perspective to daylight research, education, and application.

DAYLIGHT ACADEMY

Daylight Academy
A VELUX STIFTUNG initiative
Kirchgasse 42
8001 Zürich
Switzerland

www.daylight.academy
office@daylight.academy
@DaylightAcad