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# Dark Design

## Reimagining Nocturnal Ambiances

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*Abstract. The implementation of energy-efficient artificial lighting has been accompanied by a compelling narrative of savings in economic terms. However, this obscures significant costs to the environment, humans and non-humans. It has also led to higher levels of brightness at night. Integral to this process is the loss of nocturnal atmospheres and ambiances as access to darkness becomes further limited. We need new ways to address this ongoing extinction of experience of the nocturnal commons. Design can provide a valuable role in its ability to explore alternatives, to speculate on new sensitizations that enable nocturnal urban ambiances to be reimagined. This paper proposes an emerging field of 'Dark Design' as advocacy for change of existing beliefs concerning artificial lighting and darkness.*

*Keywords. Darkness, Design, Nocturnal Commons, Ambiances, Humans and Non-Humans*

### The Cost of Light

Enmeshed in the ongoing processes of global urbanisation are the manifold networks that support collective life, including artificial light and its unintended consequences. The dominant narrative of savings in economic terms through the implementation of energy-efficient lamps, however, is problematic in two principal ways. Firstly, the focus on economic value largely obscures other significant costs i.e. to the environment, humans and non-humans (Haim et al., 2019). Secondly, to date the deployment of more efficient artificial lighting methods has resulted in increasingly higher levels of brightness at night (Kyba et al., 2017). This widespread growth in different types of artificial illumination is altering natural cycles of light and dark, directly impacting on the circadian rhythms of human and non-human bodies, flora and their ecosystems (Rich and Longcore, 2006). Integral to this increase is the loss of nocturnal atmospheres and ambiances as access to darkness becomes further limited. This is particularly pronounced in urban nightscapes due to the quantity and quality of different forms of artificial light employed. How do we determine the cost of light?

In order to comprehend the extent of the problems caused by light pollution it is important to appreciate the scale of the situation, with some scientists referring to it as a global challenge (Davies and Smyth, 2018). An intrinsic issue is that as artificial lighting continues to increase at night we become accustomed to the higher levels of illumination and are not aware of what is disappearing. It is, therefore, apparent that we need new ways to address this ongoing 'extinction of experience' (Pyle, 1978; Soga and Gaston, 2016) of the nocturnal commons. Despite appeals to calibrate the cost of artificial light through rethinking how its adverse impacts are assessed and regulated through policy (Hölker et al., 2010) or better understand the sociotechnical controversies

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it represents (Challéat et al., 2015), the focus on light itself only provides one side of the argument and it is equally crucial to consider the unheralded virtues of darkness (Edensor, 2103).

### **The Value of Darkness**

Light and dark are inextricably bound together. Their coexistence is fundamental to countless ecological processes as well as having significant conceptual associations and cultural meanings. However, the bias toward negative connotations of darkness endures. Recent work has attempted to redress the balance of this relationship by challenging existing reductionist frameworks and proposing a relational approach (Le Gallic and Pritchard, 2019), and providing new insights into cultures, histories, and practices concerning darkness (Dunn and Edensor, 2020). Therefore, rather than solely focusing on what is problematic with regard certain forms and functions of artificial lighting at night, perhaps it is useful to consider what is positive about darkness at night (Henderson, 2010; Gallaway, 2015). Clearly establishing the value of darkness is a complex task concerning multiple actors, human and non-human. Stone (2018) has sought to conceptualize and categorize the ways in which value is derived from darkness, particularly as an environmental good, with the practical goal of informing future decision-making about urban lighting at night. Understanding that darkness is worth pursuing alongside efforts to reduce the negative impacts of artificial lighting at night is important since it directs us towards an alternative way of approaching value in urban spaces at night. Yet gaining this knowledge and appreciation is not without its obstacles and barriers.

Giving equal consideration to the value that darkness can contribute to urban nightscapes, rather than simply attempting to reduce the effects of light pollution, requires us to address the decision-making processes that underpin such an ambition. Making sense of what darkness is, in its multifarious forms, and how and why these are valuable is shaped by those who participate in this endeavor. This raises the question of what constitutes the 'who' in such processes. Jacques Rancière explains how making sense of a sense is inherently political since it concerns, "what is seen and what can be said about it, around who has the ability to see and the talent to speak, around the properties of spaces and the possibilities of time" (2009, 13). When applied to nocturnal places, this perspective stimulates important ethical and ecological issues alongside the spatial and temporal dynamics of such environments in two distinct ways. First, there is the array of belongings that are situated in, relational to, and may also co-exist that coalesce to produce the specific ambiance of a place at night. Second, it is critical to account for the non-human actions, routines, and responses that co-constitute the characteristics of a particular nocturnal ambiance. Caution needs to be exercised when bringing non-human agencies into a political ecology since it, "is not to claim that everything is always a participant, or that all participants are alike. Persons, worms, leaves, bacteria, metals, and hurricanes have different types and degrees of power, just as different persons have different types and degrees of power" (Bennett, 2010, 108-109). What emerges through these complex entanglements of light and dark, human and non-human, space and materiality, is the need for diverse encounters and alternatives to the business-as-usual approach that dominates the development of artificial lighting in urban nightscapes.

