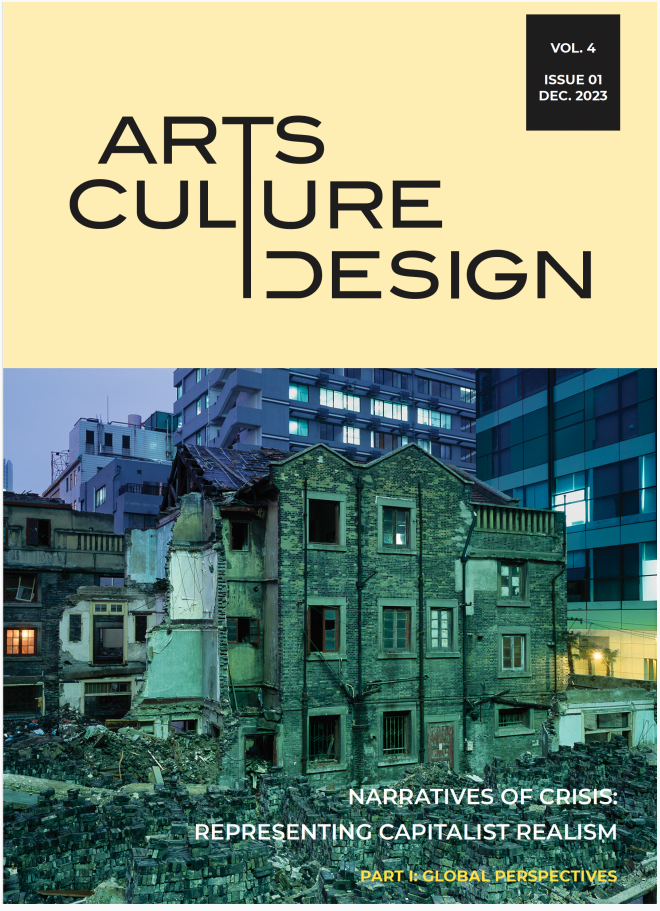
Design/Arts/Culture

Vol 4, No 1 (2023)

Narratives of Crisis: Representing Capitalist Realism



THE MINIMAL LANDSCAPE

Evangelia Ntarara

doi: 10.12681/dac.35108

To cite this article:

Ntarara, E. (2023). THE MINIMAL LANDSCAPE. *Design/Arts/Culture*, *4*(1), 92–105. https://doi.org/10.12681/dac.35108

THE MINIMAL LANDSCAPE

Evangelia Ntarara
1. Department of Photography and Audiovisual Arts, School of Applied Arts and Culture, University of West Attica
2. School of Applied Arts and Sustainable Design, Hellenic Open University

Keywords:
urban environment
night photography
light pollution
nocturnal landscape
artificial light
ecological approach

ABSTRACT

The article develops an ecological approach (of space or landscape) that is framed by photographic works that capture the dark background of the night sky. The works presented display significant visual information about the environment and belong to heterogeneous photographic genres such as astrophotography or artistic documentary. The various photographic techniques presented through the works visualize visible and invisible radiations that prevail in the dark background of space. Taken as a whole, they broaden the perception of space and highlight the modern phenomenon of light pollution and the invasion of new information into space. The ecological approach is also framed by historical data that connect the evolution of photography and the photographic way of recording space with technological progress, the discovery of new places, the creation of metropolises, and especially the course of urban lighting, which is responsible for the majority of light pollution. Human intervention transforming the urban and natural environment has changed spatial experience, and capitalist organization of production has created a traumatic imprint on the environment. The idea that capitalism can provide the solutions that will reverse the burdened state of the ecosystem is not only not confirmed, but spaces seem to be minimized, shrinking, and landscapes alienated and homogenized. Light pollution now prevails across the planet, and in addition to the loss of the experience of darkness and the energy-intensive state, it threatens human health, flora, and fauna of the ecosystem. The homogenization of modern conditions, as recorded photographically, ultimately emerges as a condition that has arisen from the interventionist approach to the environment.

EVANGELIA NTARARA graduated from the Technological Educational Institute (TEI) of Athens with a degree (BA) in Photography (2001) and she earned her master's degree (MA) in Lighting Design-Multimedia at the Hellenic Open University (2015). She is a PhD Candidate and Teaching Research Staff at the Department of Photography and Audiovisual Arts, School of Applied Arts and Culture, UNIWA. Her ongoing doctorate research is entitled: Phenomenological Interpretation of Urban Space in Greek Artistic Photography from 1975 to 2010. She is also a member of the collaborating teaching staff at the Hellenic Open University, School of Applied Arts and Sustainable Design (2021-2024). As a professional photographer, she has mainly worked in digitization projects for collections, historical archives, and publications (2004-2023). Furthermore, she was assigned architectural photography shoots. Some highlighted collaborations were realized with Giannis Tsarouchis foundation and the National and Cultural Greek Company. All the aforementioned projects, among others, are published in editions and catalogues, such as "Athenian Houses of the Modern Movement" (2013) or the last awarded catalogue "Yannis Tsarouchis: Dancing in Real Life" (2021). Her artistic trajectory involves photography, lighting design, and performance art. In particular, she has exhibited her photographic work both individually and collectively. She has also carried out art projects on ephemeral lighting design in public spaces and site-specific performance. She is interested in the social aspect of lighting design in the urban environment through specific ongoing research.

