Urban atmospheres

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Abstract
What is an urban atmosphere? How can we differentiate an 'atmosphere' from other facets of urban consciousness and experience? This essay explores some of the wider cultural, political, and philosophical connotations of atmospheres as a focal point for critical reflections on space and subjectivity. The idea of an 'affective atmosphere' as a distinctive kind of mood or shared corporeal phenomenon is considered in relation to recent developments in phenomenology, extended conceptions of agency, and new understandings of materialism. The essay draws in particular on the changing characteristics of air and light to reflect on different forms of sensory experience and their wider cultural and political connotations. The argument highlights some of the tensions and anomalies that permeate contemporary understandings of urban atmospheres.

Keywords
affect, air, light, materialism, phenomenology, subjectivity, urban atmospheres

> Urban atmospheres are born in the crisscrossing of multiple sensations.
>
> Jean-François Augoyard[1]

> It is through atmospheres that the complexity and dynamics of urban space become perceptible.
>
> Jürgen Hasse[2]

At a recent international symposium there was an extended discussion about the conceptual utility of the term 'urban atmosphere'. For its proponents a focus on urban atmospheres enabled a richer understanding of collective forms of urban consciousness and experience. For sceptics, however, the concept remained somewhat 'fuzzy' and ill-defined, seemingly conflating the idea of 'atmosphere' with that of 'affect', or not adding significantly to our understanding of urban life. The discussion closed with a laconic remark about a popular singer being 'an atmosphere all by herself' in an ironic affirmation of the extended definition offered by the German phenomenologist Gernot Böhme, who claims, amongst other things, that an atmosphere can include the 'aura' projected by an individual in a spatial setting.[3]

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Over the last couple of decades there has been growing interest in atmospheres. As early as 1998, for example, the German philosopher Jens Soentgen refers to an 'atmospheric turn' within European phenomenology and reference to 'affective atmospheres' has become more frequent within fields such as anthropology, architectural theory, and cultural geography.[4] The word 'atmosphere' can simultaneously evoke both a body of air, or even simply space, along with its prevailing affective characteristics. An expanded conception of atmospheres has emerged in parallel with new theoretical reflections on space and subjectivity. The meaning can oscillate between, for example, the latent atmosphere of a room or the complex interplay between multiple subjects in crowd-like situations. Atmospheres also inhere in the multi-sensory evocations of memory, both singular and collective, and can evoke a spectral penumbra within the synesthetic spaces of human meaning and habitation.

When considering urban atmospheres we encounter a paradox: on the one hand, we can think of distinctive urban atmospheres such as particular streets or quarters, but on the other hand, the idea of an urban atmosphere can denote more generic categories of experience such as airports, highways, or more impersonal modes of social interaction. There is a tension, reflected in the phenomenological literature, between the precise characteristics of urban atmospheres associated with specific times, spaces, or situations, located within the wider dynamics of modernity, and an implicit attachment to a bounded, idealized, and to some degree ahistorical human subject.

To develop a critical engagement with the idea of atmospheres involves stepping outside the confines of European humanism. At the same time, however, it necessitates a closer engagement with the interweaving historiographies of the body, the perceptual realm, and philosophical understandings of what it means to be human. In particular, the emerging encounter between urban atmospheres and what we might characterize as 'affect theory' illuminates new points of departure for the interpretation of everyday life but also simultaneously obscures the ontological dimensions to inter-subjective forms of corporeal communication and experience. If the destabilization of the human subject implies a 'waning of affect', to use Fredric Jameson's original formulation, we are left with the conundrum that interest in affects, atmospheres, and emotions has nevertheless become much more significant.[5]

The essay begins by exploring how the meaning of atmospheres has evolved and diversified, spanning a variety of social settings, and extending to diverse types of material and sensory phenomena. We consider intersections between affect, emotion, and atmospheres, including recent developments in phenomenology that have accompanied the 'atmospheric turn'. In the next section, we reflect on the interface between air and atmosphere as part of the impetus for the emergence of atmospheric politics, encountering a range of different spaces and scenarios. We find that the idea of inimical or threatening atmospheres extends from epidemiological uncertainties to the delineation of social difference. Finally, we turn to some of the intersections between light, capital, and affective atmospheres. Light is integral to the changing sensory characteristics of late modernity, connecting with the affective dynamics of everyday life that encompass the built environment, circadian rhythms, and pervasive atmospheres of distraction.

Atmospheric becomings

The word atmosphere is derived from the 17th-century Latin *Atmosphaera* that combines the Greek ἀτμός *(atmos)* meaning 'vapour' and σφαῖρα *(sphaira)* meaning 'sphere'. The literary critic Steven Connor traces the Greek *atmos* to the original Sanskrit *atman*, meaning 'breath', 'life', or 'soul', and notes that the earliest recorded English usage is in a scientific tract by the Anglican clergyman and philosopher John Wilkins, first published in 1638, concerning whether the moon might be habitable.[6] Wilkins speculates that there is 'an Atmos-Sphæra, or an Orb of gross Vaporous

Air, immediately encompassing the Body of the Moon' that might be capable of supporting human life.[7] He also notes how 'that part of our Air which is nearest to the Earth is of a thicker Substance than the other' and describes how it is 'always mixed with some Vapours, which are continually exhaled into it'.[8] From the outset, we find that the modern usage of the word atmosphere points to the conditions under which real or imaginary life might flourish.

From the early 19th century onwards, the use of the word 'atmosphere' begins to diverge between two main sets of meanings. Firstly, the word is deployed in a precise sense to denote a layer of gases enveloping a planet that is held in place by gravity. This material usage can be further differentiated into the use of the term as a unit of measurement within the physical sciences and the popular understanding of atmosphere as simply meaning 'air'. Secondly, an atmosphere can refer to the prevailing mood of a place, situation, or cultural representation such as the feeling evoked by a film or a novel.

With this second use of the word, the meaning becomes successively more complicated, extending from the sensory realm of individual bodies to crowd-like situations. The spatial connotations range from the domestic interior to large-scale exterior phenomena such as concerts, rallies, or thunderstorms. We are moving in the direction of what might be termed 'affective atmospheres' marked by a range of cultural and material constellations that can invoke a spectrum of affective and emotional responses. This second meaning of atmospheres never quite let's go of the first: there is a persistent material or meteorological presence, either real or imagined, which envelops or unsettles the human subject.

