

## From the Magic of Light to the Destruction of the Night

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Recently, when returning from a trip to northern Norway, and having become accustomed to the polar day, nighttime at first seemed to me to be an *unpleasant* and even highly *frightening* phenomenon. On the evening of my arrival, it evoked resistance in me, which later yielded to dull anxiety, and ultimately to sleep (more deeply than was usual in the north). For me, this was a new experience, since I had in fact always been partial to nighttime.

For a while, the polar day – the uninterrupted presence of sunlight – had exerted a cathartic and at the same time almost intoxicating effect on me. My thoughts while in Norway were that this grandiose, nightless day released forces in man and nature that otherwise remained hidden – and I wanted to continue to share in this liberation. Upon returning home, I suffered from a kind of night shock. Suddenly, I could no longer understand that an interval of darkness was necessarily a part of the 24-hour rhythm, that it had a deeper meaning. It simply bothered me.

Finally, I seemed to have reached a point at which a long line of traditional culture and technology “had already” arrived: at a *glorification of light*. Yet this experience also had striking shadowy aspects, as I intend to show.

### 1. The Magic of Light

“Light,” wrote Hegel, “is the external self of the plant.”<sup>1</sup> For plants, light corresponds to the agency of *inner* control in the higher animal organisms. Heliotropic plants illustrate this especially strikingly by continually moving in the direction of the sun. But concerning the numerous reciprocal effects that exist between light and plants, this is only the tip of the iceberg. Animal life and human beings in particular are – albeit in a different fashion and by humans in particular in “emancipated” form – bound to natural light, are *dependent* upon and in various ways *propelled* by it. And although there are also nocturnal and blind animals, an essential and positive relationship to

light can be confirmed for most forms of life – for nighttime itself is no mere lightless interval, and nocturnal activity by no means suggests independence of light.

To succumb to the magic of light, however, means something qualitatively different from a dependency upon the light of day, or upon the manifold luminous manifestations of the night. “Magic” here stands for *beautiful (aesthetic)* forms of enchantment as consciously perceived or represented. In this sense, all of painting and numerous architectural styles live from the magic of light. Exemplary instances of distinctive approaches designed to gain access to the magic of light are Gothic cathedrals and the paintings of Claude Monet.<sup>2</sup>

Where does the magic of light reside? At times, occidental philosophy has conceived of light as the preferred manifestation of the divine. Hegel, by contrast, characterizes life as a “pure,” still abstract “manifestation”.<sup>3</sup> Which is to say: *light is the fundamental medium of appearance as such*. It does not manifest *something* as much as it manifests *itself*. In *pure* light, virtually nothing else is visible. To gaze directly into the light often causes dazzling and may even be painful; in most instances, no meaningful perception is conveyed. Only through the interplay of light and darkness does *anything* become visible at all.

The magic of light as well is necessarily bound up with the interplay of brightness and darkness: pure, unmixed, unadulterated brightness, which is how pure light is initially perceived, is no genuine aesthetic stimuli, is not even bearable. Pure brightness is a kind of *light torture*. In nature, the interplay between brightness and darkness is structured not only spatially (here brightness – there darkness), but also temporally. *All natural, terrestrial life has its time, its rhythm*. In terrestrial nature, light never shines continuously from a fixed direction. We have too few opportunities, however, to clarify the *degree* to which the magic of natural light is dependent upon temporally variable light incidence.

The magic of light, which painting and architecture seek to capture in its various aspects, is revealed then as the magic of a spatiotemporal *interplay of brightness and darkness*.<sup>4</sup> In a sense, the “glorification of light” is a *reduction of this polarity to brightness*. This reduction is comprehensible because we almost always have too

little of this pole, and of darkness, by contrast, too much. In modern life, this is truer than ever before. On average, we spent approximately 95 percent of our time inside of buildings, and it is precisely during the time of day, when we ought to be receiving a wealth of light, that we shelter ourselves within the relative darkness of interiors.

Only rarely do we treat ourselves to the experience of observing the shifting, magically luminous atmospheres generated by the light of the sun – with the participation of the Earth's atmosphere – in a landscape in the course of a day. Still, we are aware of such atmospheres, and we yearn for them. It is less obvious that there exist “nocturnal light atmospheres” whose fascination is analogous to those of daytime.