1. INTRODUCTION

This article deals with the contemporary environment mainly of large cities through the "visibility" of the camera. The photographic way of recording space from the first moment of the appearance of photography links human intervention with the transformation of the urban and natural environment and the new spatial experience as shaped by technology. Photography, beyond the clarity recording of space through the visible spectrum, visualizes invisible radiation "extending vision" with appropriate programming and techniques (Bate, 2009). This expands the perception of space (or the substance of space). Similar modern photographic techniques and approaches to space or landscape record contemporary environmental conditions, highlighting in part a spatial shrinkage. In parallel with photographic approaches, the modern, necessary, and urgent creation of a dialogue for the sustainability of the environment can jointly shape an ecological approach.

In the present study, the ecological approach of the landscape is framed by photographic works that document the modern environmental conditions, regardless of their intention and the genre to which they belong. The study of these works, despite the diversity of the technique and practice used in their production, presents significant visual information about the environment, mainly reflected in the dark background of the night.

Technological progress is interrelated with the expansion of human experience of the environment (space or the world). The way technology was used "highlighted capitalism as a new way of organizing production," as pointed out by Ion Terzoglou (2009). The invention of photography in the mid-19th century coincided with major technological developments such as the railway and the creation of metropolises. The photographic recording of the new landscapes that emerged from the railway network, the metropolises, the panoramas, the aerial photographs, the postcards, and all kinds of mnemonic presences are today the stock of documentation of the new way of life. At the same time, policies for public space, regardless of their ideological background, photographic missions, and institutional practices for assigning photographic projects related to the new spatial experience, contributed decisively to a wide range of recording of the shaping of space.

Urbanization has favored the mass spread of new common and intangible elements, such as the lighting of public spaces (natural, urban and suburban). In the modern environment, there is an extreme and uncontrolled use of public lighting, to some extent a result of its initial use in the public space as a control mechanism in industrial global cities (Paris, London, Berlin, Philadelphia, etc.). The over-dimensioning of lighting, responsible for the phenomenon of light pollution, distorts the night landscape and beyond being responsible for increased energy consumption, has serious effects on humans, flora, and fauna (Longcore, Rich, 2004).

Today, with regards to the use of public lighting, we are going through a transitional period with its contradictions. Addressing light pollution (Falchi et al, 2016) as one of those corrective policies for tackling climate change and ecosystem disruption, as well as the control of lighting distribution through central security systems, are some of the axes of the transition towards smarter, less energy-consuming but increasingly controlled cities (Wathne and Haarstad, 2019). Regarding the external lighting of cities and in an effort to protect the nighttime landscape, regulations are now being imposed to restrict and reverse the phenomenon of light pollution.

Mark Fisher, in the section "Capitalism and the Real", refers to the environment to highlight the distinction between the Real and reality as defined by Lacan. The Real is the traumatic void that lies beneath the reality presented to us by capitalism, and environmental destruction is the Real that emerges from contemporary environmental conditions. However, capitalism presents the fantastic scenario of a planet inexhaustible in resources and also suggests that any problem can be solved by the market. In reality, capitalism is inherently opposed to any notion of sustainability (Fisher, 2022).

Therefore, while the modern problem of light pollution can be reversed by reducing consumption and implementing appropriate measures, its consequences cannot be reversed, leaving their footprint on biodiversity as well as other issues related to health, ecology, and economy, while relevant research is ongoing. The global atlas monitoring the sky glow phenomenon, which is one of the phenomena of light pollution, shows that “more than 80% of the world and more than 99% of the populations of the USA and Europe live under light-polluted skies”, according to Fabio Falchi et al (2016). The measurements refer, for obvious reasons, to the emitted light

radiation from cities. Among other significant elements of the same research, it is reported that few areas on earth remain that do not present the phenomenon. The researchers also report that “the Milky Way is hidden for more than one third of humanity, including 60% of Europeans and nearly 80% of North Americans. Moreover, 23% of the world's lands between 75°N and 60°S, 88% of Europe, and almost half of the USA experience light-polluted nights” (Falchi et al, 2016).

2. PUBLIC LIGHTING AND URBAN STRUCTURE - HISTORICAL DATA ON URBAN LIGHTING

With the installation of gas lighting in the urban environment of the major European cities (Paris, London, Berlin) until the mid-19th century, cities were illuminated in specific central urban areas, especially on major roads, mainly for control and safety purposes. A characteristic example is an OSRAM advertising spot (a cartoon from 1925) which presents lighting as a "watcher" (Schlör, 1998). By 1890, most major cities had gas lighting networks, although not all areas and homes were connected to the network. Later on, the transition to electricity was gradual.

Beyond its enormous importance on a social, economic, productive, and labor level, lighting has transformed the urban landscape in city centers during the night hours, expanding activities. Initially, the use of public lighting had limitations and the police were responsible for enforcing them. Its operating restrictions were based on seasons (from May to August), hours (midnight), and the phase of the moon (full moon), and its operating hours gradually increased. The new spatial experience created by the newly established ambient atmosphere highlighted a new "lifestyle" (Schlör, 1998) while at the same time degrading "the magical light of the moon" into the "miserable darkness of the big city," as noted by Joachim Schlör (1998).

