

Shifting elemental bodies in the city: Towards thermal and daylight justice

Kavita Ramakrishnan¹  and
Casper Laing Ebbensgaard¹ 

Urban Studies

1–9

© Urban Studies Journal Limited 2026



Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/00420980261453290

journals.sagepub.com/home/usj

Abstract

While thermal comfort and daylight exposure are subjective and context specific, and in some cases even counterpoised, we show how individual and communal efforts to reduce exposure (in the case of heat) or increase exposure (in the case of sunlight) center the elemental as a point of struggle for just urban living and citizenship. The two examples of Delhi and London that we present demonstrate how heat and daylight are encountered in the face of changing climate realities and top-down planning and housing development. With a focus on the asymmetrical vulnerabilities of exposure within thermal and luminous milieu, we contribute to calls for urban justice amidst rapidly changing and unstable climatic futures that demand pressing attention to urban social stratification and livability.

Keywords

daylight, heat, housing, informality, planning, policy, social justice

摘要

尽管热舒适度和日光获取均具有主观性与场景特异性，部分情况下二者甚至相互制衡，但本文揭示了，个体与社群为减少高温暴露、增加日照接触所做出的各类努力如何将自然基础要素推向核心，使其成为民众争取公平城市生活、践行城市公民权利的博弈场域。本文以德里与伦敦两地作为案例展开分析，阐释在气候环境持续变化、规划与住宅开发均采取自上而下模式的背景之下，人们如何应对高温与日照相关问题。本文聚焦热环境与光照环境中不对称的暴露脆弱性，助力学界对城市正义的倡导。气候前景急剧变动、充满不确定性，迫切要求各界重视城市社会分层与宜居性问题。

关键词

日光、高温、住房、非正规性、规划、政策、社会正义

Received: 26 April 2026; accepted: 29 April 2026

¹University of East Anglia, UK

Corresponding author:

Kavita Ramakrishnan, School of Global Development, University of East Anglia, Norwich NR4 7TJ, UK.

Email: k.ramakrishnan@uea.ac.uk

Introduction

In this commentary, we draw out how elemental shifts in heat and daylight over time mark human bodies differently in urban spaces, thus reconfiguring relationships, and shaping urban navigations within the “Anthropocene city” (Rickards et al., 2016). Our engagement with elements extends across seemingly disparate urban regions—from Delhi to London—to demonstrate how across the urban Majority/Minority divide, a similar reading emerges: elemental shifts over time are not predetermined and their (re)active capacities can lead to unexpected socio-ecological formations. Our aim is to foreground how constantly shifting intensities of elemental substances restructure urban meanings, realities, and materialities. While thermal comfort and daylight exposure are subjective and context specific, and in some cases even counterpoised, we show how individual and communal efforts to reduce exposure (in the case of heat) or increase exposure (in the case of sunlight) center the elemental as a point of struggle for just urban living and citizenship. The two examples we present demonstrate how heat and daylight are encountered in the face of changing climate realities and top-down planning and housing development. With a focus on the asymmetrical vulnerabilities of exposure within thermal and luminous milieu, we contribute to calls for urban justice amidst rapidly changing and unstable climatic futures that demand pressing attention to urban social stratification and livability (After Oil Collective, 2022; Moreno-Tabaraz, 2023). The commentary points to a temporal understanding of elemental entanglements that might reconfigure how we address urban futures and elemental excess/dearth, steering us towards more environmentally just futures.