Early descriptions of hot air balloon excursions provide an illustration of the double meaning of atmospheres as both affective and meteorological. Consider Thomas Baldwin's account of his ascent over the city of Chester in September 1785 (Figure 1). A small crowd are gathered as the balloon is released amid 'tears of Delight and Apprehension' in the face of 'a Fellow Mortal separated in a moment from the Earth, and rushing to the Skies'.[9] As Baldwin floats up through the clouds, he records changes in air, light, wind, pressure, and temperature:

> He tried his Voice, and shouted for Joy. His Voice was unknown to himself, shrill and feeble. There was no echo.[10]

Baldwin compares the unfolding landscape below with a map and traces the course of the River Mersey:

> No River like that below him had ever presented itself. Its *Doublings* were so various and *fantastic* as to exceed the Limits of Credibility.[11]

Baldwin's excursion prefigures the increasing significance of the aeronautical realm as a space of both self-discovery and an expanded sense of the cartographical and scientific imagination. By the early 1860s, the French pioneer of photography Nadar had used a tethered balloon to experiment with aerial views of Paris and the technology became an increasingly familiar dimension to celestial modernity.[12] The two different senses of an atmosphere – both affective and meteorological – are eloquently described by the geographer Derek McCormack in his account of the balloon expedition by the Swedish engineer Salomon August Andrée to the North Pole undertaken in 1897. McCormack draws on Spinoza's expanded conception of what constitutes a 'body' to develop a kinetic reading of an atmosphere as a set of perpetually unfolding and intersecting materialities.[13] The idea of a singular bounded body is replaced with a multiplicity of forms, movements, and affective capacities. McCormack builds on Tim Ingold's concern with the need to blur distinctions between earth and sky, and between material and immaterial, to uncover a more nuanced

Figure 1. Thomas Baldwin, *A balloon prospect from above the clouds* (1786). Baldwin's original notes and observations exemplify the double sense of an affective and meteorological atmosphere.
Source: Thomas Baldwin, *Airopaidia: Containing the Narrative of a Balloon Excursion from Chester* (1786). Courtesy of Smithsonian Libraries.

entanglement of forces and 'rethink the logics of materiality'.[14] Air, as Ingold shows, unsettles our understanding of both corporeality and materiality: it is streaked with possibilities or 'threads' exemplified by olfactory patterns, pressure gradients, and other endlessly changing meteorological phenomena.[15]

But when does air become an atmosphere? Air is inextricably connected with life: indeed, its precise composition over geological time has determined the possibilities for different life forms. The oxygen spike of the Carboniferous period, for example, generated massive organisms such as dragonflies with four-foot wingspans.[16] The exploration of the earth has required the production of artificial atmospheres to reach its most inaccessible depths or meet the technical challenges of space exploration.[17] It is in circumstances of corporeal vulnerability that the distinction between air and atmosphere is most sharply revealed.[18]

Atmospheres are both experienced and created: they encompass extant features of emotional and material life as well as its staging or manipulation. Yet moving from single to multiple forms of subjectivity poses a tension in relation to cognitive modes of understanding focused on the individual human subject: we encounter a swerve towards other models of explanation such as neo-vitalist interest in a putative 'life force' or Bergsonian *élan vital*, the 'group mind' associated with the early insights of Gustave Le Bon and Gabriel Tarde, and various other attempts to conceptualize crowd dynamics.[19]

The understanding of atmospheres as a distinctive kind of 'mood' or 'situation' has become a focal point for emerging interest in 'affective atmospheres'. Within Anglo-American cultural geography, for example, the growing interest in atmospheres connects with more nuanced readings of the human subject and extended conceptions of agency. We encounter a universe of micro-geographies and emergent potentialities that elude the simplifying logic of more mechanistic modes of theorization.[20] The geographer Ben Anderson provides a succinct definition of 'affective atmospheres' that serves as a useful starting point for a wider reflection on their presence and significance:

> Affective atmospheres are a class of experience that occur *before* and *alongside* the formation of subjectivity, *across* human and non-human materialities, and *in-between* subject/object distinctions.[21]

The theoretical standpoint offered by Anderson points to the influence of Deleuzian-Spinozist formulations within cultural geography and also draws on a range of other sources, including phenomenology (especially the work of Mikel Dufrenne and Gernot Böhme) and historical materialism (in particular Marx's interest in revolutionary atmospheres). Anderson highlights an eclectic range of phenomena that might be gathered under the aegis of affective atmospheres including forms of 'impersonal or transpersonal intensity' outlined by Brian Massumi; the mimetic behaviour of crowds described by Nigel Thrift; forms of non-linguistic corporeal communication introduced by Teresa Brennan; the 'qualified aura' that emanates from individual bodies described by Gernot Böhme; and the significance of 'tone' in literary or cultural artefacts that forms of part of Sianne Ngai's study of the 'negative affects' of late modernity.[22] Anderson acknowledges that we are dealing with an 'odd archive' comprising a heterogeneous array of perspectives drawn from disparate fields such as anthropology, critical theory, phenomenology, and other disciplines.

The cultural geographer Jürgen Hasse offers a similarly broad definition of atmospheres extending from meteorological phenomena such as the 'heavy atmosphere' of an impending thunderstorm to the presence of 'urbanity' and different manifestations of urban life.[23] His range of more precise scenarios includes architecture, crowds, and light. Hasse also emphasizes how atmospheres can be manipulative, and deployed for propagandist effects, thereby connecting with the 'irrational' lurking within modernity.[24] But does the capacious conceptual scope of atmospheres matter? The

German phenomenologist Gernot Böhme contends, following Hermann Schmitz, that the varied use of the term atmosphere, often in relation to vague phenomena, does not imply that the meaning or definition must necessarily also be considered *vage* (vague).[25] Yet Böhme's claim is not entirely satisfactory: there is an implicit elision here between highly disparate phenomena, often combined with a lack of sensitivity to either historical or geographical context, let alone the explanatory complexities of how atmospheres operate in the social and political realm. Similarly, the Italian philosopher Tonino Griffero's characterization of atmospheres as 'everything and nothing' does not help to clarify the ontological status of the phenomena in question.[26]

The spatial dimensions to atmospheres are uncertain. In a similar vein to Schmitz, who notes that atmospheres are *flächenlos* (without surfaces), Anderson suggests that 'atmospheres are indeterminate'.[27] Less clear, however, is the degree to which this indeterminacy is ontological as well as spatial. If atmospheres lack surface or form then how does this relate to different types of subjectivity encompassing single, multiple, non-human, or more-than-human interactions? How should we theorize the relationship between space and subjectivity? The complexity of urban soundscapes exemplifies the spatial porosity of atmospheres and the uncertain distinction between what constitutes 'inside' and 'outside'. Sound can engender a diversity of affective states such as anxiety, excitement, or indifference. Acoustic spaces range from that of a room or street to concert halls or even an entire metropolitan region if the listener or sound source is moving through space (Figure 2). The 'modern auditory I', to use Steven Connor's expression, is more than just a matter of the refinement of the sensory human subject under modernity.[28] The study of sound is marked by a tension between various phenomenological accounts of sensory perception and an engagement with sound as a kind of dynamic cultural artefact. The geographer George Revill, in his exploration of soundscapes, has outlined the contours of a critical phenomenology that allows for greater sensitivity to the particularities of sensory experience, and contrasts with the implicit universalism of Edmund Husserl, Maurice Merleau-Ponty, and the established lineage of European phenomenology. 'Sounds envelope and reverberate deeply within bodies,' suggests Revill, 'in ways which are specific both to their phenomenal properties and to historically constituted modes of listening, understanding and interpretation'.[29] A more critically reflective phenomenology would of necessity have to take account of the limitations of European philosophical traditions and the need to recognize multiple constellations of subjectivity.