Figure 1: Rau, *Peace Jubilee, Court of Honor, Broad and Sansom Street, Philadelphia* (1898)

The use of urban lighting as a technological innovation was combined with significant urban planning changes in the environment of cities, with the most well-known example being Baron Haussmann's plan for Paris and the conflicting interpretations of his intervention in the city (Harvey, 2015). The radical urban planning interventions of Baron Haussmann destroyed many points of the old city and created urban apartment buildings and large boulevards, reshaping the city. Alongside the interventions, which had as their ultimate goal the control of public space, mainly, however, the increase in the value of properties in existing areas (Harvey, 2015), the gas lamp lighting was also promoted, with the installation of approximately twenty thousand gas lamps and the lighting of cafes on the boulevards. New constructions in public space also supplemented the new conditions that changed the urban experience. Regarding Haussmann's overall intervention, it is also reported that after his resignation from the position of prefect in 1870, the inhabitants of Paris could safely travel at night without the company of armed individuals carrying lanterns (Charles Marville: Photographer of Paris, 2014).

Marville captured the transition of the city to the modern era through photography, having officially undertaken the photography of Paris' urban transformation since 1862 (Charles Marville: Photographer of Paris, 2014). Marville photographed the older densely populated neighborhoods of the city, which according to the new plan were to be demolished, as well as the new city with its emerging amenities. The entirety of Marville's work for Paris constitutes one of the first and most dynamic explorations of large-scale urban transformation, which “established a tradition of documenting condemned urban spaces”, as noted by Stallabrass (2018).

One of the characteristics of urban spaces, regardless of the era and lighting technology, is the lighting of the central streets and the highlighting of monuments. For example, in the United States, Philadelphia was the

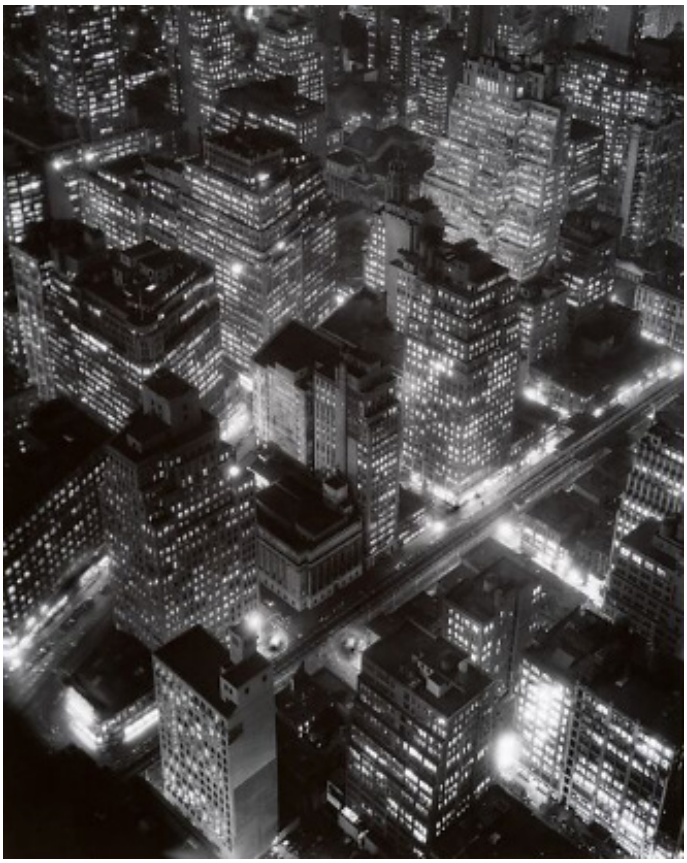


Figure 2: Abbott, *Night view, New York City* (1932)

Figure 3: Brassaï, *(Paris de nuit) La Colonne Morris dans le Brouillard* (1932)

first city to install an oil lamp street lighting system in the 18th century. Similarly, in the era of electric lighting, as we can see in William Rau's photograph (1898), which depicts the illuminated Peace Jubilee, Court of Honor monument, lighting contributed to highlighting the festive image of the city for the end of the Spanish-American War (figure 1).

3. NIGHT PHOTOGRAPHY - THE CITY AND THE LANDSCAPE AT NIGHT

In night photography, the absence of lighting creates conditions similar to the interior of a camera. We could say that the photographer, in a nocturnal environment, is like being inside the same medium. The almost monochromatic light welcomes the landscape, color only emerges from artificial lighting, and the representation of space works almost "positively" as ambient lighting is dim, there are no colored shadows to "refine" the forms, only a few reflections, and light absorption allows only a few intensities to be revealed. The work, in this sense, becomes minimalist.

Night photography offers a way to explore the natural time experienced by the city and analyze the way time is recorded in photography and its relationship with space. At the same time, studying works in this category is related to the evolution of photographic technology. For example, as shutter speeds that allow for the capture of night scenes become faster, clarity and image production increase. The increased sensitivity of modern digital camera sensors reveals bright and clear forms even in environments with low levels of light. While the visual range (the capabilities and limits of the photographic frame) remains constant, the space appears to "change". In addition to the "changes" that are shaped by the highlighting of forms in low light conditions (without the use of additional lighting such as flash), we observe a concentration or rather an invasion of new information due to the increased radiation and light pollution recorded in the urban landscape by specific functions that occur in urban space.