As Papadopoulos et al. (2021: 5) argue, elemental thinking is necessarily “[m]ultidimensional, multiscalar, multisited and multimodal,” and to reword Engelman and McCormack (2021), it is also multisensorial. In this commentary, we add *multitemporal*, to draw attention to elemental variations in force and intensity, such that respite *from* heat and much-needed access *to* daylight are part of daily negotiations that residents engage in to maintain tenable living conditions and seek comfort. Seasonal and daily fluctuations should be understood through a history of colonial elemental manipulation and weaponization, to their afterlives in present capitalist-extractive enterprises (Starosielski, 2021; Yusoff, 2024). As Starosielski (2021) argues, “thermal regimes” structure perceptions of temperature by manipulating how bodies become (de)sensitized to heat fluctuations and by individualizing responsibility for thermal management. Heat not only mediates embodied worlds but its manipulation is used to justify authoritarian (that is, colonial) dominance. Similarly, the restriction of daylight access not only registers as a form of corporeal punishment within carceral and extractive spaces (see Yusoff, 2024), but in its most mundane form, is modulated through architectural design, to instill regimes of violence that entrench already existing inequalities in the dense urban settings (see Ebbensgaard, 2024a). Alongside complexly layered temporalities, we remain keenly aware that the force of elemental rearrangements is made more visible through specific configurations of infrastructure, architecture, technology, and urban landscapes more broadly. By showing how heat index measurements and high-rise developments flatten the durational experiences of elemental shifts, we expose mechanisms through which the temporal depths of urban living are undermined,

privileging the abstract over embodied, time-sensitive experiences.

Without inflating the agentic capacities of the human—which is widely critiqued for presupposing a human-engineered “solution” to the climate crisis (see Davis and Todd, 2017)—we seek to account for the bodily harms that elemental excess and paucity exacerbate. By centering the body, we trace how more-than-human actors, infrastructures, affects, and imaginaries become imbricated in the body’s experience of elemental change. While heat and light are but two elemental conditions, important here is Starosielski’s claim that attention to elemental mediations reorients us to what might transpire, and to a potential for activating solidarity and calling upon alternative ways of living. More specifically, while the elemental is important, it is the everyday urban navigations (see Cante et al., 2023) of heat and light that we prioritize in this analysis, to reflect on how people negotiate and mobilize in the face of adverse/excess/limited elements.

Thermal justice

The heatwave that impacted Delhi, and other parts of Northern India in May and June 2024, saw temperatures clocking 49.9°C (Singh, 2024). One reading from the Indian Department of Meteorology remained shrouded in doubt: an automatic sensor in Mungeshpur, in northwest Delhi, had reported an even higher temperature of 52.9°C, baffling meteorologists who later attributed this to either a fault or “local factors” (Mukul, 2024). Without dismissing the importance of temperature readings, the body and its differing sensitivities over time is often lost from these conversations. While it remains unclear what exactly “local factors” are comprised of, for our purposes they operate as anything “subjective,” or that can be cast as ambiguous, akin to how the role of

the body in sensing heat is externalized (see Neimanis and Walker, 2014). Similar to how the invention of the thermostat reduced the body’s role as a heat sensor (Starosielski, 2021), the temperature readings in Delhi and the efforts made to verify scientific measurements are often in isolation from the bodies that will bear the toll of such extremes. The official heat index is meant to understand how temperatures feel to the human body and attempts to reintegrate the body with the temperature in terms of bodily comfort in the presence of humidity. However, physiological differences and varied labor conditions can mean the heat index is only partial in what it captures. The heat index is unable to account for bodies that labor in heat-exposed industries, live in substandard housing, or are unable to access cooling technologies, compounded by class, gender, and caste.

Our aim here is not to diminish the importance of temperature readings or heat indices, but to think carefully about the social and political implications that such metrics can obscure, when solely understood through abstraction. What does 50°C actually *mean* for a worker who labors outdoors in relation to thermoception? In other words, a tension exists between the body’s capacity to register temporal fluctuations of heat and the flattening of such experiences through heat indices and official temperature recordings more broadly. Abstraction is privileged even when official measurements of heat and its effects remain indeterminant, seen in the vagaries of measuring temperature, and the variability in how heat affects different individuals. Heat only matters then if it is legible through specific measurements outside of the body, even while it is slowly decaying the bodies most exposed. Starosielski (2021: 112) terms this a “thermal violence” which allows “perpetrators to deflect blame from themselves to the environment” and enables those in power to further entrench inequity. In the face of uneven infrastructure provision, such

as water and cooling, that is in higher demand during periods of extreme heat, how do differently positioned bodies—along axes of caste, gender, and class—minimize their thermal exposure while securing livelihoods and housing?

