

CHAPTER TWO

FIRE



Light On Earth

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Summer is the season of growth, creativity, activity and joy. We gather with friends and family, and adventure to pastures new, fuelled by the energy of the sun, which gently warms and seduces us into becoming our most expressive and expansive selves. As the days grow brighter and longer, we receive an extended burst of energy that will sustain us until autumn. These extra hours of sunlight feed our forward motion, just as they feed the growth of the new plant life that flourishes around us. The sun is the primary source of energy for all living beings. As plants transform carbon dioxide and water into glucose by harnessing solar energy (photosynthesis), mammals call on the byproduct of this process - oxygen - to survive. It's a cyclical and reciprocal system. It is life on Earth. This is just one example of nature's many rhythms and processes.

Day to night, season to season, nature's, and our own rhythms, are governed by sunlight. Our circadian rhythm (our body's natural clock), affects the quality of our mood, metabolism, sleep and wellbeing. If it is thrown out-of-sync for any length of time, we can become unwell, experiencing anything from obesity and cardiovascular disease to poor gut health, skin issues and neurodegenerative disorders. Maintaining a balanced circadian rhythm is vital to our quality of life in so many ways. One way we can manage this is by keeping a regular sleep schedule and by making sure we get enough sunlight during the early hours of the day. The beneficial effects of light not only depends on the quality of that light, but on its intensity and the timing of exposure.

In simple terms, light is (electromagnetic) energy. And this energy, which travels around us in wavelengths all day long, can impact everything that it comes into contact with: speeding up or slowing down the rate at which flowers bloom and fruits ripen. It can influence our bodies too, both quickly and slowly, long and short-term. Light is essential for vision: this is our conscious perception of light. But there are many ways that light can affect us, with different wavelengths having different effects on our physiology. Red light, for example, has an amazing ability to deeply penetrate the skin, reaching our tissues, cells and even bone and bone marrow. This is a form of long-wave light with great healing potential. Phototherapy - calling upon particular colours and wavelengths of light to moderate our health - is a practice that has been used and studied for many years; determining that light can actually change the expression of our genes. Even brief exposure to red light early in the day can offset vision loss later in life. It can also improve skin health and texture, and speed wound healing.

Unlike artificial light, sunlight spans a range of colours - violet, indigo, blue, green, yellow, orange and red. These are the colours of the rainbow and those which are visible to the human eye. But there are other wavelengths which we can not see. The infrared realm of the light spectrum is only visible to certain animals and insects such as bats, mosquitos, snakes and some beetles, who are able to detect the heat or radiation emissions from other living beings. An intelligent survival mechanism which prolongs life and increases the chance of catching the prey they need to survive.

“The human body is nourished directly by the stimulation of sunlight or nourished indirectly by eating foods, drinking fluids, or breathing air that has been vitalized by the sun's light energy.” — Jacob Liberman

Short wavelengths, perceived as blue light, are the most powerful in synchronising our circadian system, keeping biological and psychological rhythms internally balanced. As these wavelengths enter the photoreceptors in our eyes, we experience a decrease in the production of melatonin, our sleep hormone. We feel alert and alive, with cognitive function and productivity peaking. In summer, longer days mean that we absorb more of these beneficial blue rays. During the colder months, reduced sunlight inhibits our exposure to quality blue light, increasing the production of melatonin during daylight hours. For most of us, these fluctuations in melatonin production are ideal and healthy - a natural ebb and flow of life, and just one of the ways that nature encourages us to slow down during winter and rest at night. As such, light can be seen as a form of environmental communication, sending our bodies vital messages about how to thrive in different climates. For others, a reduction of melatonin can lead to increased feelings of sleepiness, low mood and even seasonal affective disorder (SAD), which can manifest as depression, an inability to focus, disturbed sleep and changes in appetite and weight. In these cases, light boxes that emit a blue-spectrum light that mimics sunlight can be used to improve symptoms.

While natural blue light is vital to our wellbeing, overexposure to low-intensity blue light from screens and fluorescent or LED lighting, especially directly before we go to bed, inhibits melatonin secretion, having a detrimental impact on the quality of our sleep, as well as our health in general. Turning

the light on when we wake to go to the bathroom confuses the body, disrupting our melatonin levels, which naturally rise during then night. This is also true for people who work shifts and are are continually exposed to unnatural light. Whenever possible, use long-wave, red or amber lights at night to mitigate some of these effects.

Studies have shown that we can further reduce the negative effects of blue light by exposing ourselves to sunlight upon rising - ideally combined with another dose in the late afternoon or evening. Here, timing is crucial, and this will vary according to your specific location and latitude. In general, the first hour of sunrise, viewed through the naked eye, keeps the body's regulatory systems ticking over nicely. It turns out that all our bodily systems are governed by light. While our body's master clock resides in the hypothalamus, our cells each have peripheral 'mini' clocks that regulate the production and function of hormones and neurotransmitters, as well as our gut microbiome. Regular doses of sunlight promise to improve mood, metabolism, energy, focus and sleep. Whether the sky is filled with bright sunlight or dense cloud cover, we are still able to experience benefits from the sun. The light is always there. We just need to learn how best to harness its healing powers.

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How To Maximise The Healing Potential Of Light

- 1** For optimum results, exposure to red light must occur as close to waking as possible. Getting outside in the early hours for anywhere between 5 and 30 minutes is ideal. The more cloud cover there is, the longer you should remain outside. Do this on grey days too. Even the most miserable day will provide you with more beneficial light than a well-lit room.
- 2** Regulating your circadian cycle takes regularity! If you don't make it outside every morning, you will need to stay outside for longer on the days that you do. Each day our body clock shifts off balance, we move further away from nature and the solar cycle. In the animal kingdom, this could be the difference between finding or becoming food. For us humans, it can lead low mood and increased levels of stress.
- 3** Sunlight viewed in the afternoon or early evening is also important. Just 5 to 10 minutes can improve sleep that night and increase vitality the following day. It's also said to decrease our sensitivity to blue light at night.
- 4** We are most sensitive to blue light at night, but any bright light will disrupt our circadian rhythm. Dimming the lights between the hours of 10pm and 4am is good practice. Aim for the minimum amount of light that still allows you to see comfortably. Give your eyes time to adjust after lowering the lights - you will be surprised by how little light you actually need. If you choose to use screens in the evening, dim these too.
- 5** Light can affect us even when we are asleep. Studies have shown that sleeping in a room with dim light, even for just one night, can negatively impact our autonomic nervous system, cardio-metabolic function and glucose levels. If this is an issue, try wearing an eye mask, or consider thicker blinds or curtains.
- 6** Blue-blocking glasses also block beneficial light, so avoid wearing them all day long. In its purest form, blue light contains a lot of important energy and information. Blocking it completely for long periods of time affects the adaptation functionality of our retinas.
- 7** Chase the sunlight whenever you can. Independent of its effect on our circadian cycle, a lack of natural light can affect our mood, stress and anxiety levels, as well as our appetite and relationship with food.
- 8** Any light source that makes you squint has the potential to damage the retinas of your eyes. Don't look directly at bright sunlight and protect your skin when the rays of the sun are at their strongest.