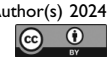
*Original Research Article*

Progress in Environmental Geography
2025, Vol. 4(1) 3–23



DOI: 10.1177/27539687241307956
journals.sagepub.com/home/peg


# Moldy homes: Toxicity, race, and the geographies of domestic mold

**Elara Shurety**
Department of Geography, King's College London, London, UK

**Abstract**

Situating household mold within a growing body of critical geography concerned with toxicity and exposures, this paper interrogates the racial logics and temporal dynamics of "toxic" mold. Responding to heightened public interest and governmental intervention in mold in the United Kingdom in recent years, this paper addresses the underexamination of mold in both housing and toxic geography scholarship. The "contemporary mold crisis" is located against a longer international history of toxic mold exposure, revealing toxicity as a multivalent designation through which certain homes, spaces, and bodies are rendered *as* toxic more readily than others. This paper argues that attuning closely to the materialities of dwelling conditions can produce generative and highly precise work through which one can attain a better understanding of modalities of violence and harm in a housing context. In parallel, it demonstrates the political value of attending to a "mundane" and "banal" toxin such as mold in geography.

**Keywords**

mold, housing, toxicity, violence, temporality, race

## Introduction

On the 21st of December 2020, two-year-old Awaab Ishak died after going into respiratory distress. Awaab lived with his parents in a one-bedroom flat on the Freehold estate in Rochdale, Greater Manchester, later deemed "unfit for human inhabitation" due to its extensive mold problem (Topping 2022). The social housing provider which owned the property had been made aware of the mold in 2017—a year before Awaab's birth—but had taken no action to treat it. In November 2022, the Senior Coroner of Manchester North concluded that Awaab died from prolonged mold exposure (Kearsley 2022). Rapidly, a wide range of sources—including popular media outlets, academic publications, and reports issued by governmental and political bodies—reported the death as specifically due to "toxic" or "black toxic" mold (eClinicalMedicine 2022; Nickalls 2022; Southwell 2022; Wall and Das 2022; Sealey 2023; Sigodo 2023). These additional descriptors, however, were never named in the Coroner's report or outputs from official proceedings.

In the United Kingdom, concern about household mold, including "toxic mold," has grown in recent years, reflected in rapidly developing political debate and intervention (Bonderup and Middlemiss 2023). Most notably, Awaab's

**Corresponding author:**
Elara Shurety, Department of Geography, King's College London, Bush House, 30 Aldwych, London, WC2B 4BG, UK.
Email: elara.shurety@kcl.ac.uk

death led to the creation of *Awaab's Law*, introducing time limits for social housing providers to remedy reported mold, which passed as an Act of Parliament in July 2023 and was announced would be extended to private renters in the new Labor Government's first King's Speech in July 2024 (Robathan 2024). Household mold, however, is a global phenomenon, reported across all climate zones, housing types, in the rural and urban, and the Global South and Global North (Coulburn and Miller 2022). Mold has hence been identified as a housing hazard in many countries, with concern heightened amidst the 2021–2023 global energy crisis, when rising fuel costs left many unable to heat their homes adequately, increasing vulnerability to mold exposure (Brooks et al. 2023; Champagne et al. 2023; Thorn and Cook 2023). Nevertheless, mold is not indiscriminate; exposure to household mold has been repeatedly shown to be a racialized and classed issue, shaped by factors such as household income, housing tenure, and race/ethnicity (Ellaway and Macintyre 1998; Howden-Chapman et al. 2005; Russell et al. 2019). Despite this, mold has rarely been foregrounded within geographical studies of housing: some academic engagements have delved into mold's multiple geographies (Mee et al. 2014; Tammi 2020; Serjeant, Kearns and Coleman 2021; Serjeant, Coleman and Kearns 2022; Bonderup and Middlemiss 2023; Kane 2023), but most geographic research mentioning mold does so only peripherally.