For example, street vendors must make difficult choices when navigating heat, not through verifying exact temperatures but rather by judging how it feels on their bodies and assessing how much is bearable. A second tension emerges here: heat exposure accrues over time in embodied and corporeal ways, and these experiences are in direct conflict with regimes of urban planning that assume people live and work in scripted ways. But vendors cannot afford to lose their livelihoods during heatwaves and are forced to labor throughout the day, even with the knowledge that their regular customer footfall will be reduced. Vending solely during the evening hours is also difficult, with night-time temperatures during the May/June 2024 heatwave lingering at 36°C (Mishra, 2024). The temporality of heat becomes both insufferably elongated (toiling for hours to recoup costs) and unbearably compressed (the agonizingly slow pace of a day working in extreme heat). If heat is embodied, so too is temporality, rooted in bodily sensations that limit how the city is experienced for some, ultimately circumscribing opportunities for those whose livelihoods depend on certain urban environments being accessible.

Navigating the city without the comfort of temperature-controlled transport or workplaces comes at a physical cost. The full health effects of prolonged exposure to heat are understudied, but according to a recent report by Greenpeace India and the National Hawker Federation (2024), street vendors in Delhi experience a range of health issues, including fatigue, muscle cramps, dehydration, headaches, heatstroke, and, in extreme cases, death. Outdoor

workers and those in toxic industries who survive the deadly temperatures—such as street vendors, construction, sanitation workers, and daily wage laborers—cope through adaptation techniques, especially when shade and water are in short supply.

More specifically, vendors and other precarious laborers find ways to manage the heat pragmatically. These include draping wet *dupattas* over their heads, storing water in clay pots, and improvising shelter (Greenpeace India and National Hawker Federation, 2024). Yet, always having to rely on materials at hand individualizes the responsibility to keep oneself cool and diminishes how top-down urban planning regulations and failures have “weaponized the built environment” (Anwar, 2023; n.p.). Moreover, the partial understanding of lived experiences in the informal economy means that state-led heat mitigation efforts do not take into account the patterns of circulation between “work” and “home” among working-class Delhiites, and that “home” might not necessarily be cooler (Pillai and Dalal, 2023; Ramakrishnan and Mawdsley, 2024). Inside an emergency room dedicated solely to heatstroke patients in Delhi, the wife of a daily wage laborer explained how her husband had spent all day outdoors, only to return home and find the single fan in their informal dwelling was not working due to electricity shortages (Biswas, 2024). Without adequate nighttime cooling after a day’s exhaustion in the heat, her husband struggled with seizures, diarrhea, and vomiting, necessitating his visit to the emergency room (Biswas, 2024). Thus, thermal justice needs to center the body and how its various relationships with labor, the environment, and housing make it particularly vulnerable.

Daylight justice

Like heat, light shapes the elemental conditions of urban living. Daylight stimulates

vital endocrine processes that control the body's sleep and wake cycle, body temperature, mood, hunger, heart rate, and production of vitamin D. Deprive the body of daylight and these vital processes regulating stress, anxiety, irritation, and depression (Geddes, 2019) are disrupted. In cities, the access to daylight is conditioned by the built environment, which at the hands of urban planners and architects can be maximized through design (Barber, 2020) or eradicated by creating undue shadow in surrounding neighborhoods (Ebbensgaard, 2024b); the uneven distribution of daylight unravels a durational politics of the elemental entanglement of the body and the body politic (see After Oil Collective, 2022).