There is a divergence between the historical specificities of the acoustic city and the 'embodied universalism' that permeates phenomenological studies of sound. The pervasive use of music for the marketing of commodities or the production of moods marks just one element in this unfolding dynamic between acoustic space and late capital. Similarly, the olfactory realm connects with different forms of corporeal and material permeability, as well as synesthetic dimensions to time and memory. The synesthetic character of atmospheres is not only multi-sensory but also capable of triggering different kinds of involuntary cognitive or sensory associations.[30]

Atmospheres have a complex relationship to language-based modes of communication. If affective atmospheres connect with the 'prepersonal', the 'transpersonal', and the 'formation of subjectivity,' as Anderson contends, then we need to disentangle different modes of corporeal and social interaction.[31] Contributors to the field of what we might term 'affect theory' have repeatedly sought to distinguish affect from other kinds of emotional states: Brian Massumi, for example, identifies affect with various forms of intensity and suggests that affect and emotion 'follow different logics and pertain to different orders'. Yet as Anderson rightly suggests, the concept of atmosphere 'unsettles the distinction between affect and emotion,' which we might further refine in terms of a range of named or unnamed emotional states.[32] If emotion is linked with the linguistic articulation of feelings this does not constitute a clear category of human experience but points to a spectrum of different modes of communication including gestures, movements, and prosody.[33] In any case, a
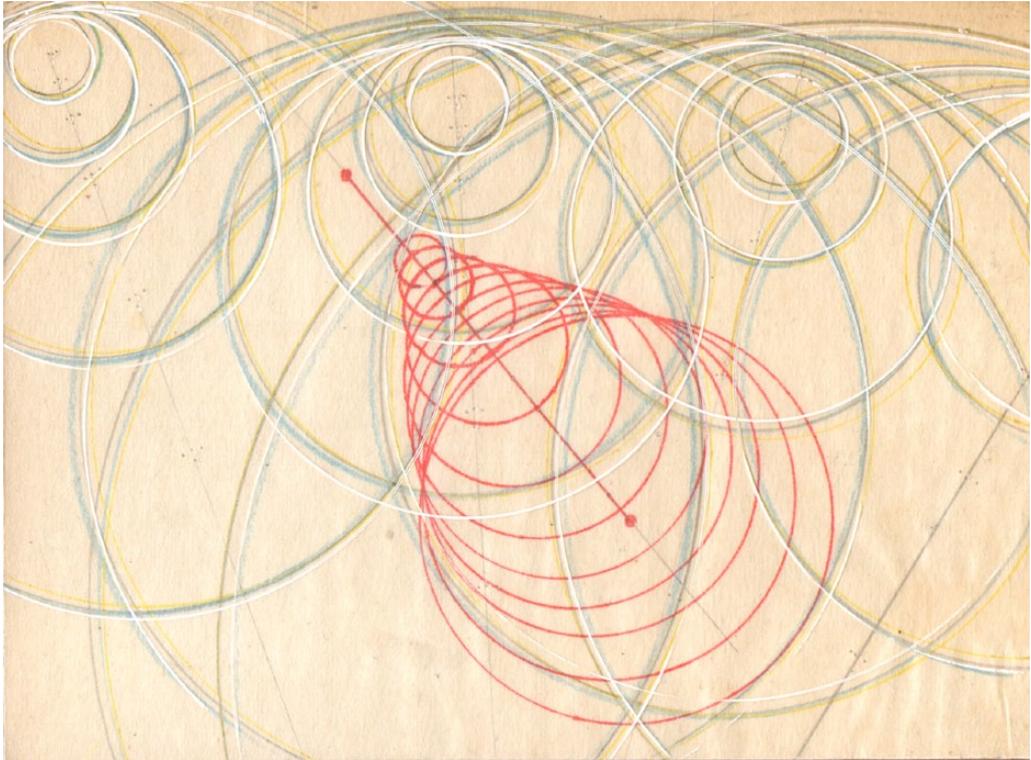
Figure 2. Merjin Royaards, *A sound, a kind of whistling, rises above the background noise. Clear and articulate, it pierces through the heavy blanket of city sounds* (2012). The musician and architectural theorist Merjin Royaards has developed a series of innovative notation systems for the representation of urban soundscapes.
Source: Courtesy of the artist.

semantic distinction between affect and emotion must still contend with the physiological, spatial, and temporal coordinates of affective atmospheres as they operate in practice. And by temporal we can add the varied social and historical contexts within which atmospheres are perceived and generated. Indeed, Fredric Jameson's recent intervention defines literary affect as an invocation of the lived present, immersed in the heightened realism of consciousness, as opposed to more linear narratives that remain rooted in chronology. In particular, Jameson explores a proliferation of 'nameless bodily states' associated with the 'transformation of the sensorium' underway since the middle decades of the 19th century.[34]

The co-evolutionary dynamics of consciousness, emotions, and language remain a matter of contestation: does language create mind or mind create language?[35] Language can be conceived as part of a broader process of cultural evolution in which emotions generate specific forms of linguistic expression. There is a spectrum of perspectives on the degree of genetic assimilation for increasingly complex syntactical structures and the generalizability (or universality) of enhanced cognitive functions.[36] The question of affect, language, and atmosphere can be recast as the social milieu that enables the emergence of more complex forms of shared 'metaphorical abstraction'.[37] The co-evolutionary dynamics of language and emotion unsettle restrictive definitions of affective atmospheres as somehow residing outside cognitive forms of subjectivity. An emphasis on the

epigenetic dimensions to language-based forms of cultural evolution adds an additional layer of complexity to the formation of affective atmospheres. We are perhaps better served by recognition that the human mind is an outcome of evolutionary psychology in relation to the 'cognitive niche' that underpins the distinctive character of human subjectivity.[38] Yet an emphasis on human sentience, and its specific evolutionary dynamics, sits uneasily with the extended ontological frame emerging under the 'new materialisms', where recognition of the 'liveliness' of matter holds implications for atmospheric phenomena.[39]