This agenda-setting review paper places household mold—as an "emergent" domestic hazard—in conversation with a broader body of work on toxic geographies. It does this, noting that toxicity has gained some prominence within geography but remains understudied in relation to housing and health (Chng, Reades and Hubbard 2024). Geographical literatures on toxicity have tended to focus on sites of exposure associated with the activities of the petrochemical, extractive, waste, and nuclear industries (Davies 2018, 2022; Senanayake 2020; Kaur 2021; Bickerstaff 2022; Feltrin, Mah and Brown 2022; Roberts et al. 2024). While such locations incur heightened, above "average," levels of exposure for their surrounding inhabitants, researchers have also highlighted the everyday, mundane, and sometimes banal nature of toxicity occurring below thresholds of visibility (Landa 2016; Davies 2018, 2022). This paper follows in this tradition by exploring the thoroughly quotidian and ordinary "toxicity" of household mold. In doing so, it switches focus away from "toxicants"—substances and materials produced by or circulated through anthropogenic activities (Liboiron, Tironi and Calvillo 2018)—to naturally occurring "toxins" produced by living cells or organisms.[1] This highlights the complex dynamics of "toxic agency" in relation to non-human natures, which have largely been examined as victims of toxic harm or contaminated hosts (Turnbull 2020; Liboiron 2021; Marquardt 2022).

The second section of this paper hence begins by situating "toxic" household mold in relation to an overview of developments in policy, media exposure, and public awareness. In doing so, it demonstrates how household mold has come to be understood as a toxic threat, clarifying its position in relation to the broader scholarship on toxic geographies. The remainder of this paper identifies prominent concerns within geographies of toxicity and interrogates them in respect to household mold. The third section draws on previous work on toxic geographies that have taken (slow) temporalities—particularly concepts of "slow violence" (Nixon 2011) and "slow death" (Berlant 2007)—as a productive line of enquiry (Davies 2018; Senanayake 2020; O'Lear 2021; Dewan and Sibilia 2024; Jha 2023). In doing so, it first addresses the politics of (in)visibility of household mold, noting the tension between spectacular and mundane forms of violence, and then moves to the spatial and temporal displacement of harm and violence in relation to

popular framings of mold as a "crisis" or "epidemic." In the fourth section, a closer examination of the racial politics of toxic mold is provided. Here the paper explores how race intersects with the experiences of exposure to toxic mold, building from work that has underscored the environmental racism baked into toxic geographies (Davies 2018) and the racialization of (black) toxic mold itself. Through this centering of racial politics, this paper pushes against more mainstream framings that "de-race the violence" in cases of housing unsafety (Danewid 2020, 295).

By placing household mold in conversation with the literature on toxic geographies, this paper makes two interrelated contributions. Firstly, it proposes that reading mold through toxic geographies, or reading mold-as-toxic, can tease out the temporal, spatial, and racial dynamics of a common housing hazard. In parallel, it argues that attending to often overlooked, mundane "toxins," such as mold, can draw to the fore often implicit tensions underscoring the notion of "toxicity" as well as create new political openings for consideration for those interested in toxic geographies. Together, by examining "toxic mold" both as a material phenomenon and object of discourse, this paper argues geographers need to attend to the precise "matter" of housing and toxicity. In doing so, it notes the growing interest in both mold and toxicity in geography, offering a critical review of existing work concerning toxicity and housing, and synthesizing these two largely separate bodies of work. Although the focus here is on contemporary UK housing, it also engages with research on moldy and toxic geographies more globally. The United States is prominent here given the nation's well-documented engagement with the topic of toxic mold and the influence this has had in framing toxic mold internationally.

## Situating toxic mold

While mold is often mentioned by housing scholars or geographers in work that highlights poor living conditions, this is often cursory, with mold listed amongst other markers of poor housing—such as pests, overcrowding, or inadequate temperature control. For instance, a study on the stigmatization of two Glasgow housing estates identified problems "associated with high-rise flats," including mold, in almost half of all negative news articles about the estates across a 14-year period (Kearns, Kearns and Lawson 2013, 590). In Watt's (2021, 373) work on estate regeneration, mold is indicative of deteriorating conditions alongside "the mice and the rats and the damp and the dust." Similarly, Pain (2019, 393) highlights mold as one of the "deteriorating, proliferating ecologies […] essential to the process of managed decline." Mold has further featured in qualitative household research, for instance, on occupant practices, attitudes and beliefs relating to their experiences of indoor weather (Serjeant, Kearns and Coleman 2021; Serjeant, Coleman and Kearns 2022), dampness (Blay, Agyekum and Opoku 2019) and energy vulnerability (Butler and Sherriff 2017).

This at times more perfunctorily engagement with household mold, especially within the UK context, is perhaps unsurprising. Cases such as Awaab Ishak's have ushered mold into the spotlight, alongside prominent reporting such the catalyzing 2021 documentary *Surviving Squalor: Britain's Housing Shame*, which received the "biggest response ITV News had had to a home story in a generation" (Levelling Up Housing and Communities Committee 2022, 7). Yet prior to this, mold and its toxic potential were largely peripheral topics in the United Kingdom. Illustratively, research conducted in 2017–2018 revealed while mold was a common part of everyday life in England, it was viewed as a low risk in contrast to other housing hazards and relative to international comparators —though the authors acknowledge a marked rise in interest in it between the time of field research and the paper's publication (Bonderup and Middlemiss 2023).