Moving from a context with excessive sunlight (such as Delhi) to the northern hemisphere where the long winter months are characterized by prolonged periods of overcast skies, the seasonal lack of daylight and sunlight presents a challenge to people's health and wellbeing. In London, daylight deficit has become more acute since the turn of the 21st century, as more than 200 towers of more than 20 stories have been built, casting shadows onto neighboring buildings. With another 500 currently in planning, a shadowy future looms. Take the residents in Goldpence Apartments, a seven-storey mixed-tenure housing block that faces a newly built 13-storey apartment hotel, Buckle Street Studios, which has caused daylight to drop below national minimum levels for 201 windows across 166 rooms in 58 unique flats. Some residents report that they have lost the ability to see the sky from anywhere in their flats, ultimately losing their ability to sense changes in weather throughout the day (see Ebbensgaard, 2024b). To these residents, the flattening effects of shadow eliminate the drastic shifts in daylight levels over the course of the day, which can create a chain of events where the suppression of hormonal cycles impacts the

circadian rhythm, which further impacts sleep and emotional wellbeing (see Geddes, 2019). With the densification of London's residential landscape, developers are not only reifying longstanding inequalities in daylight access and shade (for an insight into historical daylight struggles in London, see Kerr, 1865), but actively diminishing people's ability to sense diurnal shifts. The example is but one of several high-profile cases where social housing residents and marginalized populations find themselves disproportionately exposed to the harms of substandard daylight conditions, with some losing all their daylight from kitchens, bathrooms, and bedrooms, making these rooms effectively non-daylit rooms (Ebbensgaard, 2022).

In this commentary, we draw attention to another case, the proposed mixed-use megadevelopment of 8 Albert Embankment in Lambeth, South London. By building 443 new homes across five high-rise buildings up to 26 stories, including a 10-storey, 200-room hotel, the development would bring daylight levels in the existing buildings to below the minimum level for no fewer than 424 windows—similar to the situation in Goldpence Apartments. Despite the evidence of extensive material harm to local residents, Lambeth Council approved the planning application, with the Secretary of State for Housing, Communities and Local Government calling the planning case in for public inquiry. While the case bears similarity to Goldpence and other planning inquiries into daylight harms, 8 Albert Embankment is remarkable due to the sizeable protest and opposition from local residents and community organizations (counting a local gallery, a museum, and a heritage society), who formed the action group “Lambeth Village.” With campaigns like “Don't Put Whitgift in the Dark” (see Figure 1) and “Stop the Towers—Save our Sunlight”—which had received 5391



Figure 1. “Don’t Put Whitgift in the Dark” banner displayed in the public gallery at the Lambeth Planning Application Committee meeting at Brixton Hall, 2019.

Source: Lambeth Village (2019).

signatories through *change.org* by mid-2021—Lambeth Village drew attention to the lived experiences of daylight changes. By engaging at every step of the planning process, which is designed to weigh the impacts of material harms against perceived benefits of development (like economic growth, access to new amenities, improved transport infrastructures, and so on), Lambeth Village forced the developer and Lambeth Council to recognize the lived temporalities and embodied experiences of the numerical changes in daylight levels; they effectively reversed the process of abstracting lived experiences of daylight changes into numerical data.

During the planning inquiry, Lambeth Village took Rule 6 status (which put it on an equal footing in the inquiry with the developer, Lambeth Council, who supported the development, and Westminster Council, who opposed it), represented by Michael Ball, a local campaigner with decades of

experience in local action on planning issues through the Waterloo Community Development Group. By participating equally in each step of the planning process, Lambeth Village succeeded where the residents of Goldpence Apartments failed, drawing attention to the lived experiences of the temporal disruption that the development would cause. They repackaged the numerical evidence of harm and made participants at the inquiry “feel” or “see” what a 40% reduction of light would mean to the individual and to the wider community. Their efforts received attention in the national media, with *The Observer* publishing a story entitled “Our kids need daylight,” foregrounding not the technicality of daylight measures or planning decisions but, rather, the lived experience of the durational effects of daylight and sunlight deprivation (Grant, 2021). Eventually, the inspector recommended that the Secretary of State refuse planning permission for the scheme (see Ing,

2021), marking an important moment in recent UK planning history as daylight was valued as a basic human need—if not a right—with the potential to set a legal precedent in future cases. In the inspector's report, he recognized that daylight levels are directly linked to "mental health and disease resistance," and that the evidence produced by Lambeth Village proved "more than anecdotal" (Ministry of Housing, Communities and Local Government, 2021: 757). By drawing attention to the importance of durational experiences of elemental shifts in daylight and sunlight, over the course of the day and across seasons, Lambeth Village succeeded in not only centering the embodied encounters with elemental media on an individual level but also elevating them as a public concern.