The American anthropologist Kathleen Stewart suggests that 'an atmosphere is not an inert context but a force field in which people find themselves'.[40] Stewart refers to the presence of 'charged atmospheres', 'atmospheric attunements', and 'the proliferation of little worlds' that characterize everyday situations. She looks for small-scale perturbations or 'pockets' that can presage potentially larger events.[41] An atmosphere can be characterized as a multi-layered space of latent possibilities or likened to a 'background hum'.[42] There is an interest in 'what happens', the radical heterogeneity of social life, and an understanding of the affective subject as 'a collection of trajectories and circuits'.[43] 'At once abstract and concrete,' writes Stewart, 'ordinary affects are more directly compelling than ideologies, as well as more fractious, multiplicitous, and unpredictable than symbolic meaning'.[44] But how can the political salience of atmospheres be considered separately from ideological constructs? Is there an implicit naturalization of social difference in the absence of an engagement with historical context? If Stewart rejects the stratigraphic ontologies of historical materialism – in spite of her affinity with the cultural Marxism of Raymond Williams – then what kind of diffuse or hidden ontologies inhere in her concept of atmospheres? Stewart emphasizes the Deleuzian-Spinozist lineage to 'bodily capacities', but we can also trace an alternative theoretical pathway through affective atmospheres that seeks to explain non-linguistic forms of corporeal communication on the basis of more tightly defined types of affective interaction.[45]

In contrast to Stewart, the feminist philosopher Teresa Brennan offers a more precise account of affective phenomena. She explores a series of epistemological and philosophical tensions that have emerged between individual and multiple forms of human subjectivity.[46] In other words, she considers not only how affects are experienced but also produced. For Brennan, an 'atmosphere' comprises both physiological and psycho-social dimensions so that the boundary between the human subject and its environment must be conceptually recast. The unconscious olfactory realm emerges of particular significance along with other specific means of chemically transferring different types of feeling or emotion.[47] The role of chemical stimuli such as pheromones in body-to-body forms of communication includes the socio-temporal dynamics of exciting, stressful, or violent situations. Chemically driven forms of 'mimetic entrainment' extend beyond the more circumscribed field of vision to include the rippling or wave like phenomena of smell, sound, and other perceptual domains. For Brennan, it is the blurring of corporeal and spatial boundaries that constitutes the ontological basis for affective atmospheres. Yet she finds that the underlying bio-physical dimensions to affect remain underexplored despite their widely observed operation in practice.[48] 'In a time when the popularity of genetic explanations for social behavior is increasing,' notes Brennan, 'the transmission of affect is a conceptual oddity'.[49] She considers how the biochemical and neurological dimensions to the transfer of affect sit at odds with the persistence of 'the biologically determined individual'. Brennan argues that the lack of attention to precise modes of affective transmission stem from an ontological incompatibility with the bounded conceptions of the human subject that characterize 'the reigning modes of biological explanation'.[50] By adopting a scientifically grounded conception of affect as a form of inter-subjective corporeal communication she takes her analysis in a strikingly different direction to Deleuzian-Spinozist readings of affect. For Brennan, the 'transmission of affect' is understood as 'a process that is social in origin but biological and physical in effect'.[51]

Atmospheric politics

There is a degree of conceptual synergy between contemporary Anglo-American interest in affective atmospheres and the so-called 'new phenomenology' that emerged from the 1960s onwards.[52] The work of the German philosopher Hermann Schmitz is especially significant with his emphasis on the primacy of corporeal experience in distinction to various ontological abstractions that have served to separate the human subject from the sensory realm. Schmitz offers a three-tiered conception of space and subjectivity within which atmospheres (*Atmosphären*) play a prominent role. He uses the term *Halbding* or 'half-thing' to refer to atmospheres as part of his wider emphasis on the ephemeral phenomena that characterize the sensory realm.[53] For Schmitz, the experience of *Gefühl* (a word encompassing feeling, sensation, and emotion) is inherently spatial: not merely cognitive in a narrow sense but rather *leiblich* (corporeal) in character.[54] His choice of the word *leiblich* over the more familiar German word *körperlich* (also meaning corporeal) is a distinct feature of the German phenomenological literature, holding connotations of both religiosity and biological origins, and emphasising the dynamic, interconnected, and organicist 'felt-body' as something more than the mere physicality of the corporeal body that can include corpses or insensate matter.[55]

Schmitz focuses on the affective charge of situations (*Situationen*), not unlike Stewart's use of the term, and makes further distinctions between situations that are individual or collective.[56] He emphasizes the 'affective force' (*affektive Zudringlichkeit*) of atmospheres and introduces the word *Schlage* (a rarely used aesthetic term that holds an etymological similarity to 'hammer') to denote the catalytic role of situations.[57] Less clear, however, is the relationship between an intense focus on the individual human subject immersed in what he terms the 'primitive present' (*primitive Gegenwart*) and more diffuse or multiple forms of subjectivity.[58] Equally, the emphasis on the idealized human body (*Leib*), as an analytical focal point, bears an uncertain relation to the context within which specific cultures of sensory perception have emerged. There is a clear tension in the new phenomenology literature between a universalist mode of theorization and a narrow range of European examples. Hasse, for example, tries to identify distinctive urban atmospheres in an essentialist characterization that mirrors the 'the intrinsic logic of cities' (*Eigenlogik der Stadt*) approach within German urban sociology, derived from the innate features of a particular city or urban locale.[59] The emphasis on corporeal modes of perception also leaves the imperceptible realm of chemical entrainment à la Brennan in a state of analytical uncertainty despite the interest of the new phenomenology in affect, atmospheres, and the olfactory realm.

The concept of atmosphere is taken along a somewhat different route by the German philosopher Peter Sloterdijk, most notably in his extensive historiography of the evolving complexity of the body-technology nexus under modernity. In his 'spheres' trilogy, published between 1998 and 2004, Sloterdijk takes the idea of the sphere, variously conceptualized as bubbles, foams, and globes, as the starting point for his historiographical exegesis on the technological augmentation of modern life, working from the womb outwards, and scaling up through various architectonic elaborations towards the resonant 'spaceship earth' metaphor.[60] Adopting what might be characterized as a technophile reading of Heidegger he explores the changing intersections between space, technology, and human life.[61] Sloterdijk describes, for example, how the emerging 19th-century architecture of iron and glass, culminating in the Crystal Palace of 1851, served as a 'new politics of trans-human symbiosis'.[62] He makes a distinction between 'absolute islands' such as aircraft or spaceships, 'atmospheric islands' exemplified by air-conditioned buildings, and 'anthropogenic islands' including incubators that enclose or protect individual human bodies. From Sloterdijk's standpoint, the earth can be conceived as an 'absolute island' since there is no habitable elsewhere.