### **Reimagining Nocturnal Ambiances**

Critical to understanding nocturnal ambiances is acknowledging the dynamic qualities of the elements that form and shape them in material, spatial, and temporal terms (Dunn, 2016; Edensor, 2017; Foessel, 2017). This flux comprises an admixture of

stable, contingent and even fleeting aspects which “emerge as part of a distributed relationality and, rather than constituting a durable condition, atmosphere flows as a sequence of events and sensations, successively provoking immersion, engagement, distraction and attraction” (Edensor, 2015, 333). The potentialities and capacities of nocturnal ambiances to provide a wider array of sensations and interactions than are often present in urban landscapes requires methods through which to rediscover and reimagine our relationships with darkness. This is essential if we are to reduce the detrimental effects of unfettered artificial lighting upon the health of human and non-human bodies and ecosystems, let alone the waste of valuable energy resources. This is where design can provide a valuable role. As Sumartojo and Pink (2018, 95) suggest, “the role of design is to create interventions that make possible the circumstances through which particular types of atmosphere might emerge.” In its ability to explore alternatives, design can speculate on new sensitizations that enable nocturnal urban ambiances to be encountered and experienced beyond the purview of most contemporary urban artificial lighting deployment.

Key to this trajectory is the commitment of design to an ongoing process of adjustments or “atmospheric attunements” (Stewart, 2011) that may direct us toward new ways of living in and through our surroundings or routines. Rather than a static context, a nocturnal ambiance can be understood as “a lived affect - a capacity to affect and to be affected that pushes a present into a composition, an expressivity, the sense of potentiality and event” (ibid., 452). Through its entanglement with such lived affects, design can open up new dialogues with ordinary sensibilities and question their acceptance by exploring how precarious and limited many of our norms are. The night and the variety of light and dark conditions it provides are substantial presences with their own role to play in this process (Alvarez, 1996). Reimagining nocturnal ambiances urges us to engage with different places after dark since it is through such encounter that it is possible to consider how these atmospheres may be suggestive of alternatives for existing situations (Dunn, 2020). By developing new visions and interventions for nocturnal ambiances, shared atmospheres that promote positive behaviour for human and non-human sensitivities can be designed with darkness rather than against it. To achieve this, it is proposed that we need a specific field of ‘Dark Design’ as advocacy for change of existing beliefs concerning artificial lighting and darkness.

## **Towards Dark Design**

In identifying what it means to develop approaches for Dark Design and how we account for ‘nocturnal design values’, we need to reconsider existing design practices since “if night means the ephemeral, the fragile, the spontaneous, how does one construct this element without distorting it?” (Armengaud et al., 2009, 12). Positioning darkness as a positive agent for design brings forth an exigency to better understand the value of different coexistences of light and dark; their qualities and effects so that we may further comprehend the array of possibilities available to us. Crucial here is to remember that our senses and view of darkness are culturally conditioned, being bound up in specific historical, geographical and social circumstances. Dark Design, therefore, should be a global community.

In seeking to establish what Dark Design might entail, it is useful to turn our attention to those elements that are often underrepresented or excluded from design. To do this, I draw on Gissen’s (2009, 22) notion of ‘subnatures’ which are “those forms of nature deemed primitive (mud and dankness), filthy (smoke, dust, and exhaust), fearsome (gas or debris), or uncontrollable (weeds, insects, and pigeons).” For many, this may also be how darkness might be viewed so, rather than ignore the complexity

of engaging with the manifold material-æsthetics of nocturnal ambiances, it is proposed that Dark Design should follow Haraway (2016) and learn to ‘stay with the trouble’, forming a ‘making-with’ them. It is suggested here that working with and through such entanglements might provide a useful way to avoid the current trajectory, characterized by ‘what is being lit is not the space but merely a fear - legal or otherwise - of the consequence of darkness’ (Bartholomew, 2004, 39). The transition in understanding and practices needed to appreciate the value of darkness rather than deal with its consequence is no mean feat.

Key to this role is the capacity of design to speculate on how the future could be and present radical alternatives to business-as-usual scenarios. In this context, such an approach would echo Narboni’s (2017) appeal for cities to integrate ‘dark infrastructures’, to protect and preserve darkness and support green spaces and blue areas such as parks, canals and rivers, by directing their attention away from artificial lighting toward a ‘nocturnal urbanism.’ A critical step towards Dark Design will be to make the nocturnal biome meaningfully legible as a more-than-human ecology (Griffiths and Dunn, 2020). This will enable us to better understand the non-anthropocentric implications of what we design, how we design and why.

Through producing alternatives for urban places at night, that demonstrate positive ambiances for humans and ecological benefits for other species, design can promote better public understanding of darkness and redefine the importance of its value and meanings in the twenty-first century. Rather than accept that the different forms of light pollution are a necessary by-product of urban life, the purpose of Dark Design is to provide alternatives which offer deliberate and positive counterpoints to the prevailing practices of designing against darkness. To conclude, this paper presents an open invitation to academia and design professions to shape the emerging field of Dark Design as a multi- and inter-disciplinary collaborative network of theory and practice. In doing so, it calls for the pressing need for design to engage in new ways to reimagine our relationships with darkness and better understand alternatives for artificial lighting that enable humans, non-humans, and the planet to flourish.

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