Conclusion

In our attention to thermal and daylight justice, we underscore how elements shift temporally and how elemental change, its tangible presence or absence, can recalibrate toxicities and bring into focus the effects on more-than-human life or altered infrastructural arrangements (Ramakrishnan et al., 2021). Temporality matters here: the transformations that elements bring about can be incremental or residual, only gaining notice when they cross certain thresholds, and thus severely restricting livability in the city. By drawing attention to heat and daylight and situating each elemental medium within shifting terrains and temporalities, we show how elemental readings at localized levels build vocabularies for justice that stretch at the material, metabolic, and metaphoric to capture the lived realities of individuals and communities. How then can we move towards horizons of elemental justice from this current climate precipice? Rendering the temporal politics of heat and light tangible is important for engaging with our world

amidst charged climatic pasts, presents, and futures. While this commentary offers vantage points through the case studies of Delhi and London, respectively, we hope it might point to alternative forms of social organization in the wake of these changes. The elemental brings to the fore the uneven exposure to and redressal of potential inequities, particularly at the granular, everyday scale. In doing so, we hope to point to individualized and collective struggles that challenge elemental excess/dearth, to demand sustainable coexistence within the city.

Acknowledgments

The authors would like to thank Lambeth Village and Michael Ball for their generous time and for agreeing to include the photo. We are very grateful to Mathilda Rosengren and Lucilla Barchetta for including our work in this special issue.

ORCID iDs

Kavita Ramakrishnan  <https://orcid.org/0000-0001-8540-4319>

Casper Laing Ebbensgaard  <https://orcid.org/0000-0002-3926-0702>

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Casper Laing Ebbensgaard was supported by a CCA-WRI Fellowship (2022), and Kavita Ramakrishnan is funded by a British Academy Wolfson Fellowship (Award number: I212065).

Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

After Oil Collective (2022). *Solarities: Seeking Energy Justice*. University of Minnesota Press.