On the political plane, Sloterdijk identifies a 'pathology of spheres' marked by intense forms of human isolation within an increasingly ungovernable social realm. We encounter certain parallels here with the Heideggerian infused critique of contemporary society offered by the Berlin based Korean philosopher Byung-chul Han, with his focus on a medley of late-modern maladies ranging from attention deficit disorder to burn-out syndrome. Han, best known for his fatigue society (*Müdigkeitsgesellschaft*) thesis, suggests that the human subject has willingly subjugated its needs to capital through an uncontrollable work ethic combined with a disavowal of privacy through social media.[63] There is an epidemiological tension, however, between 'supposedly psychogenic epidemics' and a clearer explication of how various conditions are produced and transmitted.[64] For Han, many of these proliferating 'negative affects' appear to be self-generated under the aegis of late capital – hence the degree of evident mutation in available modes of governmentality and surveillance – yet his truncated, and to some degree anachronistic, conception of the human subject provides an incomplete explanation for these new trends in mental health and concomitant public cultures of the damaged, exhausted, or over-exposed self. It remains unclear how the shifting boundaries of the self are culturally and historically produced

Drawing on Sloterdijk's interest in situations where air becomes 'explicit', such as war-time gas attacks, Bruno Latour elaborates on the characteristics of atmospheric phenomena. He is interested in the complexity and fragility of socio-technical atmospheric systems including that of the earth's own atmosphere.[65] His essay written to accompany an exhibition by the Danish-Icelandic artist Olafur Eliasson, whose work he likens to Sloterdijk's spheres project, delineates a series of experimental fields in contradistinction to what he terms 'the narrow constrains of modernism' rooted in scientific attempts to separate facts from values.[66] 'The problem,' writes Latour, 'is that while we believe we know how to conduct a scientific experiment in the narrow confines of a laboratory, we have no idea how to pursue collective experiments in the confusing atmosphere of a whole culture'.[67] With Latour's concept of atmosphere we encounter a challenge to the controlled laboratory with its agreed scientific procedures through its re-staging as a vast cultural installation that now extends to the earth itself as the ultimate laboratorium (in which climate change serves as a gigantic collective experiment). Both Latour and Sloterdijk are clearly drawn towards the 'spaceship earth' metaphor that finds ideological expression in the Gaia hypothesis; the concept of a political atmosphere is scaled up to encompass the entire planet in a partial reprise of earlier organicist and neo-vitalist formulations.[68]

The interior spaces of modernity have been the focus of elaborate systems of temperature and humidity control, including the development of various types of air conditioning systems such as the rarified atmospheres of museums to protect cultural artifacts.[69] Experimental atmospheres include the Swiss architect Philippe Rahm's real-time installations that stage intricate body-space choreographies through an exploration of the relationship between air, architecture, and human metabolism.[70] Rahm's interest in the sensory complexities of 'interior geography' is derived from the study of interactions between the human body and fluctuations in light, humidity, and temperature.[71] His architectonic investigations offer a series of technically mediated forms of atmospheric attunement that plays with the limits to measurement, representation, and control (see Figure 3).

The experience of interior atmospheres spans the interface between measurable phenomena and more ill-defined dimensions to the affective and psychological realm. The historian Michelle Murphy's study of 'sick building syndrome' traces the rise of 'chemical dangers' in the white-collar workplaces of the 1980s that emerged from the increased use of sealed building designs (for greater energy efficiency), a proliferation of new synthetic materials (for which toxicological studies were often absent or limited), and the shifting terrains of technical expertise and environmental discourse.[72] Unlike the more easily measurable hazards encountered in factories the open-plan office space proved to be an elusive focus for investigation with many environmental parameters little understood or simply relegated to 'domains of imperceptibility'.[73] The intersections between

Figure 3. Philippe Rahm, *Météreologie intérieuere/Interior weather* (2006). The project is described by Rahm as 'an unstable and sensual atmosphere' set within a 'constantly evolving three-dimensional geography'.
Source: Philippe Rahm architectes, Interior weather, Centre Canadien d'Architecture/Canadian Centre for Architecture, Montréal, 2006. Photo: Michel Legendre.

gender and chemical exposure, illustrated by the disproportionate impact of these illnesses on women, adds a further layer of complexity along with the political difficulties posed by the reification of individual experience.[74] One line of argument, following Brennan, is that the analytical conundrum posed by a range of recently identified workplace conditions rests on the pervasive separation between bio-physical and psycho-social modes of explanation.

It has long been recognized that cities generate distinctive meteorological conditions ranging from the warmer micro-climates of sheltered gardens to larger scale phenomena such as the urban heat island effect.[75] But at what scale can an atmosphere be termed 'affective' if the relationship between the body and atmospheric phenomena becomes more attenuated? From a broadly Foucauldian perspective, the geographer Mark Whitehead introduces the figure of the 'late-modern atmospheric subject' caught between a nexus of scientific knowledge and direct forms of corporeal experience.[76] There is an evident tension between the role of atmospheres as a focus of political or scientific contestation and the presence of tangible atmospheres in everyday life.

The political salience of urban atmospheres is most strikingly revealed through 'atmospheric events' such as fogs, smogs, or the effects of extreme temperatures linked to larger scale climatic perturbations. Examples include the Chicago heat wave of July 1995 and the European heat wave of July 2003: in Paris alone, for instance, many isolated people died in cramped and poorly ventilated rooftop lodgings known as *chambres de bonne*.[77] Similarly, in India, recent heat waves have been associated with elevated levels of mortality in Ahmedabad, Delhi, Kolkata, and other cities. For the urbanist Stephen Graham, the 'political ecology of air' ranges from the 'vicious circle' of 'air-conditioned urbanism' to the heat-related deaths of construction workers in Dubai and elsewhere.[78] The prevailing wind patterns and topography of urban space have produced distinctive atmospheric disparities reflected in richer districts located on higher ground or away from industrial emissions. Atmospheres can threaten the social and economic viability of entire cities: rising levels of air pollution in China, for example, have even led local elites to seek out the 'leeward side of the earth' in less polluted metropolitan areas.[79] The interactions between air and corporeal vulnerability serve as a measure of social and political marginality.