However, some notable work has brought mold to the fore and approached it as an object of geographical study, in line with Pain's (2019: 395) assertion that the material fabric of places is "not simply the backdrop." Work by Kane (2023) examines mold in contemporary Scotland, advancing the argument that mold is one way people encounter the austere political violence of the housing crisis. Kane locates the violence of mold in its *uncanniness*—the intrusion of that which is "out there" into the home (5). Likewise, the political ecology framing of mold in Australia offered by Mee et al. (2014) focuses on the feelings of discomfort provoked by mold as a manifestation of "troublesome water," the intrusion of which disrupts our sense of home-as-boundary—"a place liberated from fear and anxiety, a place supposedly untouched by social, political, and natural processes" (Kaika 2005, 372). In this respect, both engage with household mold as problematic due to its "out-of-place" manifestation (Douglas 1966): something *where it should not be*.

## Why "toxic" mold?

While the previous discussion points to a growing engagement with household mold, the issue of its toxicity has received less attention. That is not to say existing work is incompatible or oppositional to reading mold toxically. In fact, Kane (2023) notably interpolates Davies' (2022) work on toxic geographies and his adoption of the idea of "slow violence" (Nixon 2011), when suggesting that the decaying materialities of austere housing conditions erode homely borders. As such, research highlighting the ambivalent relationship between boundaries, permeability, and porosity in relation to toxic landscapes (Roberts 2017) can help enhance readings of mold as an "out-of-place" intruder that disturbs domestic borders, in a similar vein to that shown in work concerning insects and toxic pesticides in domestic ecologies (Biehler 2009). However, there is great value in strengthening this link between toxic geographies and household mold in order to more robustly unpack the complexities of toxic mold exposures.

But what exactly is toxic about mold? Notably, the seemingly broad phrase "toxic mold" often refers to the species *Stachybotrys chartarum*, also known as "black mold" or "toxic black mold." *S. chartarum* is a fungus with a proclivity for cellulose-rich building materials and a notoriety for its toxigenic potential; though it is not the most common household mold, it is certainly one of the most feared (Hyde et al. 2018). This popular conception be traced back to the hospitalization of 10 black infants with idiopathic pulmonary hemorrhage (IPH) in Cleveland, Ohio, 1993–1994. Given the typical rarity of IPH, the hospital began a case-control study in response to this unexplained cluster, acting with regional and national public health officials. Three years later, the first publications on the IPH cluster highlighted the IPH infants' water-damaged homes as a primary environmental risk factor, noting high levels of *S. chartarum* within them (Centers for Disease Control and Prevention 1997; Montaña et al. 1997). After this, toxic mold "took on a life of its own" (Chang and Gershwin 2019, 449). Media stories and lawsuits entered "a logarithmic phase of multiplication"—in the case of one Texan insurance company, mold claims rose from 12 in 1999 to 10,000 in 2001 (Money 2004, 5).

Following the IPH cases, interest grew in other common indoor molds and their mycotoxin production, such as those in the *Aspergillus* genus (Nielsen 2003). This raised the profile of toxic household mold in the United States, mirroring wider anxieties among the white and middle class about the "toxicity of everyday life" (Gabrielson 2016, 85). Here, toxic threats were presented as an omnipresent reality of contemporary living—no longer confined to certain areas or

communities: "anyone" could become a victim of toxic exposure, not just the poor and racialized. Beyond the United States, the indoor lifestyles of many continue to drive attention toward indoor atmospheres and pollution (Garnett 2020; Tammi 2020). Mycotoxin and mold exposure were increasingly associated with a variety of toxic and non-toxic health effects—from the contested "toxic mold syndrome" or "mold injury" (Seppälä, Finell and Kaikkonen 2022) to asthma exacerbation (May, McGilligan and Ucci 2019). Household mold, therefore, emerged as a potential (toxic) threat in a world that, for many, seemed and was increasingly toxic and increasingly indoors.