## 2. The Magic of the Night

The magic of the night? Does it exist? Already conceptually, we now enter difficult terrain. While the term “daylight” is in general use in both German and English, the corresponding term “nightlight” does not exist to refer to the *natural* light of the nocturnal hours. When we view a painting such as Thöny’s *Mondnacht am Murufer in Graz* (Moonlight on the Banks of the Mur River in Graz) (Cat. no. ##), there can be no doubt that the nocturnal lights are capable of unleashing colors and moods that the daytime, so to speak, withholds from us – clearly, the light of nighttime can by no means be regarded as deficient in relationship to daylight.

Since time immemorial, the night and its relative darkness as compared with daytime has been burdened by negative associations for humankind. Numerous proverbs, fables, myths, and images testify to this. As a crass put-down, we say that someone is “as dim as night.” Another proverb encapsulates our anxiety in the face of nocturnal manifestations: “After dark, all cats are leopards.”

One of the most striking pieces in opera literature is the Wolf’s Glen scene in Carl Maria von Weber’s *Freischütz* (*The Marksman*), which reaches its climax, not coincidentally, at midnight – cf. in this context J. Hoffmann’s sketch (Cat. no. ##). With the resources of romantic music, Weber’s scene clarifies that *one* aspect of the “magic of the night” consists of the “magic of fear.” Much could be said about our primordial fear of the night. And it appears that this theme is enjoying renewed interest today.<sup>5</sup> Instead of pursuing this topic, I want to turn my attention back to the “atmospheres of nocturnal light.”

What is so special about natural nocturnal light atmospheres? What is this “magic of the night”? My thesis in this context is: *The singular trait of nighttime is not the absence of light,*<sup>6</sup> but instead the *withdrawal of light*, which opens up a new space of experience.<sup>7</sup> Altered in nocturnal light are the sensory impressions received by those who are habituated to life in the sunlight. In the reduced illumination of nighttime, moreover, noises are often experienced in a completely different way. Nietzsche’s sentence: “Night has come; now the flowing fountains speak more loudly” expresses this well. The next sentence is also revealing: “And my soul, too, is a flowing

fountain.”<sup>8</sup> Nocturnal light sharpens not only our powers of hearing; it brings the human soul to a state of “resonance” as well, differently from the brightness and noise of daytime.

For depictions of the magic of the night in painting, it is decisive that reduced light is by no means the same as pure darkness. Self-evidently, nocturnal natural light is less intense than daylight, and it can hardly be disputed that the nocturnal extension of our horizon of experience also relates to *this* circumstance. Notwithstanding: the reduced light of nighttime not only renders psychological states accessible and quiet sounds audible, it also renders visible an infinity of phenomena that elude the gaze during the brightness of daytime. This includes the entire *depths of the cosmos!* Admittedly, such phenomena open themselves up to the beholder less readily than the depths of landscapes. In contrast to terrestrial landscapes, the varying distances of celestial bodies – from the moon to the distant stars – are not intuitively graspable. Accordingly, it is virtually impossible to depict the three-dimensionality of the starry heavens using the resources of art. Gerhard Richter’s painting *Sternbild* (Constellation; cat. no. ##) attests to this.

Things are different with night paintings that do not simply represent the starry sky, but whose foregrounds also contain twilight or nocturnal landscapes. They often succeed in guiding the gaze into the depths more intensively than many refined “daytime perspectives.”<sup>9</sup> Some paintings by Caspar David Friedrich succeed here, for example *Zwei Männer in Betrachtung des Mondes* (Two Men Contemplating the Moon). Here, spatial depth is expressed in a singular way – even if this is not the artist’s primary intention in this scene. The “reduced light” allows distant luminous bodies to appear more brightly than in daylight; “deeper” lights come to view – even if, as in this case, it is only a question of the light of the moon and of the evening star.

