

The natural order



Admir Jukanovic explains how electric lighting continues to be inspired by spectacular phenomena in the natural world



Red spectacle The Grand Canyon in Arizona changes its appearance depending on the height of the sun in the sky



Midnight sun Jukanovic takes inspiration from the sun and how it constantly changes in intensity and colour



Sparkling ideas The combination of light and sound in club lighting design finds a precedent in nature with lightening and thunder

One of the epiphanies that encouraged Admir Jukanovic to light interiors as a profession took place in the great outdoors of America, on a trip to visit the famous Grand Canyon. "I arrived there at about 2 o'clock and at first I was disappointed – the canyon had nothing like the orangey red that you see in photos," explains the lighting designer, now an associate at the London practice Mindseye. "But my friend insisted that we wait a few hours until the sun started to set. At 6 o'clock as the sun went low in the sky, suddenly the whole canyon changed to that intense, amazing colour. It was an amazing moment for me."

The dynamism of the natural light – its ability to change the appearance of the world around us in an instant – has since informed Jukanovic's conception of artificial light. "The light from the sun is not static, because of the movement of the earth," he expands. "It's constantly changing in intensity and colour. This has always deeply influenced us as humans. Our inner rhythms – circadian rhythms – that condition when we sleep and when we wake up are dependent on the hormone melatonin, and it's proven that this hormone is driven by the sun, or the absence of sun."

Recreating order

"Designers are starting to take these inner rhythms into consideration when they think about office lighting. They imitate natural light by installing control systems, so that in the morning and evening hours you have a darker, warmer light, as if the sun was low, and during the middle of the day you have a very strong, energy-rich, white or almost-blue-ish light, as if the sun was high above. You have rows of fluorescent tubes with different colour temperatures that activate at different times of the day."

"It can have a profound influence on how we function at work, especially for someone working in a basement where there is no natural light at all. More and more companies are becoming aware of this approach as, although it needs more money, it can pay out later because taking care of employees' well-being can increase their efficiency."

As well as the everyday, changing circumstances of ambient light, Jukanovic acknowledges the importance of rare and spectacular light phenomena in shaping lighting design. The lightening bolt is a particularly telling example. "The beauty of lightening is also that it comes along with thunder. There is a very short, intense moment of light



Green sky thinking Many lighting designers have taken inspiration from the mystery and beauty of the Northern Lights



Full moon rising The light levels of the moon inform our minimum lux values for emergency lights in interiors

and then sound. And this is used in clubs, when you have flashing lights in accordance with music like techno and trance. The environment seems detached from nature, but the combination of light and sound really feeds our primal instincts that we learn from nature."

Nature's most famous light show is probably the Northern Lights, known in astronomic circles as Aurora Borealis and in Native American culture as 'The Dance of the Spirits', which in Jukanovic's view is the only name that really does it justice. "It is an astonishing sight," he enthuses, explaining how it's catalysed by "a collision of charged particles from the sun with atoms in the high atmosphere, which is called the thermosphere. The Northern Lights are something that you can't describe until you've actually seen them, as they're a very magical thing: really beautiful dancing colour, usually in a green but sometimes in a faint red."

"The thermosphere acts like an invisible screen, projecting the light from a source that is hidden – this hidden source is the sun that charges the particles. This idea is something that lighting designers take into consideration in their own work. They want to create the same kind of magic in rooms, so that you don't know about the light source but just about the surface or screen that reacts to the light."

The moon, similarly, is not a source but "a giant reflector from the sun. The intensity and colour of light coming from the moon always changes, just like the sun, although we don't realise it." Jukanovic notes that the moon, as the natural source of light

at night, sets our standards for the minimum levels of light in dark rooms. "A full moon generates around 1 lux once its light has hit our floor. In emergency lighting, depending on the country, there is a minimum of 1 and 2 lux required." Our parameters for artificial light, whether consciously or not, are again set by our experience in the natural world.

And Jukanovic sees in our design of spotlights a will to recreate the way that light breaks through clouds or forests in distinct rays. "This is the stereotype of light – light we can actually see. Before electricity we would try and represent this in paintings, with the clouds breaking and a ray of light shining down, as some kind of image of God. This is still something we strive for with spotlights, that solidity."

Jukanovic names the Danish-Icelandic artist Olafur Eliasson as an example of someone who "takes nature and tries to recreate in art and light installations. Some artists and designers like him do this very consciously. But nature does not necessarily have to influence lighting design in this conscious way – sometimes natural light is just beautiful and you just have to watch it and not think about it too much. That way you are just inspired by its beauty. It can send designers back to the drawing board to work hard and come up with something special." ■

● Admir Jukanovic was talking to Sam Phillips

Natural spots The way that light pierces forests, breaking into distinct beams, mirrors our use of spotlights in man-made interiors

