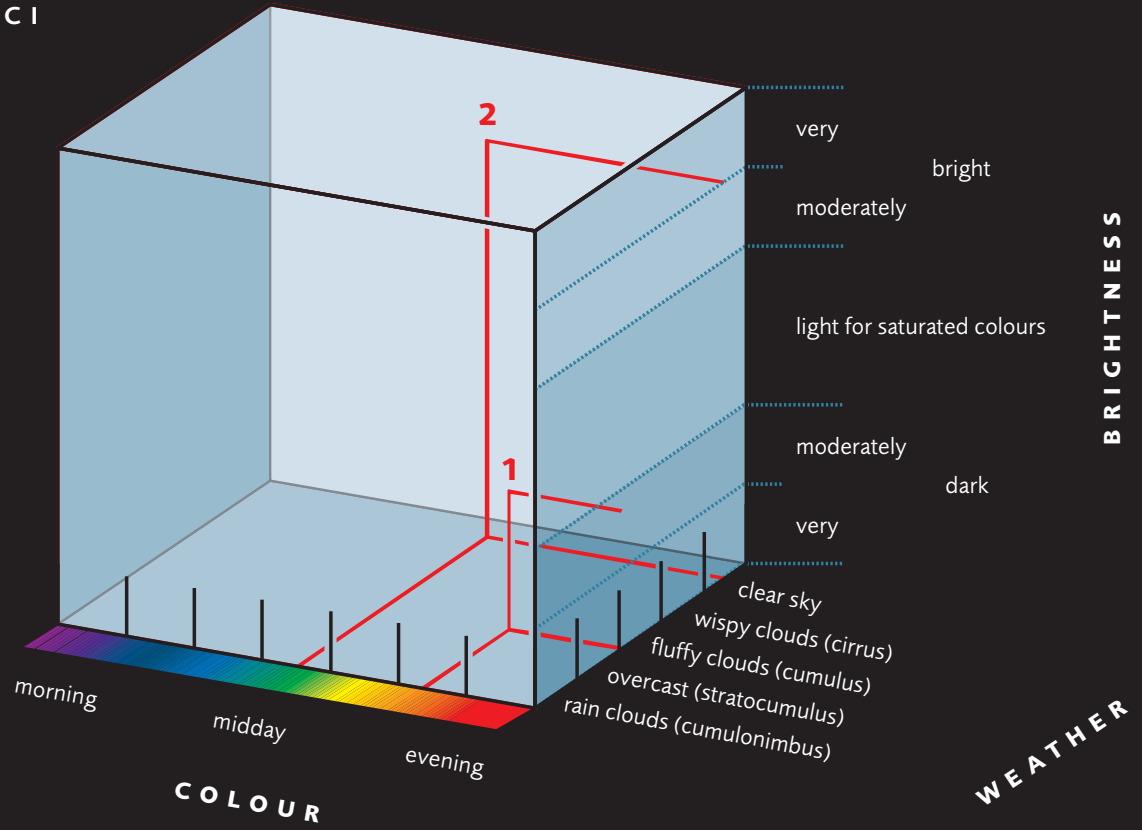


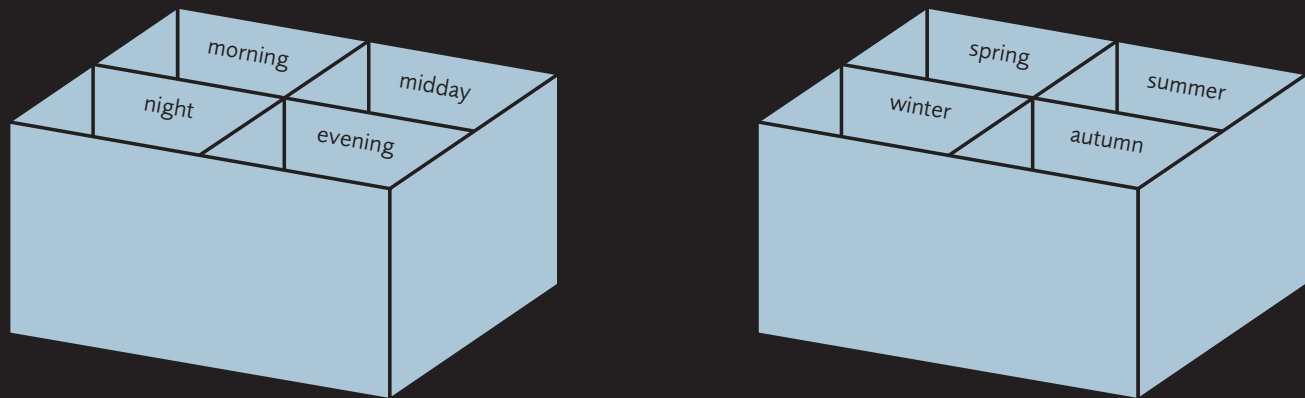
Series (5):

Daylight categories

LIGHT LOCI



TIME-RELATED LIGHT



Series (5): Daylight categories

Natural light

Light as a part of our natural environment is essential for human life. It is therefore important to observe the features of natural light to be able to apply these impressions when developing lighting solutions. The essential characteristic of natural light is its dynamic quality. This is demonstrated in its regular form in daily and seasonal rhythms with corresponding spectral shifts, and in its irregular form through changes in the weather.

The x-y-z model

Since natural light is the result of a multi-layered process, it can only be described by taking several factors into account. The 'x' axis shows the spectral colours and how the times of day adopt the luminous colours of the respective colour loci. The 'y' axis shows climatic situations determined especially by cloud formation. The 'z' axis shows areas of brightness which influence our perception of our environment. The axes can be given frames of reference.

Time-related light

Design factors can be developed from the 'x' axis: if a space is to receive an evening atmosphere, the technical data can be used to create such an atmosphere. If you add to these values those that apply to the seasons, a space can receive a summer atmosphere, for example. Both examples contain time-related information and can therefore be termed 'time-related light'. If the user of the space feels the space is an evening space or a summer space, communication has taken place between the designer and the user.

Light loci

The 'x' axis is mainly concerned with colours. Axes 'y' and 'z' can be regarded as two scales which primarily define levels of brightness: shading by clouds and increased brightness through solar radiation. In practice, these are the two factors that determine shadow. Shadow is a contrast to light. Shadow is present when there is no (direct) light. Shadow has two important qualities:

1. It projects an object on the side facing away from the sun, allowing the object to appear twice. This activates the air between the object and its projection for our perception. The 'air' around the object is like the air between walls: it is space.

Shadow – perception is space – perception.

2. Shadow moves with the sun. In the course of the day it changes direction and dimensions, which means that it provides information about time. Every shadow can be regarded as a time-giver, and every object as a sundial.

See also www.pldplus.com/basics.htm

Prof. Gero Canzler