However, beyond the nighttime environment that gives a characteristic form to the photographs, special depictions arise when the camera is combined with other tools

Figure 4: Brandt, *Blackout in London, cresent moon and street lamp, the adelfi* (1932)

or optical systems, allowing for shots under special conditions. Nighttime photography brings together many of the elements that are historically associated with photography and expand the perception of space. For example, the use of a telescope or the recording of images beyond the visible spectrum (e.g. ultraviolet). As David Bate characteristically states: "when photography is combined with other instruments, like microscope or telescope, it has extended the human capacity for sight... Photography becomes a device that adds to the memory of things that the naked human eye cannot see" (Bate,2009).

The first decades after the invention of photography, night photography using ambient light was prohibitive due to the very long exposure times required by photosensitive materials. Of course, there was no expectation of clarity in moving subjects. This was another reason why photographers experimented with city landmarks and the minimal light of the urban environment that came from the moonlight or gas lamps. Night photography developed substantially when photosensitive materials began to allow photography in low light conditions, with short exposure times, and this gradually happened after 1870. In the course of the evolution of techniques and experiments, we encounter Paul Martin, who published the photographic series “London by Gaslight” in 1896 in the Amateur Photographer magazine (Dhaliwal, 2014). Martin's technique influenced Alfred Stieglitz, who later developed the technique, managing to reduce the exposure time considerably in order to capture moving objects with clarity. Characteristic images of this technique are the views of night-time Manhattan in Reflections: Night, New York (1897) (Greenough, 2002). Experimentation continued in the following decades. Berenice Abbott used a high-contrast developer for her iconic photograph "Nightview, New York" (1932) (figure 2), (Schwendener, 2011). This photograph foreshadowed the modern photorealistic urban environment. At the same time, in his book “Paris de nuit” (1933) Brassaï identified with the nocturnal experience of the modern city. The way Brassaï used the particular diffused lighting and reflectivity created by atmospheric conditions such as humidity and rain in the night environment, as well as his photography of the city's diverse night-time social life, constitute groundbreaking work. In his image, “La Colonne Morris dans le Brouillard”, 1932 (figure 3) we observe one of the objects that enriched the urban experience of Paris by Haussmann's intervention. Bill Brandt's “A Night in London” (1938) falls into the same category. Brandt made several night shots by moonlight (figure 4) and during the blackout in the bombing of the city in 1942. Since then, night photography which, in addition to ambient lighting, includes works using flash or other techniques (e.g. infrared) has been definitively integrated into the photographic works of important photographers (Night Vision, 2011).

Several contemporary works relevant to the article's approach include Stephen Tourlentes' "Of Lengths and Measures" (figure 5) and Rut Blees Luxemburg's series "Histories" (1995-2000). Tourlentes' black-and-white work focuses on prisons in the nocturnal landscape of various states in the United States. The majority of the photographs visualize the dramatic change of the rural nighttime landscape due to the over-illuminated installations of the prisons, and as the photographer states, their remote locations keep them at a distance from our conscience (Tourlentes, 2018). The multi-year project was developed over seventeen years and also highlights the way modern lighting is linked to the concepts of security and control, a relationship that is always under exploration in urban planning. Despite the fact that the external views of the installations are captured from a distance, the dominant contrast of brightness conveys a dramatic sense from the overall spatial experience of the imprisoned, as created by excessive

illumination. The way it is recorded in the landscape also homogenizes the experience of imprisonment. On a different vein, Rut Blees Luxemburg's Histories section explored the nocturnal experience of contemporary urban environments in London as it is shaped and recorded by the prevailing color and brightness (Rut Blees Luxembourg, 1995-2000). Her recent “urbannightproject” (circa 2020), a collaboration with other researchers, links lighting technologies to the vertical development of the city in order to make visible the social and aesthetic politics of this mode of development. Furthermore, as Luxemburg states the project is not anthropocentric but addresses the whole spectrum of the night-time urban experience as in this research. (Rut Blees Luxemburg, 2020)

The night sky is the perfect dark background to showcase the way time is recorded in space. In the nocturnal panoramas of cities, sometimes a bright form is captured that contains the time of the image's recording. Ingo Duennebier's photograph "the airplane - the trajectory, Thermaikos Gulf" created in 1997 from the series "Life is Elsewhere" (figure 6) presented in the exhibition “Transphotometafores - Trajectories and Intersections”, present such a version. The curator's text highlights the negative impact of the spread of transportation networks on the natural environment (Papaioannou, 2000).

4. VISIBLE AND INVISIBLE FORMS IN THE ENVIRONMENT

The photographs presented in this section reveal aspects of the contemporary environment, the structure of cities and their transformation. The works record the way in which we coexist in space with all the radiations emitted, mainly with the phenomenon of light pollution, forming an idea of the extent of the phenomenon. Some of the techniques for recording visible and invisible radiation are also highlighted, such as astrophotography, satellite photography, light painting, and artistic documentary. The ecological approach is developed and framed by the use of photography as a document, regardless of the genre to which it belongs. In the present case, works by Kokkinias and Gurski are presented, which belong to the genre of artistic documentary, works that comment on the contemporary way of life and concern the Greek space.