That nighttime in this sense is also the condition of possibility for an “infinite vista” is also expressed in a note written by Kierkegaard in 1848, which reads: “When the rich man with lanterns on his carriage rides through the dark night, he sees slightly better than the poor, who ride in darkness – but he does not see the stars; that is prevented by the lanterns. It is the same with all worldly understanding, up close, it views things clearly, but robs us of the infinite vista.”<sup>10</sup>

In order to clarify the relationship between this citation and our night pictures, place a harsh streetlamp – in a deliberate anachronism – alongside the two figures depicted by Friedrich absorbed in their evening contemplation of the moon. What would the aesthetic results be? The pull into depth, which is the image’s point of departure, would be immediately negated. The same is true for Friedrich’s painting *Wolken am Abendhimmel* (Clouds in the Evening Sky; cat. no. ##) and for Carl Agricola’s *Marathon bei Mondbeleuchtung* (Marathon by Moonlight; cat. no. ##). In both instances, the heightened perspective of the evening or nocturnal distance is owed – as in the case of the “poor, who ride in darkness” – to the absence of bright light in the picture foreground. Strong artificial illumination of the space immediately surrounding the viewer robs him of this “infinite vista,” destroys the distant view.

### 3. The Destruction of the Night

One of the best-known satellite images shows the entire planet Earth plunged simultaneously into a fictive night that prevails everywhere (Fig. 1). In reality, of course, this is never the case – and yet this collage is highly significant. Throughout this satellite image, the color that has always been associated with nighttime – bluish black – is predominant, yet is at the same time everywhere, in a manner of speaking, in a state of distress. That which besieges – and at many points has already *suppressed* – the dark blue of the night in this image is the presence of myriad points of light whose cumulative effect is that of intense artificial external illumination being projected onto our planet. Strictly speaking, it is the useless light escaping *upward* into the sky that is revealed by such satellite photos – “light pollution.”

This image allows us to grasp the degree to which humankind had “colonized” the darkness of nighttime by the early twenty-first century. Today, we can speak only to a limited extent of a nocturnal “retreat of light” – of the conditions that prevailed for millions of years during terrestrial nighttime. On the contrary: in their local impact, some of the artificial lights found in metropolises at night<sup>11</sup> are even harsher, more blinding, more dazzling than the daylight that floods the entire Earth’s atmosphere and which is, so to speak, “tempered” by it. The inexpensive availability of electrical energy and progress in lighting technology have led to the circumstance that night as

*such* has been “nullified” in virtually all of the major cities of the industrialized world. The underlying phenomenon is “light pollution,” as it is referred to in an awkward neologism:<sup>12</sup> it represents an attempt by human civilization to convert night into day – into an artificial daytime in which nighttime ski slopes, brightly illuminated soccer fields, brightly-lit billboards, etc., are more strongly present from year to year.

Above, I discussed the way in which, when the skies are clear, the retreat of light at nighttime allows a “deeper,” a cosmic light to manifest itself. Now, I want to reverse the perspective in order to describe the journey of a photon at a great distance from the planet Earth.