For the anthropologist Tim Choy, in his study of Hong Kong, air serves as a 'heuristic' that connects 'many atmospheric experiences'. Choy suggests that 'air's substantiation' is presaged 'on acts of condensation' that bring the imperceptible into the empirical and discursive realm.[80] For Choy, urban atmospheres encompass the bio-physical dimensions of air as a 'medical fact', the experiential field of 'bodily engagement', the use of air as a marker or 'constellation of difference', and the ways that specific characteristics of air are incorporated into an 'index of international comparison' through distinct histories of measurement and standardization.[81] The emergence of atmospheric politics is related to the need for 'replicative governmentalities' encompassing fields such as the production of comparable and reliable data, the establishment of atmospheric norms adopted for interior spaces, and the changing intersections between infrastructure and perception related to different modes of movement and forms of sensory enframement. Choy explores how the geographies of air reflect 'the dialectics of air and capital'.[82] The interactions between air and socio-spatial difference show how 'air spaces have been constituted in part by the racialized and classed bodies that live, work, and play in them'.[83] The socially differentiated experience of air builds on the types of atmospheric stereotypes that inhere in 'colonial poetics of difference' and forms of bodily differentiation.[84] Air permeates colonial discourses of 'scientific racism' and the putative thresholds of human tolerance that emerged under the environmental contradictions of modernity.

The recognition of 'bad atmospheres' constitutes more than just an epidemiological threat to human wellbeing. The presence of 'threatening atmospheres' connects with the affective potentialities of incipient violence. Certain hatreds such as racism or misogyny can lie dormant ready

to reveal themselves in precise moments or situations. As the Nigerian-American writer Teju Cole notes:

> American racism has many moving parts, and has had enough centuries in which to evolve an impressive camouflage. It can hoard its malice in great stillness for a long time, all the while pretending to look the other way. Like misogyny, it is atmospheric. You don't see it at first. But understanding comes.[85]

Open displays of phenomena such as racism or homophobia emerge from latent fields of exclusion and differentiation. Yet the historical record warns against simplistic socio-economic correlations with crowd violence or narrowly framed psychological explanations for social behaviour.[86] The dynamics of hate point to more complex sets of relationships that might underpin processes of chemical entrainment that facilitate affective atmospheres of violence.[87] The presence of hidden olfactory accelerators serves to intensify the corporeal dynamics of crowds. In this sense, people themselves form part of the human environment through their mutually reinforcing endocrinology. In extreme cases, under fascist ideology, we encounter a 'corporeal ontology' that rests on violent forms of social differentiation so that the staging of rallies or other events can generate its own kind of corporeal agency that finds an echo in the social realm.[88]

The affective realm of late capital

Urban space is a stage that can be modified at will through light, sound, or other stimuli, as evidenced by the history of architecture and urban design.[89] The interior layout of buildings such as cinemas, theatres, or concert halls has been oriented towards the production of heightened forms of collective sensory experience. Architects, engineers, set designers, and others have laboured over the sound absorbent qualities of walls or the precise effects created by elaborate lighting installations. As for exterior spaces – the atmospheric outside – we encounter further examples of the moulding of space to engender particular kinds of aesthetic experience such as the elaborate design of sports stadia, for example, or elevated parkways that speak to an earlier conception of technological exhilaration. The intersections between architecture, engineering, and the sensory realm of modernity are all around us yet the precise articulation between individual and collective forms of corporeal experience remains ill defined. How, in other words, do the aesthetic characteristics of space intersect with the affective contrast between individual and collective forms of sensory enframement? Are we dealing, in the final instance, with fundamentally different categories of aesthetic experience?

The architectonic dimensions to atmospheres are explored from a phenomenological perspective by Jürgen Hasse, as part of his wider project to apply the 'new phenomenology' to the understanding of urban space. 'Atmospheres and feelings are not characteristics of specific things' writes Hasse but originate 'in a spontaneous-affective realm of grounded sensation' that lies outside of the individual human subject.[90] Of particular interest to Hasse is the role of light in producing a variety of urban atmospheres: the affective power of light is reflected in a range of sensory experiences including the incorporation of natural light into architectural form and the increasing popularity of light festivals.[91] Although Hasse explores the affective and symbolic power of light (and lighting design) he does not extend his analysis to the politics of light infrastructure itself. His conceptual vantage point is rooted in the phenomenology of urban atmospheres rather than the production of urban space. If we consider the politics of urban atmospheres we must contend not just with the aesthetic characteristics of space but with a welter of historically constituted cultural and socio-technological constellations. In the case of light the removal or replacement of specific types of luminaires can provoke cultural and political concerns with the loss of distinctive urban

atmospheres. In Berlin, for example, grassroots organizations have emerged over the last decade to protect the largest remaining gas lighting network in Europe. These protests have risen in opposition to the replacement of gaslight by brighter LED technologies associated with the techno-managerial reach of privatized energy provision and unaccountable forms of 'urban maintenance'.[92] We can argue that the varied properties of light, and its affective realm, can serve as the focal point for specific kinds of cultural and political mobilization. Similarly, in Hong Kong, there have been attempts to save the multi-coloured array of hand-crafted neon lights, dating from the late 1950s, and immortalized in the cinema of Wong Kar-Wai, from their replacement with mass produced functional lighting.[93] In both these cases, we can discern a politics of urban atmospheres that is rooted in a kind of place-bound technological nostalgia. Yet the intricate world of neon signage has always held an ambivalent relationship with the flattening landscapes of modernity. In mid-century literary evocations such as Nelson Algren and Eileen Chang, the subdued glow of neon lighting serves as a visual counterpart to urban anomie.[94] The allure of neon, along with its intricate variety, became a distinctive element in the development of 20th-century consumer culture. 'What, in the end,' asks Walter Benjamin, 'makes advertisements so superior to criticism? Not what the moving red neon sign says – but the fiery pool reflecting it in the asphalt'.[95]

Light can also be deployed to delineate the contours of collective memory. The twenty-fifth anniversary of the fall of the Berlin Wall in 2014 was marked by an elaborate installation entitled *Lichtgrenze* (light border) involving thousands of illuminated white balloons to mark the former boundaries of the divided city. This striking spectacle transformed over 15 kilometres of the former 'death strip' into an irradiated pathway through the city (see Figure 4). The temporary use of light to create festive or contemplative atmospheres is now a widespread phenomenon and rests on an aesthetic de-familiarization of urban space: the navigational and perceptual possibilities of the city are altered to produce novel kinds of urban atmospheres.[96] The illuminated landscapes of modernity can also engender a sense of exhilaration, aesthetic estrangement, or overwhelming complexity. Consider the multiple streams of car headlights that fill the Toronto freeway system at night in David Cronenberg's cinematic adaptation of the J.G. Ballard novel *Crash*, first published in 1973, or the prescient opening panorama of a futuristic Los Angeles in Ridley Scott's *Blade Runner* (1982), with its towering illuminated screens, gas flares, and intimations of the endless city stretching beyond the horizon. If late modernity can be conceived as a kind of spatio-temporal sensory overload then light forms an integral part of this intensifying affective realm.