Figure 5: Tourlentes, *Of Lengths and Measures, Blythe, California* (2018)

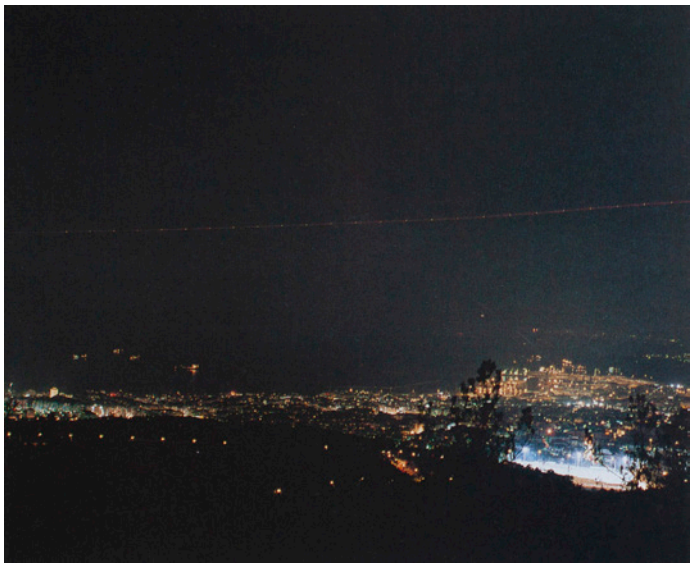


Figure 6: Duennebier, *The airplane - the trajectory, Thermaikos Gulf* (1997)

The Prison of Technology

In modern times, a satellite nighttime image is enough to demonstrate the unlimited use of lighting by geographic location and the energy-intensive behavior of their societies. Light pollution is not only caused by terrestrial lighting installations but also by space satellites, as evidenced in the award-winning photo of the double star Albireo appearing through the orbits of satellites with an exposure time of 2.5 minutes. Rafael Schmall's photo (figure 7), which won the "2020 Astronomy Photographer of the Year" records and visualizes the light pollution caused by satellites. As the astrophotographer grimly points out, in the near future, as more

Figure 7: Scmall, *The Prison of Technology* (2019)

Figure 8: Hadfield, *Photograph of Berlin at night* (2013)

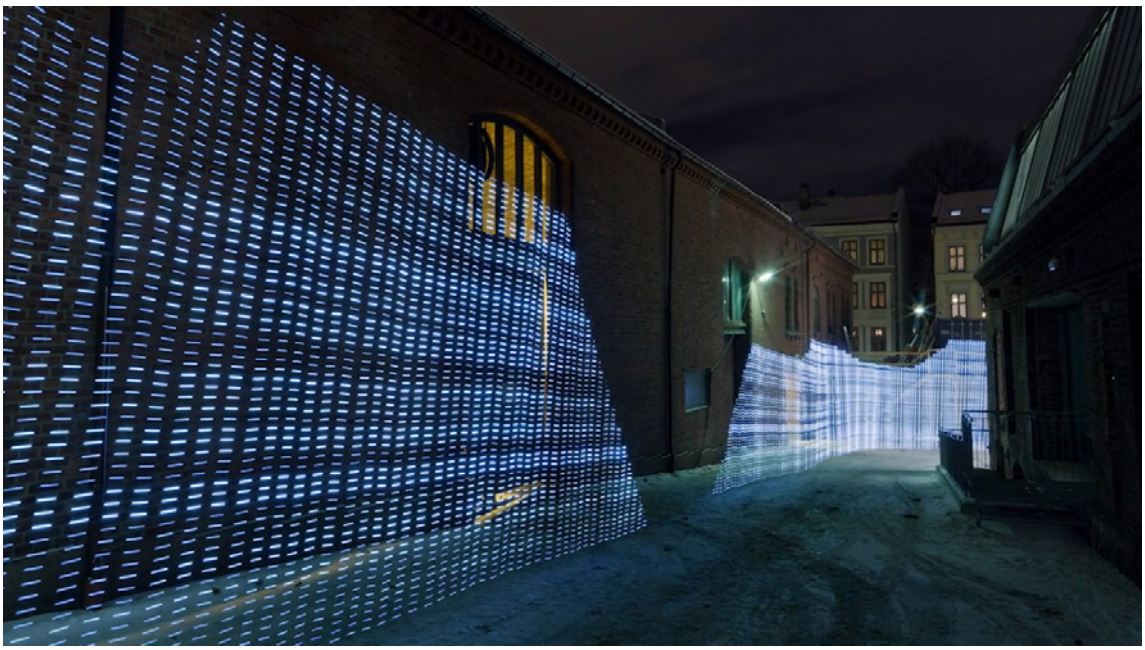


Figure 9: Arnall, Knutsen and Martinussen, *Immaterials: light painting WiFi film* (2021)

and more satellites orbit, it will become even more difficult and precise to position the telescope for astrophotography (Schmall, 2019). The bleak prediction is unlikely to be overturned, as astronomer Samantha Lawler notes that no one is concerned with the orbits near the Earth (low Earth orbit - LEO) because they are not considered legally part of the natural environment (Mortillaro, 2022).

Berlin at night

The satellite photography of Berlin taken by Canadian astronaut Chris Hadfield in 2013 highlights aspects and elements of the city's urban environment (figure 8). As he notes and as we can observe in the photograph, the difference in lighting continued to show the division of the city even 24 years after the fall of the wall (Hartley, 2013). Hadfield's photograph documents the differences in brightness between the over-illuminated western area of Berlin and the illuminated eastern area of the city, as well as the differences in color due to the different lighting technologies used in each area. The mix lighting sources in the western area, including fluorescent lamps, mercury arc lamps, and gas lamps, produces a color closer to white, while the yellowish color of the eastern area's sodium vapor lamps is due to their different technology. As of January 2019, the western area continued to present the same image due to the 30,000 remaining gas lamps that were still in use for various reasons (Pasley, 2019).