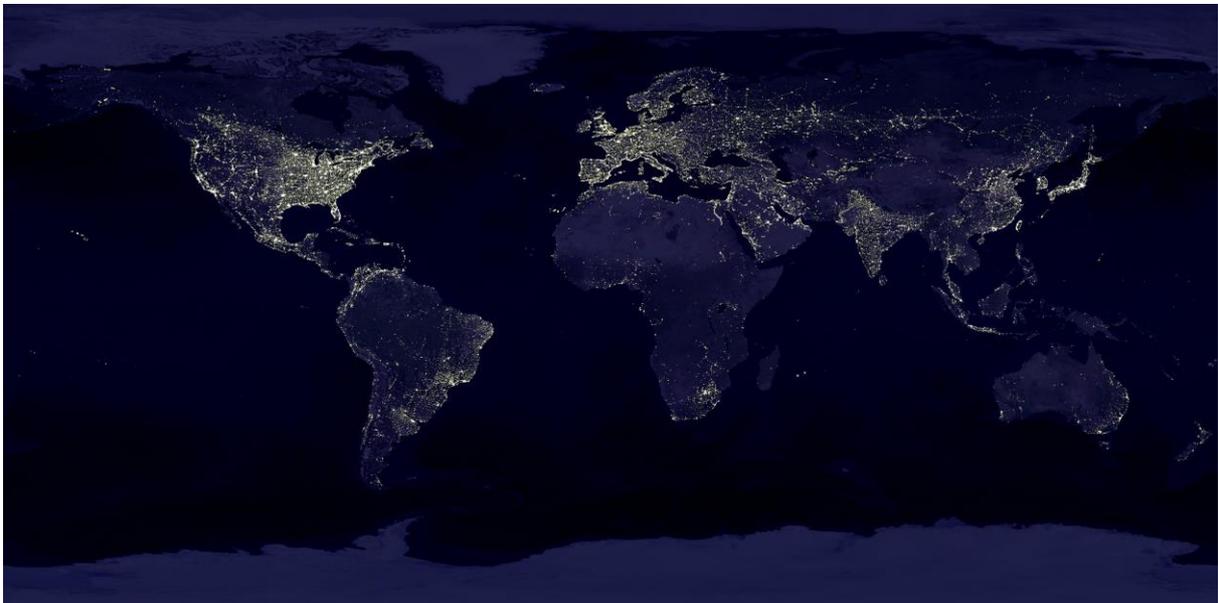


Fig. 1: The Earth at night. © NASA

### **Journey of a Photon**

Imagine being a light particle, a so-called photon. More concretely, imagine being the type of photon that was emitted from a star in an incredibly remote galaxy more than ten million years ago. But let’s go even further. Try to adopt the perspective of a photon that was emitted by the very *first* star engendered by creation: you are the first photon from the first star!

You would have no alternative but to travel through space at the speed of light – five billion times faster than travel with an express train. A fascinating, but at the same time awkward affair: you travel at the greatest possible speed through the vastest imaginable space, and (for the most part) through *darkness* – as the first starlight. And now, off we go!

One year passes. You have traversed a distance 63,240 times greater than the distance between the Earth and its sun – approximately ten trillion kilometers. Now, you travel further through icy outer space. You travel without tiring, for you have a goal: the planet Earth. We posit the improbable case that you, the very first starlight, more than ten billion years old, have elected the earth as the destination of your journey.

Your goal, then, is Earth, or more precisely, future Earth. For now, as you make your departure, the Earth has yet to be born; its birth lies deep in the future.

Meanwhile, you have covered one half, even slightly more than that, of your journey through outer space. Five billion years have passed. But not for you, since time does not pass for light particles, but instead only for the temporal system of the galaxy toward which you are moving.

You travel onward. You traverse a galaxy that lies on the way – no problem: little more than a single hydrogen atom per cubic centimeter lies in your path – far less than in any laboratory vacuum. Even within the galaxy, you travel inside of a full vacuum; this is even more the case in intergalactic space. And you, the photon, are, so to speak, infinitely thin. You pass through everything.

In the meantime, the Earth has been born. And together with it, our theme: *day and night*. You engage in precise time management for the remainder of your trip, for you want to arrive at the nighttime side of Earth, which is to say, at a time and place where nighttime reigns, and with the greatest likelihood that a stargazer, telescope, or detector awaits you – for only then can you serve as a messenger from the world that gave rise to you.

And now – at long last – you have succeeded! You have reached the solar system within which the Earth – now peopled by humans – lives out its sad, beautiful destiny! You are already in the middle of Saturn’s orbit! And now that of Jupiter! And now ... thousands of asteroids race past you – be careful, close your eyes! – there is Mars, just a few minutes’ travel time left until Earth.

You see the blue planet against the still black heavens. Since your travel timing was perfect, you do not actually see the blue of this blue planet, but at first only its shadowed side, edged by a crepuscular glimmer. This was your goal, the night side of Earth. And before you know it, it fills the entire field of vision for your tiny photon eyes. Oh, what a marvelous velvety black! You would like to slacken your journey’s speed. You begin already to sense the gentle braking effect of the Earth’s atmosphere. But now, things move very quickly. You traverse the Earth’s envelope in a ten-thousandth of a second. After more than ten billion years of travel time!