The idea of 'sensory overload' has its own precise chronology in relation to socio-technological transformations of urban space. The increasing scale and intensity of artificial light from the late 19th century onwards began to provoke concerns with nervous overstimulation. New disorders associated with urban space such as neurasthenia provoked tensions between societal, somatic, or psychological modes of explanation for susceptibility to nervous illness.[97] The impetus of modernity, its perceived risks, and its illuminated landscapes have engendered contradictory discourses of intervention and rationalization. Above all, we find that there is an historiography to affective phenomena and emotional states, in terms of their varied taxonomies and wider imbrication with the unfolding experience of modernity, the modern metropolis, and the analytical and interpretative frameworks that have evolved alongside new understanding of the human subject.

The extension of artificial light, along with other technological networks, has enabled a steady transformation of the urban night under modernity.[98] Light enables the emergence of continuous forms of human activity to the extent that affective atmospheres of constant distraction – or 'stuplimity' to use Sianne Ngai's term – lie in tension with the circadian rhythms of the body.[99] Incessant illumination forms part of the metabolic contradictions of late capital through its pervasive

Figure 4. Berlin Lichtgrenze (2014). The light installation, devised by Christopher Bauder and Marc Bauder, retraces the former Berlin Wall to create an atmosphere of collective memory.
Source: Photo by Matthew Gandy.

disruption of rest and sleep.[100] We can argue that late modernity is marked by a distinctive ecology of light that is inseparable from the affective dynamics of capitalist urbanization.

Light is integral to the changing sensory characteristics of the contemporary city. The proliferation of illuminated billboards, including various types of urban screens, not only changes the scenography of urban space but also presages increased levels of technological control over society along with the development of algorithmic modes of governmentality. The city of illuminated surfaces marks the radical extension of rent in all its forms, as part of a proliferating landscape of consumption and distraction, in which the distinction between architecture and 'non-architecture' is extensively blurred. The emergence of 'screen landscapes' is not only an aesthetic counterpart to late capital but also alters the 'cognitive mapping' of urban space.[101] Changing patterns of artificial illumination interface with multiple forms of subjectivities, both single and multiple, and extend to the more-than-human realm. In this sense, an atmosphere can be invoked as a kind of complex yet ever changing totality that is rooted in material forces yet connected with different forms of consciousness and experience.

Conclusions

Interest in atmospheres of various kinds has become more significant in recent years, ranging from Spinozist emphasis on affective capacities to emerging forms of atmospheric politics. Underlying this shifting set of intellectual preoccupations has been a degree of dissatisfaction since the 1990s with more disembodied or constructivist modes of theorization.[102] If we can speak of an 'atmospheric turn' à la Soentgen, this has clearly emerged in parallel with growing interest in 'affective atmospheres', the rise of the 'new phenomenology', the appearance of 'new materialisms', and a host of other theoretical constellations that share an interest in complex entanglements between space and subjectivity.

Urban atmospheres cut across strikingly diverse ontological realms. The complexity of atmospheres is not just a matter of scale, or of specific material or psychological manifestations, but also one of conceptual resonance and different modes of interpretation. Atmospheres are marked by shifting geometries of perception ranging from the sensory characteristics of direct corporeal experience to the 'manipulated atmospheres' of music festivals, shopping malls, or street lighting. But what does an expanded conception of atmospheres bring to our understanding of urban space? Could we argue that atmospheric taxonomies have become too capacious to be of analytical utility?

One of the difficulties with the way the term 'atmosphere' has been adopted, especially within Anglo-American cultural geography, is the lack of robust historiographies. We encounter fleeting references to the 'new phenomenology', and in particular the work of Gernot Böhme, but with little sense of the context or wider resonance for these philosophical developments. Similarly, recent interest in the work of Peter Sloterdijk, and especially his spheres trilogy, masks the fact that not only has this work just recently been fully translated into English but it has also evolved in a distinctively conservative intellectual context.[103] The wider availability of works in translation does not necessarily resolve these uncertainties so that in some cases it would be sensible to acknowledge a nexus of interpretations spanning dominant interlocutors for the original sources. Our understanding of Spinoza, for example, whose work underpins much contemporary discussion of affect, is heavily influenced by the earlier readings of Bergson and especially Deleuze, so that anomalies or uncertainties in intellectual history can be magnified across successively wider interdisciplinary and linguistic fields. In such circumstances, a reductive simplification, or even a misreading, can easily occur. Also lacking in recent discussions is a consideration of the historiography of the concept of affect itself, and in particular its relationship to the history of 'negative affects' or

neurological disturbances, along with the specific entanglements of affect with modernity and the production of urban space.[104] In addition to linguistic or hermeneutic uncertainties we must also contend with the nature of scientific models, especially those derived from neurobiology, that have recently infused cultural theory, so that various forms of linguistic and epistemological 'mis-translation' can proliferate.[105]

The intensity of affective atmospheres, and their socio-spatial capacities, moves our focus from the bounded human subject towards more porous forms of urban sentience. We contend with shifting constellations of affective subjectivities moving between the single and the multiple, and from the human to other forms of life and materiality. 'At the heart of this retooling of seventeenth-century metaphysics,' writes the cultural critic Alberto Toscano, 'is the liquidation of the "Cartesian" bourgeois-individual subject which supposedly animated the humanist visions of French phenomenology and existentialism'.[106] Yet the 'new phenomenology', that has been so influential in recent discussion about affective atmospheres, does not make this intellectual manoeuvre. The *leiblich* or 'felt' body is seemingly devoid of gender or any other kind of social difference, or indeed any clear sense of historical or geographical context beyond the confines of the (late) modern European city (for which Frankfurt adopts a degree of metonymic significance).