Immaterials

The electromagnetic radiation of the wireless network prevailing in the structure of cities is visualized and recorded in defined areas of the urban fabric as presented in the Immaterials project by Timo Arnall, Jørn Knutsen and Einar Sneve Martinussen (figure 9). The project was implemented using the technique of light painting, using a special device with which the photographer moves on the city streets (Martinussen,2011). The device is a four-meter rod that carries LED lights and a typical mobile phone WiFi antenna along its axis and is programmed so that the lights turn on when they detect the wireless network. The photographs in this way visualize a version of the form of the technological fabric of the city's wireless network and its constant immaterial presence in space, ultimately revealing a dense net.

Two works of night landscape featured in this text depict the urban and suburban environment in Attica. These are the photographs of Spata by Panos Kokkinias (2003) - a work from his 2003 series "here we are"- and the photographic diptych by Andreas Gursky, Athens diptych (Gursky, 1995). The photographs, viewed through the prism of ecological approach, are indicated as evidence of the global phenomenon of light pollution and ecosystem disturbance.

Figure 10: Kokkinias, *Spata* (2003)

Spata

Kokkinias' photograph is a landscape with olive trees under the bright, cool light of the advertising panel's spotlights (figure 10). The angle of the photograph suggests that the range of the spotlights is aimed at the ground. The lights of the city are very faintly recorded in the background of the image. The dominance of artificial lighting in the environment is imposing. The field with olive trees stands below the axis of the oversized panel, and the bright blue beam targeted, cool, and symmetrical is recorded in the black of the galaxy and imposes its strong presence and invasion into space. The photographer identifies and records this paradoxical coexistence. Local flora and fauna are forced to coexist under conditions that violently disrupt their circadian rhythm. Today, given the effects of light pollution, we know that changes in spatial and temporal experience through technology affect not only humans but the entire ecosystem. Disruption of nocturnal animals is possibly “the most drastic change that human beings have made to their environment”, as researcher Christopher Kyba notes (IDA, 2018).

The title of the series seems prophetic - "here we are". Although the various interpretations (Petsini, 2009; Moschovi, 2013) of Kokkinia's work probably relate to the specific photograph to a small extent, they encompass this sense of transition and coexistence under conditions of anxiety and impasse, as presented by the non-places of the contemporary urban environment, similar conditions to the present photograph. So here we are - at this moment when very few data about the environment and the sustainability of the ecosystem can be overturned.

Figure 11: Gursky, *Athens, diptych 1995* (2004)

Athens, diptych, 1995

Andreas Gursky's photographic diptych, "Athens diptych", consists of two photographs from vantage points in Athens (figure 11). The panoramic view emerged almost immediately upon the arrival of photography in the mid-19th century as notes David Bate (2009). Gursky heavily relies on visual observation and some diptychs are variations from a partially shifted point of view, a technical characteristic of the photographer (Galassi, 2001).

In this photograph of Athens, in addition to light pollution, the image shows an atmospheric haze - a frequent phenomenon of the previous decades for Athens.

For the diptych panoramic mural (184.8 x 367.7 cm), the interpretation presented in the gallery's text would be described as having a contradictory tone: while it is noted that the ubiquitous use of technology creates a landscape so alienated that it is beyond human perception, the viewer is urged to seek in the hazy atmosphere of the bright image of the city a sensory experience equivalent to that provoked by the works of Jackson Pollock (Andreas Gursky - Athens diptych 1995, 2004)

Gursky's depiction of the city of Athens deviates from the main characteristic of city panoramas. Panoramas usually depict recognizable geographic data and usually point towards information about how the structure of a city develops - in this work we would say that the information concerns only a gloomy future that was ultimately as close as can be presented by a contemporary satellite image that detects light pollution all over the plane. The work also highlights the past of a city that developed in a way contrary to any biophilic perception (Rigopoulos, 2010).

CONCLUSION

The article discussed contemporary photographic works that revolve around the theme of the night environment, offering various perspectives and approaches. These encompass both conventional and unconventional views, such as panoramas (as seen in Gursky's work), astrophotography (represented by Scmall), satellite photography (as demonstrated by Hadfield), and depictions of landscapes spanning urban (Luxemburg), suburban (Kokkinias), and rural (Tourlentes) settings. The "immaterials" project also intersects with the urban structure, providing additional visual context to the artworks within the spatial environment.

These photographic works collectively underscore the detrimental impact of capitalism-driven technology expansion on the environment, particularly concerning light pollution. Whether capturing the glaring urban landscapes of cities like Athens, documenting changes in rural scenery, or exploring the rapidly commercialized visual space of low earth orbits, light pollution emerges as a prevalent and expanding issue.

These diverse photographic genres and techniques serve to visualize the encroachment of technology, much like how a standard camera captures its subjects. The photographic depictions of light pollution showcase various consequences, including the loss of unobstructed views and stargazing opportunities, the transformation of nighttime landscapes, and the overall degradation of the nocturnal environment. Furthermore, the work delves into visualizing the radiation of wireless networks, offering a glimpse into the envisioned network of future smart cities.