However, it should be noted that the "toxicity" of mold remains controversial and is subject to ongoing debate in medio-scientific fields. Not more than a few years after *S. chartarum* had been implicated in morbidity was it called into question: in 1999, the Center for Disease Control published a review which called their initial study flawed on multiple levels, stating that "associations should be considered not proven" (Centers for Disease Control and Prevention 2000). Since then, researchers have criticized the ongoing proposition that inhaled mycotoxins in homes, schools, and offices adversely impact human health as unproven or resting on insufficient and low-quality data (Chapman et al. 2003; Hardin, Kelman and Saxon 2003; Miller, Rand and Jarvis 2003; Bush et al. 2006; Githang'a et al. 2019), including by the World Health Organization, who characterized the evidence base as "extremely weak" (Heseltine and Rosen 2009, 81). Toxic mold syndrome has been subject to distinct scrutiny, with some dubbing the phenomenon as "junk science," highlighting the prevalence of disreputable labs charging high fees to patients in the absence of an ordering physician, and the illogical use of anti-fungal medications for mycotoxicosis (Borchers et al. 2017; Chang and Gershwin 2019).[2]

The idea that mold might not be toxic may at first seem contradictory, not least because there is both consensus that many indoor molds harm human health and acknowledgment that many such molds, including *S. chartarum*, produce mycotoxins. To briefly unpack this, it is important to clarify that not all harm is necessarily due to toxicity. Pollen, dust mites, and the common cold harm the health of many, but through allergenic, irritant, and infectious processes. Likewise, molds can cause harm through infections and allergies without this being through toxicity. Secondly, variability of dose and mode of exposure are core tenets in understanding and determining toxicity. Epidemiological and environmental health research has shown that, through inhalation, concentrations of "toxic mold" at a level where they become toxic to human health are extremely unlikely even in severely contaminated buildings (ACOEM Council on Scientific Affairs 2002; Terr 2009), with one significant systemic review demonstrating that airborne mycotoxins were below the "concentration of no toxicological concern" in the indoor built environment—the level that would produce no hazard if someone was exposed continuously throughout a 70-year lifetime (Hardin et al. 2009).

These two observations begin to demonstrate that something can be considered both harmful and produce toxins without necessarily being helpfully thought of as *toxic* in many settings and contexts. Toxicology has increasingly prioritized the *interaction* between the toxic substance and exposed organism concurrent with a shift from viewing toxicity as a *property* toward it being considered an outcome of said interaction (Mückter 2003). This sentiment also underscores approaches to toxicity within the social sciences. These remind us that toxicity is already and always an inherently relational category (Nash 2006; Chen 2012; Theriault and Kang 2021); rather than naturally predetermined, it is "stimulated, constructed, rehearsed and contested through a myriad set of social, epistemological,

historical, economic, material, biological and governance systems and structures" (Liboiron, Tironi and Calvillo 2018, 334).

There do exist, in comparison to the above, some researchers and practitioners who continue to support the proposition that molds harm human health toxically (Gutarowska, Sulyok and Krska 2010; Janik et al. 2020), and others who foreground the uncertainty surrounding the issue. However, the popular notion of mold *as toxic* persists without qualification or caveat. In some localities, this framing has become more prominent over time, despite a scientific field which, while polarized, increasingly casts doubt on the toxic mold panic of the 1990s and early 2000s. In the United Kingdom, while mold's allergic, irritant, and infectious risks have long been recognized (May, McGilligan and Ucci 2019), and concern about toxicity has been dismissed by previous Governments (Kidd et al. 2010), the most recent official guidance puts toxin production on equal footing with other risks to human health (Ministry of Housing Communities & Local Government, Department of Health & Social Care and UK Health Security Agency 2024). In this respect, it seems that the "toxic" label is hard to shake when it comes to mold. As illustrated in the case of Awaab Ishak's death, the idea of the "toxic" is readily attached to the popular understanding of (harmful) indoor mold, even without confirmation of it.

This uneasiness around whether mold is "truly" toxic, combined with the relatively recent identification of it as a potential toxic threat (outside of the United States), is a potential reason for the more general focus on "mold" rather than "toxic mold" in the social sciences, despite the popular prominence of the latter term. However, this uncertainty provides scope for engagement with work that has foregrounded the contested, unsettled nature of toxicity itself (Murphy 2006), painting toxic geographies as "disputed and ambiguous spaces" (Davies 2022, 421). For instance, Tammi's (2020) research, which understands toxic molds as participants in more-than-human *agencements* in Finnish schools, highlights that toxic mold generates new uncertainties. Likewise, for Schemann (2020), formative modes of speculation, including technological apparatuses, function as attempts to fix mold's uncertainty. Drawing on such uncertainties, rather than blankly treating mold as toxic, is not so much a matter of accuracy but rather an attempt to embrace "toxicity" as a mode of thinking and being rather than as a fixed biological thing, serving as a reminder of its production via continual processes of (re)negotiation.