But now, what is this? The velvety black of the nighttime side of the earth yields suddenly – there are no words for it – yields to a *haze of lights, a flood of lights, an avalanche of lights*. You are deprived of orientation, as something occurs that you have yet to experience in all of the realms of the cosmos through which you have traveled: *densely dispersed, radiating in all directions, missing their targets, emitting heat without warning, flashing, blinding, glowing, unnatural, chaotic, irritating ... lights, lights, lights ... they reel, they tumble, they fall, they expire ...* But not in the telescope that awaited you, but instead on a prosaic piece of asphalt. There, without so much as a whimper, you are buried – under the tires of an automobile. The fate of a photon.

The above excursus serves to dramatize the astronomical dimension of light pollution: the tremendous loss of information from which research suffers as a consequence of the fact that cosmic objects can be registered *only* as electromagnetic radiation, so that researchers must in many instances endure the sight of this radiation being drowned out during the final kilometers of its diffusion by

wholly unnecessary, badly conceived artificial illumination. Even more decisive is the fact that light pollution has come to mean more than the disappearance of the stars from the night sky. In fact, it is a question in some regions of the destruction of the diurnal rhythm of day and night itself.

The consequences of excessive nighttime illumination extend from enormous CO<sub>2</sub> emissions to the disorientation of migrating birds, the deaths of millions of moths, and all the way to disturbances in the release of the sleep hormone melatonin within the human body (with effects on the immune system, the quality of sleep, and hormone-sensitive types of tumors).<sup>13</sup> But what drives all of this?

In the final consequence, light pollution arises as the final consequence of the fact that *since the inception of the industrial age, human society simply no longer wants to, or is incapable of “respecting” the natural diurnal rhythm, the cycles of light and dark*. Like many other rhythms that are given in nature or culturally shaped (the seasons of the year, weeks, days of rest such as the Sabbath and Sunday), the diurnal rhythm has been leveled out as far as possible: for the sake of the maximal continuity of industrial production and the expansion of consumption, for the sake of a bogus must-get-as-much-as-possible-done attitude. Yes, for it is more a question of possibilities than of actual accomplishments: one hankers after the *possibility* of skiing at night in both wintertime and springtime – so the slopes must be “as bright as day” even when virtually no one is skiing there. One craves the *possibility* of shopping and window-shopping around the clock – even though virtually no one (outside of the Mediterranean countries) spends time gazing into display windows after nine o’clock in the evening. It must be *possible* to jog around a lake in a wildlife sanctuary in the middle of the night – so the place must be illuminated all night long, radically transforming the nocturnal landscape, even though virtually no one actually takes advantage of the opportunity. The human endeavor of converting night into day is a question of the expansion of often merely pretended *possibilities* for action. *Handlungsmöglichkeiten*. Any culturally or naturally prescribed temporal framework is regarded as restricting freedom, or is at least presented as such: “People want to play sports at night just as they do during the day,” it is said, and such a dictum is followed unhesitatingly by the longed-for light.

The consequences of all this can be observed in the Asian megalopolises<sup>14</sup> even more clearly than in Europe's great cities. Figure 2 displays a view of Taipei at night, taken from the Taipei 101 Tower. It is an impressive illustration of the term "light smog": the enormous accumulation of light output<sup>15</sup> – including illuminated billboards, auto headlights, and private light sources, etc. – illuminates not just streets and sidewalks, but also casts a genuine haze of light across the city and the sky above. Added to all this at individual plazas are the strong effects of dazzling. Similar pictures can be found for Las Vegas, Dubai, Shanghai, Tokyo, Cape Town .... All of these cities are rendered visible from hundreds of kilometers away by their domes of light.



III. 2: Taipei at night, taken in the summer of 2009. © Thomas Posch

But what is the meaning of an urban nightscape that has been transformed in this way? *What are we to understand by it?* Does it actually expand our range of possibilities for action, or instead render us utterly oblivious to certain options? Just

imagine wanting to travel from point A to B in Taipei's harsh, nocturnal urban landscape. A bicycle light is hardly bright enough to prevent a cyclist from being seriously endangered by the overabundance of illumination. Things may be a little different with foot travel by night through many Asiatic megalopolises.