- Anwar N (2023) Introduction: The everyday politics of thermal violence in urban South Asia. *International Journal of Urban and Regional Research*. Available at: <https://www.ijurr.org/spotlight-on/extreme-heat/introduction-extreme-heat-in-urban-south-asia/> (accessed 9 September 2024).
- Barber DA (2020) *Modern Architecture and Climate: Design Before Air Conditioning*. Princeton University Press.
- Biswas S (2024) Inside India's first heat stroke emergency room. *BBC*, 19 June. Available at: <https://www.bbc.co.uk/news/articles/cn00nkzdvkjo> (accessed 5 September 2024).
- Cante F, Hussain A, Makori T, et al. (2023) Navigating urban rearrangements. *International Journal of Urban & Regional Research* 47(3): 483–495.
- Davis H and Todd Z (2017) On the importance of a date, or decolonizing the Anthropocene. *ACME: An International Journal for Critical Geographies* 16(4): 761–780.
- Ebbensgaard CL (2022) Dangerous attachments along the vertical axis of illumination. Above/below/between: Light on a damaged planet: CCA-WRI Research Fellowship Program 2022. *YouTube* 35:57–59:52. Available at: <https://youtu.be/rpwF8yNFnXw?si=HAazJg-oH-Tz6Nrkg&t=2157> (accessed 8 August 2024).
- Ebbensgaard CL (2024a) Light violence at the threshold of acceptability. *Urban Studies* 61(4): 669–686.
- Ebbensgaard CL (2024b) Architectures of disavowal. *Environment and Planning D: Society and Space* 42(5–6): 824–843.
- Engelmann S and McCormack D (2021) Elemental worlds: Specificities, exposures, alchemies. *Progress in Human Geography* 45(6): 1419–1439.
- Geddes L (2019) *Chasing the Sun: The New Science of Sunlight and How It Shapes Our Bodies and Minds*. Welcome Collection.
- Grant H (2021) 'Our kids need daylight': Families fight the towers leaving UK homes in shadow. *The Observer*, 13 June. Available at: <https://www.theguardian.com/society/2021/jun/13/our-kids-need-daylight-families-fight-the-towers-leaving-uk-homes-in-shadow> (accessed 8 August 2024).
- Greenpeace India and National Hawker Federation (2024) *Heat havoc report*. Available at: <https://www.greenpeace.org/india/en/publication/16735/heat-havoc-report/> (accessed 5 September 2024).
- Ing W (2021) Jenrick rejects Pilbrow & Partners' plans for former London Fire Brigade HQ. *Architect's Journal*, 24 June. Available at: <https://www.architectsjournal.co.uk/news/jenrick-rejects-pilbrow-partners-plans-for-former-london-fire-brigade-hq> (accessed 8 August 2024).
- Kerr R (1865) *On Ancient Lights, and the Evidence of Surveyors Thereon: With Tables for the Measurement of Obstructions*. John Murray.
- Lambeth Village (2019) News flash – Secretary of State Rt Hon Robert Jenrick refuses planning permission. Available at: <https://www.lambethvillage.co.uk/2021/06/> (accessed 8 August 2024).
- Ministry of Housing, Communities and Local Government (2021) *Report to the Secretary of State for Housing, Communities and Local Government*. Available at: https://assets.publishing.service.gov.uk/media/60d33670d3bf7f4bd9814ff2/Combined_DL_IR_R_to_C_8_Alberty_Embankment.pdf (accessed 8 August 2024).
- Mishra S (2024) India may have recorded its hottest temperatures ever as Delhi faces extreme heatwave. *The Independent*, 31 May. Available at: <https://www.independent.co.uk/climate-change/news/india-heatwave-delhi-temperature-highest-imd-weather-b2553793.html> (accessed 5 September 2024).
- Moreno-Tabaraz U, Acevedo-Guerrero T, Sawyer L, et al. (2023) Pluriversal urbanisms. *City* 5–6: 691–696.
- Mukul S (2024) Where exactly is Mungeshpur and why is it hotter than Khan Market? *India Today*, 30 May. Available at: https://www.business-standard.com/india-news/delhi-shatters-74-year-records-with-the-hottest-may-and-june-on-record-124070100603_1.html (accessed 5 September 2024).
- Neimanis A and Walker RL (2014) Weathering: Climate change and the "thick time" of transcorporeality. *Hypatia* 29(3): 558–575.

- Papadopoulos D, Puig de la Bellacasa M and Myers N (2021) *Reactivating Elements: Chemistry, Ecology, Practice*. Duke University Press.
- Pillai A and Dalal T (2023) How is India adapting to heatwaves? An assessment of heat action plans with insights for transformative climate action. Centre for Policy Research. Available at: <https://cprindia.org/briefsreports/how-is-india-adapting-to-heatwaves-an-assessment-of-heat-action-plans-with-insights-for-transformative-climate-action/> (accessed 28 April 2026).
- Ramakrishnan K and Mawdsley E (2024) Informal economies: Towards plurality and social justice. In: Johns J and Hall SM (eds) *Contemporary Economic Geographies*. Bristol University Press, pp.139–152.
- Ramakrishnan K, O'Reilly K and Budds J (2021) The temporal fragility of infrastructure: Theorizing decay, maintenance and repair. *Environment and Planning E: Nature and Space* 4(3): 674–695.
- Rickards L, Gleeson B, Boyle M, et al. (2016) Urban studies after the age of the city. *Urban Studies* 53(8): 1523–1541.
- Singh N (2024) Delhi shatters 74-year records with the hottest May and June on record. *Business Standard*, 21 July. Available at: https://www.business-standard.com/india-news/delhi-shatters-74-year-records-with-the-hottest-may-and-june-on-record-124070100603_1.html (accessed 4 September 2024).
- Starosielski N (2021) *Media Hot and Cold*. Duke University Press.
- Yusoff K (2024) *Geologic Life: Inhuman Intimacies and the Geophysics of Race*. Duke University Press.