This instability is ripe terrain for unpacking both the harms of toxic mold both as a material phenomenon as an object of discourse. Rather than simply taking the idea of "toxic mold" as a neutral descriptor, by thinking through mold's toxicity, it is possible to map commonalities between seemingly quotidian and banal housing hazards and geographies of toxic wounding. Thinking about mold beyond just something many react to with emotive disgust, the broader social science literature on toxicity confronts a wider spectrum of vulnerability, framing "the slow brutalities of toxicity" as "the violence of "letting die" (Davies 2018, 1538). Thus, by placing mold in conversation with toxic geographies, mold comes to be positioned as political or sanctioned violence in relation to the urban poor, the racialized, and the marginalized—in short, all those made vulnerable through housing conditions. Meanwhile, mold as a subject matter pushes the commitment of toxic geographies further toward the mundane and provides a "natural" counterpart to think through the "quintessentially uncertain events" of exposures (Murphy 2006, 14).

## Slow and invisible? Unpacking the violence of household mold

Geography, specifically that engaging with toxicity, has demonstrated a mounting interest in

modalities of violence overlooked in part due to their slowness. The prominent work by Nixon (2011) characterizes "slow violence" through two key features: its relative invisibility and temporal and spatial dispersion. Given the typical insidious onset of mold and the material degradation of housing conditions more broadly, reading mold in relation to these concepts produces generative lines of thinking that push against popular framings of fast, spectacularized "crisis" and draw out the tensions generated by the mundane and the accretive.

## *Between the spectacular and the mundane: Viewing mold as violence*

For Nixon (2011: 2), the challenge of slow violence is the fact it is "not typically viewed as violence at all." Encompassing forms of violence and harm which build up slowly over time, slow violence is characterized as "spectacle-deficient" (46). Yet mold is not invisible. Unlike some toxins, which may hang in our atmosphere or water supply without registering sensorily, mold often eventually manifests visibly and olfactorily. In fact, it is mold's perceptibility that is a key source of harm and distress for many who live with it (Mee et al. 2014; Butler and Sherriff 2017; Tammi 2020; Serjeant, Coleman and Kearns 2022; Kane 2023).

Moreover, at points the violence of toxic mold can feel anything but spectacle-deficient. The devastating case of Awaab Ishak, highlighted at the start of this paper, is not anomalous. As shown by the National Child Mortality Database for England, in 2019/20, 123 of all 2,738 child deaths (1 in 20), had a reported housing issue on their records, with one of the most common issues recorded in the circumstances of death being damp and mold (Odd et al. 2021). The figures provided by this research are likely "the minimum number of deaths where these factors were present" (16). In New Zealand, it has been estimated addressing damp and moldy housing would result in an estimated 19% reduction annually in childhood admissions for acute respiratory infection (Ingham et al. 2019). Beyond this, moments of widespread media exposure and public intervention, as recently seen in the United Kingdom for example, further complicate this understanding of mold as "out-of-sight," or spectacle-deficient, revealing it as something which can, under the right conditions, become an "event."

However, these more notable moments and cases, which pull mold out of dark crevices and into the spotlight, run counter to the long, enduring toxic exposures many of its cohabitants have been and are subjected to. While mold may be something we can see and touch, it is also something rather ordinary, reducing the understanding of it *as violence*. Mold is something we are never without—even when not visible or otherwise sensorily perceptible. As one "mold injury" sufferer remarked, exasperated, on an Australian news broadcast, "there's mold on the International Space Station—you can't escape this" (SBS The Feed 2021); our very bodies remain "a vehicle for contamination, a vector for pollen, spores and mold" (Mbembe and Shread 2021, s59). This ubiquity dampens the urgency to address the harm of household mold and allows its slow accretive violence to ensue. Across multiple geographies there is an entrenched understanding that mold is not aberrational, but an unavoidable, even mundane, part of dwelling many are resigned to tolerating. Exemplifying this, research in New Zealand highlights the perception of enduring mold in rental accommodation as akin to a national rite of passage (Serjeant, Coleman and Kearns 2022).