The partial review through various techniques and practices framed and highlighted some dramatic changes in the environment. It also highlighted the photographic way in which spatial experiences are recorded through the tangible relationship between space and time. In the first decades, to render the night environment, photographic materials had to have sufficient sensitivity to produce a scene with clarity and adequate brightness. With the spread of the use of artificial urban lighting and technical improvements in sensitivity, the night depiction of the environment was incorporated into the work of many photographers. Today, photography seems to continue to improve the ability of night shots, responding to an increasing need for photos under any lighting conditions. At the same time, it evolved technologically, increasing the sensor's dynamic range with high bits per pixel, providing the ability to record high contrasts created by the artificial lighting between bright and dark areas. The evolution of photography shows a medium that, in a sense, adapts to the way the environment and culture dictate - in this case, the way artificial lighting imposes its own patterns on the landscape. And this way highlights a homogenization of modern conditions that arises not only from the ability and the way the camera captures but also emerges as a condition that arose from the intrusive and controlling approach to the environment.

In the beginning of photography, photographic missions aimed at the discovery, documentation, and exploitation of new places. In the contemporary environment, new places are shaped by technology and are located next to us, shrunk and minimal. Visible and invisible mechanisms of presence and recognition recording, smart cities with central security systems are some of the ways that prescribe the new experience.

The works included in a broader framework converse with the contemporary works of Robert Adams and Edward Burtynsky, who express their concern about the contemporary landscape and environment, as well as works that comment on the invisible "presence" of surveillance and recording mechanisms in urban space, such as those of Broomberg & Chanarin, “Spirit is a bone”.

The constant spatial transformations and rapid and radical upheavals imposed after the industrial revolution reflect an intrusive manipulation with traumatic environmental consequences. An ecological approach through photography can provide a framework for recognizing environmental impacts while also expanding the interpretation of the included works. In addition, the various aspects of the photographed spaces with a dark background record a new relationship between the natural and digital space through the photographic techniques and the dynamic presence of artificial lighting. Light is what reveals the space and what ultimately emerges is a constant brightness.

REFERENCES

Abbott, B. (1932). Night view, New York City, [Gelatin silver print]. Berenice Abbott / Commerce Graphics Ltd. Inc. Accessed April 20, 2023, https://www.metmuseum.org/art/collection/search/259570

Arnall, T., Knutsen, J and Martinussen, E.S. (2011) Immaterials: light painting WiFi film [Video still]. Accessed December 17, 2023, http://www.nearfield.org/2011/02/wifi-light-painting/

Bach B. P. (1989). To Light up Philadelphia: Lighting, Public Art, and Public Space. Art Journal, Critical Issues in Public Art (College Art Association Stable), 48(4), p. 325. Accessed March 09, 2023, http://www.jstor.org/stable/777017

Bate, D. (2009) *Photography - The key concepts*. Oxford -New York: Berg. pp. 9, 107

Brandt, B. (1939). Blackout in London, cresent moon and street lamp, the adelfi. [Vintage Gelatin Silver Print]. Accessed April 1, 2023, https://britishphotography.org/artists/70-bill-brandt/works/1036-bill-brandt-blackout-in-london-crescent-moon-and-street-lamp-1939/

Brassai (1932) La Colonne Morris dans le Brouillard. [Gelatin silver print], Accessed March 09, 2023 https://www.metmuseum.org/art/collection/search/286479

Brassai and Morand, P. (1993) Introduction. In *Paris de Nuit*, Edition "Arts et Metiers Graphiques".

Catalogue Essay on Andreas Gursky's Athens, 1995 (2004) Accessed March 3, 2023, https://www.phillips.com/detail/andreas-gursky/NY040116/48

Charles Marville: Photographer of Paris. (2014) Metropolitan Museum of Art. Accessed February 28, 2023, https://www.metmuseum.org/exhibitions/listings/2014/charles-marville

Dhaliwal R. (2014) Bodybuilders and angels: the pictures that changed photography - part two. *The Guardian*. Accessed April 20, 2023, https://www.theguardian.com/artanddesign/gallery/2014/dec/02/bodybuilders-angels-the-pictures-that-changed-photography

Delany, P. (2004) *Bill Brandt - A life*. Jonathan Cape.

Duennebier, I. (1997). The airplane - the trajectory, Thermaikos Gulf. [Scanned image], in H. Papaioannou (ed.) *Transphotometafores - Trajectories and Intersections*, (2000) Aristotle University of Thessaloniki, Macedonian Museum of Contemporary Art. p. 86.

Eyes in The Sky: Exploring Global Light Pollution with Satellite Maps. International Dark-Sky Association (IDA). (n. d.). Accessed April 10, 2023, https://www.darksky.org/eyes-in-the-sky-exploring-global-light-pollution-with-satellite-maps/

Falchi Fabio et al. (2016) The new world atlas of artificial night sky brightness, Accessed April 01, 2023, https://www.science.org/doi/10.1126/sciadv.1600377, DOI: 10.1126/sciadv.1600377

Falchi, F., Cinzano, P., *et. al.* (2016) Supplement to: The new world atlas of artificial night sky brightness. Accessed April 01, 2023, https://doi.org/10.5880/GFZ.1.4.2016.001

Fisher, M. (2022) *Capitalist realism: Is there no alternative?* Zero Books. pp. 16-20

Galassi, P. (2001) *Andreas Gursky*. The Museum of Modern Art. pp. 37-38

Greenough, S. (2002). Alfred Stieglitz: The Key Set. Accessed April 02, 2023, https://www.nga.gov/research/online-editions/alfred-stieglitz-key-set/essay/1884-1901.html

Gursky, A. (1995) Athens, diptych 1995, [Photograph]. Accessed March 3, 2023, https://www.phillips.com/detail/andreas-gursky/NY040116/48