In earlier centuries, however, the above-mentioned respect for the diurnal rhythm, adaption to darkness, meant that with the onset of darkness, the inhabitants of all towns and villages were urged to remain indoors. For centuries, there could hardly be problems with "too much light": not for migratory birds, nor for insects, nor for human beings. Is the present text a plea for a return to total darkness? Certainly not. Prior to the invention of artificial illumination, our relationship to darkness was in many cases lacking in freedom, for we had no other choice but to live in constant harmony with the existing rhythm of light and darkness. We were *compelled* to accept nocturnal darkness. Strictly speaking, then, we cannot say that people in earlier centuries "respected" the arrival of darkness – for there was simply no alternative. Since the twentieth century, we have been *able* to make night as bright as daytime, at least in certain regions. We are no longer compelled to allow it to emerge everywhere. In principle, this could be interpreted as a liberation from naturally-given limitations and constraints.

The question that has posed itself ever since the inception of excessive nighttime light of the twentieth century<sup>16</sup> is: Are we still in the process of liberating ourselves from the constraints imposed upon us by darkness, or have we already advanced so far that we are everywhere cultivating the corresponding compulsion of nocturnal brightness? In that case, we have only exchanged one constraint for another: from "compulsory darkness" to "compulsory illumination."

In fact, I advocate the thesis that modern society is subject to a kind of "light compulsion."<sup>17</sup> As a modern civilization, we have not yet learned what it means to illuminate *according to need*. Arguments for this position are:

- the rarity of successful adaptations of illumination to actually existing traffic intensity
- the rarity of genuinely optimized light beam geometry (light that streams in all directions is inefficient)

- and finally, the ever-increasing intensity of illumination, whose unsuitability for our perceptual capacities has been vigorously criticized by ophthalmologists.<sup>18</sup>

### **The Rediscovery of the Night?**

If it is true that we live in an age of the “destruction of the night,” then we should see, here and there, serious attempts to “rescue the night” – just as the movement for environmental protection became a significant force in society once the destruction of the natural world had become an undeniable reality.

In fact, the rediscovery of the night is occurring today at many locations – albeit only tentatively from a global perspective. In recent years, a number of so-called “dark sky preserves,” which are analogous to national parks, have been created around the world. These are places of relative darkness where the continuing colonization of the night is deliberately renounced and official illumination restricted to the necessary minimum – not just to render the starry skies visible, but to preserve the natural diurnal rhythm of both animals and humans. The Hortobágy National Park in Hungary and the Island of Sark in Great Britain are playing pioneering roles in Europe. An instance in the US is the area around the Natural Bridges National Monument in Utah.<sup>19</sup> And even if these oases of starlight are mere drops in the ocean, they testify nevertheless to the rediscovery of the beauty of natural nightscapes and the human yearning for star-filled skies.



Fig. 3: Moonset and nightscape near Admont. © Thomas Posch

Both find expression in recent photography projects such as *The World at Night*,<sup>20</sup> which not only image astronomical objects, but also display them in association with nocturnal landscapes around the world (cf. fig. 3). These may show snow-covered mountains illuminated by moonlight, light trails of stars created by extended time exposures above famous monuments, northern lights above the Norwegian fjords, or even the singular kind of night engendered by a total eclipse of the sun. Not all of the images created in the framework of the TWAN project may lay claim to the status of art works. Nonetheless, it seems to me legitimate on the whole to perceive progress here in the aesthetic appreciation and communication of that now rare essence known as “natural night.”

Small *practical* contributions to the rediscovery of the night are being made by temporary actions designed to reduce artificial illumination, for example by the annual Belgian event known as the *Nacht van de Duisternis*,<sup>21</sup> or by the *Earth Hour*. The latter is mainly an appeal to use electricity more responsibly – and is not directly concerned with efforts to reclaim the natural night. Nonetheless, since *Earth Hour* seeks primarily to reduce “luxury lighting” (for example, illuminated façades), this

project may alter our visual habits and aesthetic awareness, raising the question of how “beautiful” the spotlighting of façades really is, and how brightly lit they “must” be, and so forth.