Atmospheres unsettle the putative 'hierarchy of the senses' that evolved under modernity and the 'objective' status of visual perception.[107] Indeed, the 'new phenomenology' literature places particular emphasis on the olfactory realm along with synesthetic experience. Yet it would be misleading to draw too schematic a distinction between the role of the senses before and after the Enlightenment since a distrust in vision alone forms a recurring element in aesthetic discourse from at least the late 18th century onwards with emerging interest in darkness, the sublime, and different forms of heightened sensory awareness under European romanticisms.[108]

Can we conceive of a multiplicity of subjectivities within a single body? Is there an 'auditory self", an 'olfactory self', and a series of other selves that can comprise a more elaborate conception of the human subject? Do these co-existing subjectivities operate differently at individual and multiple scales? And what if we were to extend these multi-sensory atmospheres to encompass the multi-species or more-than-human realm? Consider, for example, the experience of urban twilight (*Dämmerung*) that has been a focus of interest in the phenomenological literature: this is not only an interplay between different light sources but also extends to the crepuscular calls of birds, the swooping of bats, and the evening fragrance of flowers awaiting their pollinators.[109]

Does an emphasis on atmospheres offer fundamentally new insights or merely a semantic shift? How does contemporary interest in atmospheres relate to existing strands of cultural history such as Alain Corbin's study of the olfactory realm, Georg Simmel's concern with sensory overloads, or Carl Schorske's account of the cultural contortions of fin-de-siècle Vienna? By naming affective atmospheres do we refer to what is already there or bring phenomena into existence through a neo-nominalist sleight of hand? Although Thomas Baldwin's aeronautical experiments are not named as an encounter with 'affective atmospheres' in their own time they are nonetheless illustrative of more recent conceptual reflections on the topic. In contrast, we might speculate that the naming of affective states such as 19th-century ennui or 20th-century neurasthenia might contribute towards bringing these states-of-mind into being. At the very least we would need a more nuanced history of the body and the changing sensory realm of modernity to address these questions.[110]

There are clearly different forms and scales of atmospheric politics. Is the shift towards the flickering city of screens inevitable? Is the increasing prevalence of particulate pollution uncontrollable? Is the acoustic reach of infrastructure networks uncontainable? And what of atmospheres of incipient violence? The attempt to control atmospheres has many facets ranging across perceptible and imperceptible realms, from the fragmentary reification of individual experience to

attempts at creating forms of standardization or shared understanding. Urban atmospheres encompass mundane interventions such as the dimming of lights as well as threats of violence or impending meteorological events.

Acknowledgements

Funding

Notes

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2. J.Hasse, *Atmosphären der Stadt* (Berlin: Jovis Publishers, 2012), p. 177. My translation.
3. The discussion took place in response to a paper presented by Sara Fregonese at the John Harvard Symposium entitled 'Topographies of Citizenship' hosted by CRASSH (Cambridge Centre for Research in the Arts, Social Sciences and Humanities) at the University of Cambridge, 4–5 February 2016. See S.Fregonese, 'Affective Atmospheres, Urban Geo-Politics, and Conflict (De)escalation in Beirut', *Political Geography*, 61, 2007, pp. 1–10.
4. Cited in T.Griffero, *Atmospheres: Aesthetics of Emotional Spaces*, trans. S.de Sanctis (Surrey: Ashgate, 2014 [2010]), p. 3. See J.Soentgen, *Die verdeckte Wirklichkeit. Einführung in die Neue Phänomenologie des Hermann Schmitz* (Bonn: Bouvier, 1998).
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14. McCormack, 'Engineering Affective Atmospheres', p. 427. See also T.Ingold, 'Rethinking the Animate, Re-Animating Thought', *Ethnos*, 71, 2006, pp. 9–20.
15. T.Ingold, 'Footprints through the Weather-World: Walking, Breathing, Knowing', *Journal of the Royal Anthropological Institute*, 16, 2010, pp. 121–139.
16. See P.Adey, *Air* (London: Reaktion, 2014); J.F.Harrison, A.Kaiser and J.M.VandenBrooks, 'Atmospheric Oxygen Level and the Evolution of Insect Body Size', *Proceedings of the Royal Society B: Biological Sciences*, 277, 2010, pp. 1937–1946.

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19. See in particular T.Brennan, *The Transmission of Affect* (Ithaca: Cornell University Press, 2004), p. 18.

20. See, for example, B.Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham: Duke University Press, 2002); K.Stewart, *Ordinary Affects* (Durham, London: Duke University Press, 2007); N.Thrift, *Non-Representational Theory. Space, Politics, Affect* (London: Routledge, 2008).

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27. Anderson, 'Affective Atmospheres', p. 79.

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32. Anderson, 'Affective Atmospheres', p. 77.

33. Anderson, 'Affective Atmospheres', p. 80.

34. F.Jameson, *The Antinomies of Realism* (London: Verso, 2013), p. 32. See also R.Terada, *Feeling in Theory: Emotion after the 'Death of the Subject* (Cambridge: Harvard University Press, 2001).

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48. Brennan, *The Transmission of Affect*, pp. 49, 52.

49. Brennan, *The Transmission of Affect*, p. 1.

50. Brennan, *The Transmission of Affect*, p. 2.

51. Brennan, *The Transmission of Affect*, p. 3.

52. See, for example, H.Schmitz, *Neue Phänomenologie* (Bonn, 1980); Soentgen, *Die verdeckte Wirklichkeit*; H.Tellenbach, *Geschmack und Atmosphäre* (Salzburg: Müller, 1968). Other related texts on atmospheres in a German context include M.Hauskeller, *Atmosphären erleben. Philosophische Untersuchungen zur Sinneswahrnehmung* (Berlin: Akademie Verlag, 1995); E.Ströker, *Philosophische Untersuchungen zum Raum* (Frankfurt am Main: Klostermann, 1977).

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101. The question emerged in a discussion following the seminar given by A.Blackhurst, 'What's Cinema Got to Do with It? New Filmic Modes in Chantal Akerman and Agnès Varda', King's College, Cambridge, 18 October 2016.

102. See D.Coole and S.Frost (eds.), *New Materialisms: Ontology, Agency, and Politics* (Durham: Duke University Press, 2010).

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104. For a significant exception see F.Jameson, *Antinomies of Realism* (London: Verso, 2013).

105. C.Papoulias and F.Callard, 'Biology's Gift: Interrogating the Turn to Affect', *Body & Society*, 16(1), 2010, p. 48.

106. A.Toscano, 'A Structuralism of Feeling?' *New Left Review*, 97, 2016, p. 78.

107. Brennan, *The Transmission of Affect*, p. 17.

108. See, for example, M.Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press, 1993).

109. See G.Böhme, 'Dämmerung als Atmosphäre' *Die Alte Stadt: Vierteljahreszeitschrift für Stadtgeschichte, Stadtsoziologie, Denkmalpflege und Stadtentwicklung*, 34(1), 2007, pp. 45–54.

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