Hadfield, C. (2013). Photograph of Berlin. Image courtesy of the Earth Science and Remote Sensing Unit, NASA Johnson Space Center. [Digital image]. Accessed March 01, 2023, http://eol.jsc.nasa.gov

Hartley, E. (2013) The Berlin divide: How Chris Hadfield's photo brought back memories of a city split in two. *The Guardian*. Accessed April 03, 2023, from https://www.theguardian.com/world/shortcuts/2013/apr/21/astronaut-chris-hadfield-berlin-divide

Harvey, D. (2015) The political economy of public space. K. Vourekas (Trans.). Accessed April 03, 2023, https://socialpolicy.gr/2015/05/david-harvey.html

Immaterials: Light painting WiFi (2011). Accessed December 4, 2022, http://yourban.no/2011/02/22/immaterials-light-painting-wifi/

Kokkinias, P. (2003) Spata. [Digital image]. Accessed March 3, 2023, http://www.panos-kokkinias.com/images/here-we-are/20_spata.html

Light pollution. International Dark-Sky Association (IDA). (n. d.). Accessed April 10, 2023, https://www.darksky.org/light-pollution/

Light Pollution Effects on Wildlife and Ecosystems. International Dark-Sky Association (IDA). (n. d.). Accessed April 10, 2023, https://www.darksky.org/light-pollution/wildlife/

Longcore, T., & Rich, C. (2004) Ecological light pollution. Frontiers in Ecology and the Environment, 2(4), pp. 191–198. Accessed April 10, 2023, https://doi.org/10.1890/15409295(2004)002[0191:ELP]2.0.CO;2

Marikken W. and Haarstad, W.H. (2019) The smart city as mobile policy: Insights on contemporary urbanism. Accessed April 05, 2023, https://www.sciencedirect.com/science/article/abs/pii/S0016718519303410?via%3Dihub

Mortillaro, N. (2022). Is the night sky part of our natural environment? Some astronomers say yes, and are trying to preserve it. Accessed April 10, 2023, https://www.cbc.ca/news/science/satellite-constellations-1.6361590

Moschovi, A. (2013). Realities and Plausibilities: Re-enacting Realism in Contemporary Photographic Art, in H. Papaioannou, (ed.) *Greek Photography and Photography in Greece*, Athens: Nefeli, p. 267.

Night Vision, (2011). Met Museum. Accessed April 20, 2023, https://www.metmuseum.org/press/exhibitions/2011/inight-visioni-at-metropolitan-museum-features-20thcentury-photography-made-after-dark

Papaioannou, H. (2000). *Transphotometafores - Trajectories and Intersections*. Aristotle University of Thessaloniki, Macedonian Museum of Contemporary Art. pp. 16, 18, 86-7.

Pasley J. (2019). You can still see the divide between West and East Berlin from space. Accessed January 01, 2023, https://www.businessinsider.com/divide-between-west-east-berlin-from-space-today-2019-11
Petsini, P. (2009) 'Existensial Exposures- Panos Kokkinias' Work', in Ziogas I., Panagiotopoulos N. and Petsini, P. (eds.) *Global Landscapes*, Athens: Egokeros.
Rau, W. (1898) Peace Jubilee, Court of Honor, Broad and Sansom Street, Philadelphia. [gelatin silver photograph]. Gift of Mr. and Mrs. Maro S. Hunting. Accessed January 01, 2023, https://www.huffpost.com/entry/the-wonder-of-electricity_b_7188492
Rigopoulos, D. (2010). Modernismos, to lathos tou 20ou aiona [Modernism, The mistake of the 20th Century]. Accessed April 01, 2023, https://www.kathimerini.gr/culture/413502/monternismos-to-lathos-toy-20oy-aiona/
Rut Blees Luxemburg (1995-2000). Histories. Accessed April 01, 2023, https://rutbleesluxemburg.com/histories.
Rut Blees Luxemburg et al. (2020). Urbannightproject. Accessed April 01, 2023, https://urbannightproject.com/dark-preview-one
Rut Blees Luxemburg (2020). The Value of light. Accessed February 28, 2023, https://urbannightproject.com/dark-preview-three
Schmall, R. (2019). The Prison of Technology [Digital image]. Accessed February 28, 2023, https://astronomy.com/sitefiles/resources/image.aspx?item=%7B47896111-667E-402C-B0E6-7624177E9593%7D
Schlör, J. (1998) Nights in the Big City. Reaktion Books, p. 21, 60, 72.
Schwendener, M. (2011) What photographers show after sunset. Accessed April 4, 2023, https://www.nytimes.com/2011/04/29/arts/design/night-vision-photography-after-dark-at-the-met-review.html
Stallabrass, J (2018) Radical Realities: Photography as Political Practice. H. Papaioannou (Trans), Thessaloniki: University Studio Press, p. 62
Terzoglou. I.N. (2009). Idees tou chorou ston eikosto aiona [Ideas of Space in the Twentieth Century]. Nisos Publications, p. 135
Tourlentes, S. (2018). Of Lengths and Measures. Accessed April 01, 2023, https://www.prisoninsider.com/articles/oflengthsandmesures

Acknowledgments
This text derives elements and excerpts from the research that is part of an ongoing doctoral thesis entitled: "Phenomenological interpretation of urban space in Greek artistic photography from 1975 to 2010". The doctorate research is supported by the Special Account for Research Grants (ELKE) - UNIWA.