A Stoic philosopher is believed to have coined the maxim: “If there were only a single place on earth from which the stars were visible, all of humanity would travel to it.” The premise of this observation becomes more realistic every year. Streets are lit up in increasingly remote locales, and the commercial zones at the peripheries of our towns are increasingly brightly illuminated by advertising billboards, car headlights grow increasingly harsh, and so on. Are there already “astrotourists” corresponding to this Stoic’s meditations, which is to say, people who plan trips in order to experience the night and the starry heavens once again? This appears to be the case. Recently, a newspaper reported that 25 million people travel annually out of a desire to experience the natural starry heavens again.<sup>22</sup> Admittedly, “astrotourism” hardly represents a remedy for the destruction of the night. Certainly, our profligate use of artificial light, with all of its consequences for humankind, nocturnally active animals, and the “aesthetics of night” cannot be curbed by new forms of tourism.

The threatened natural resource of “nocturnal darkness” can be preserved only if human beings *learn to see the night anew – and behave accordingly*. Only recently has it come to be understood that *more light* per se does not lead to better vision, but in many cases to more blinding glare. That our eyes are able to adjust to extremely different levels of illumination is illustrated by the experiences of those who travel to places where natural night (and hence moonlit nights) still prevail. Only seldom is this adaptive capacity used and reinforced. On the contrary: the civilizational “spiral of illumination” continues its inexorable ascent: the ever brighter illumination of façades and advertisements impels competitors to ratchet up the level of lighting even further.

Only at locations where such an “arms race” is absent can we learn to see the night anew. At such places, we learn that with the uniform rather than punctual incidence of light, even minimal intensities are sufficient to provide orientation. If we take advantage of this and behave according to the above maxim, we will experience that inspiring pull into the far distance that is exercised by views of celestial bodies. This

much is certain: Caspar David Friedrich and the other “masters of the night” would value our efforts.

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<sup>1</sup> G. W. F. Hegel, *Vorlesung über Naturphilosophie Berlin 1821/22*, transcribed by Boris von Uexküll, eds. Gilles Marmasse and Thomas Posch (Frankfurt am Main et al., 2002), 177.

<sup>2</sup> On the significance of light in Gothic architecture, cf. Otto von Simson, *The Gothic Cathedral* (Princeton, 1988), 6. Aufl., Darmstadt 2010, Kap. 2: Maß und Licht, insbes. S. 78ff.  
((English edition: no online access found, can access the book in Mass. after Aug 10 IP))

<sup>3</sup> Cf. *Hegel's Philosophy of Nature, Part Two of the Encyclopedia of the Philosophical Sciences* (1830), trans. A. V. Miller (Oxford University Press, 1980), cf. section two: “Physics,” §275.

<sup>4</sup> By its nature, painting can capture the temporal dimension only to a limited degree. Yet its potential in this regard should by no means be underestimated – just think of Monet’s *Rouen Cathedral* cycle.

<sup>5</sup> Cf. on this topic the detailed investigation by R. Ekirch, *In der Stunde der Nacht, Eine Geschichte der Dunkelheit* (Bergisch Gladbach, 2006).

<sup>6</sup> There are several reasons why light is not simply absent during nighttime. Among the best known is the fact that a number of celestial bodies are brightly lit during the night. Then there is also the so-called natural luminescence of the night sky – the autofluorescence of the Earth’s atmosphere.

<sup>7</sup> In similar fashion, Walter Seitter writes: “We often fail to recognize that the night is by no means to be equated with utter darkness. Nighttime has its lights. We perceive them, however, only when we look into the night and see. Light fanaticism simply does not see the lights that are present.” Walter Seitter, *Geschichte der Nacht* (Berlin and Bodenheim, 1999), 146.

<sup>8</sup> Friedrich Nietzsche, *Thus Spake Zarathustra*, Part II, “The Night Song.”

<sup>9</sup> Since the landscape foreground is integral to the night in an essential way as the experience of depth, it is actually mistaken to speak of a night outside of the earth (of “ubiquitous night”). Prevailing in outer space near the sun – despite the darkness of the sky – is not night in the actual sense, but instead day and night simultaneously, for the sun potentially shines continuously. The “tempering” impact of the Earth’s atmosphere and the temporal structure of its rotation are missing in outer space!

<sup>10</sup> Sören Kierkegaard, *Die Tagebücher*, vol. 2 (Düsseldorf and Cologne, 1963), 238.  
((*Kierkegaard’s Journals and Notebooks* are published in English by Princeton University Press (vol. 2 2008), but I have no access, so have translated the citation myself))

<sup>11</sup> On the history of night in the metropolis, cf. J. Schlör, *Nachts in der großen Stadt. Paris, Berlin und London 1840 bis 1930* (Munich, 1994).

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<sup>12</sup> The incisive term used in Italian to refer to “light pollution” is *inquinamento luminoso*. The word *inquinamento* is also used in the context of noise pollution (*inquinamento acustico*). In fact, there are far-reaching parallels between disturbing noise and excessive artificial light.

<sup>13</sup> Cf. T. Posch, A. Freyhoff and T. Uhlmann (eds.), *Das Ende der Nacht. Die globale Lichtverschmutzung und ihre Folgen* (Weinheim, 2010).

<sup>14</sup> As early as 1928, the Japanese writer Junichiro Tanizaki criticized his countrymen’s wasteful behavior with artificial light. In this respect, America and Japan are especially open to criticism. To quote a paraphrase of Tanizaki’s thought by Ryuzo Ohno and Shigeo Kobayashi: “Tanizaki called attention to the beauty of darkness, its genuine connection to Japanese aesthetics, and the play of deliberately applied lights. This handling of light has vanished from our consciousness of beauty ...” And further on: “The lost shadows have yielded to an uncontrolled perfusion of lights, erasing the tradition of city and region with its dazzle.” (R. Ohno and S. Kobayashi in D. Köhler, M. Walz and S. Hochstadt, *LichtRegion. Positionen und Perspektiven im Ruhrgebiet* (Essen, 2010), 97–108; here: 106.

<sup>15</sup> Worldwide, approximately 20 percent of electrical energy is devoted to generating artificial light; the EU average is 14 percent.

<sup>16</sup> During the Third Reich, light was often used to ensure the broad impact of stagings of totalitarian claims to power. “Light was pressed into the service of power, its brilliancy blinded.” This comment on a photograph of the brightly lit boulevard Unter den Linden in Berlin, taken in 1936, appears in Joachim Schlör’s book *Nachts in der großen Stadt*. Schlör refers to the “conquest of the night” as an objective of National Socialist politics (J. Schlör, see note. 11, 262).

<sup>17</sup> The word *Lichtzwang* (which has been translated both as “light compulsion” and “light duress”) emerges from a very different context, namely a poem by Paul Celan from the “Lichtzwang” cycle: “We Were Lying/ deep in the Macchia, by the time / you crept up at last. / But we could not / darken over to you: / light compulsion / reigned.” It is not clear, however, whether the word *Lichtzwang* refers here to artificial illumination (for example, of a battlefield). Cf. Paul Celan, *Selected Poems*, trans. Michael Hamburger (London, 1990), 296–97.) Cf. M. Reich-Ranicki (ed.), *1400 Deutsche Gedichte und ihre Interpretationen*, vol. 9 (Frankfurt am Main, 2002, 581–84.

<sup>18</sup> For example by Peter Heilig at the Vienna University of Medicine. Cf. for example: P. Heilig and G. Rieger, “Künstliches Licht: Unerwünschte Nebenwirkungen auf Natur und Gesundheit – Lichthygiene als Prophylaxe,” in *Arzneimittel-, Therapie-Kritik & Medizin und Umwelt*, 2012, series 1, 215–29.

<sup>19</sup> [http://en.wikipedia.org/wiki/Dark-sky\\_preserve](http://en.wikipedia.org/wiki/Dark-sky_preserve)

<sup>20</sup> Cf. on this issue S. Seip, G. Meiser, and B. A. Tafreshi (eds.), *Zauber der Sterne. Die Wunder des Firmaments über den schönsten Landschaften der Erde* (Stuttgart 2010).

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<sup>21</sup> <http://www.bondbeterleefmilieu.be/nacht>

<sup>22</sup> Cf. A. Conceicao, "Estrelas trazem turistas ao Alqueva," *Expresso*, January 7, 2012, 19.