Looking at slow violence as experienced by incarcerated mothers, mold has also been identified as a "hyper-visible" form of violence within the toxic environments of prison buildings (Fedock, Doria and Malcome 2024, 1074), rather than "out of sight." Instead, mundanity

becomes a driving factor in the persistence of such harm, alongside the discounting of witnesses. In a similar vein, Davies (2022) has problematized the relative invisibility that Nixon presents as central to slow violence, arguing it downplays observations made by frontline communities: instead Davies draws on the relationship between structural (Galtung 1969) and epistemic violence (Spivak 1988), to posit the slow violence of toxic geographies not as deficient of stories, but as beholding of stories *which do not count*. Following the idea that understandings of violence are "deeply shaped by gendered epistemologies and binary thinking," the manifestation of household mold—in the private sphere and often characterized as banal and everyday—further obscure it as violent (Christian and Dowler 2019, 1068). Exposure to toxic mold is, therefore, a form of violence that sits below the "threshold of acceptability" (Laing Ebbensgaard 2022, 14), something that certain populations can justifiably be subjected to, and whose accounts of harm from their mundane encounters with it are discountable.

While death and severe illness can transform mold exposure into an event that registers as violence, for the most part it has been allowed to wind on, unabated, as part of the everyday lives of many. The banal nature of mold therefore becomes a central facet of its capacity to harm, as in Berlant's (2007, 759) articulation of "slow death" as "often identified with the presentness of ordinariness itself, that domain of living on." While the literature on toxic exposures has a demonstrated interest in how toxicity can be masked as mundane, mold exemplifies this ordinary character, revealing the centrality of banality to the accretion of toxic landscapes.

## *The spatial and temporal displacement of harm*

Slow violence is gradual, attritional, not bound or easily traceable to a singular event. This slowness is relevant: a mold problem does not appear overnight. Instead, it develops over time, taking weeks of growth to become visible on a surface and often first appearing in "out-of-sight" locations, such as behind furniture, where it is comparatively undisturbed by sunlight and human activity. This gives rise to a heterogeneous temporality, in which mold both "slowly encroaches into the home" and seemingly (re)appears all at once (Kane 2023, 6). This aligns with work that reemphasizes the feminist geographical tradition preceding Nixon's ideas and proposes working against the binary of slow/fast violence to instead show it as operating as a single complex (Christian and Dowler 2019; Tyner 2020).

Yet despite this, the dominant framings of the "mold crisis" (Dodge 2020; McPhee 2022; Cuff 2023; Halliday 2023) and "mold epidemic" (Worsley 2018; Anderson 2022; Heath 2022; Spratt 2022; Stevens 2022; Haringey Council 2023, 1), suggest a rapidity to its manifestation, revealing the prominence of an "epidemiological imaginary" in popular discourse (Lavin and Russill 2010). For many, crisis is still understood as "an experience of temporary abnormality" (Vigh 2008, 7) and epidemic as a period of rapid increase—yet, conversely, toxic mold is both chronic and endemic. Though others have productively shown how victims of slow violence can concentrate protracted suffering into crises-like designations to demand action (Ahmann 2018), it is important to consider how those with more power might similarly mark something as a crisis, and therefore aberrational, to obfuscate longer stories of harm and causalities. While "crisis" has become a mainstay of housing discourses (Heslop and Ormerod 2020), attuning to slowness is necessary to recognize the long genealogies of contemporary crisis, situating them as chronic rather than temporary aberrations from an imagined stable normality (Pain 2019).

This perspective requires looking beyond contemporary snapshots toward housing

histories and investments in an extended time span. In the United Kingdom, evidence shows that disrepair has functioned as a tactic used by the state to displace social housing tenants in line with a neoliberal housing project characterized by financialization and privatization (Watt 2021). Under Thatcher's Conservative government, 1979–1990, extreme cuts to housing budgets served to incentivize Right to Buy and stock transfers, leaving an estimated £19bn maintenance backlog for social housing by 1997 (Hodkinson and Essen 2015). In parallel, others have shown that long-term ideologically driven neglect can generate permeability to both pests and toxic pesticides (Biehler 2009). In relation to cases like Awaab Ishak's, ideas of culpability then stretch far beyond the immediate, with toxic landscapes accumulating not just over years, but decades.

The slow cultivation of mold can also become a means to facilitate profits from the housing market. This should be of note to those working within the sub-discipline of toxic geographies, which have typically focused on human-made "toxicants" in part due to the presumed heavier political significance they have over naturally-occurring and generally smaller scale "toxins" (Liboiron, Tironi and Calvillo 2018). In work exploring racial capitalism in UK housing associations, researchers how properties are deliberately run-down to encourage the displacement of tenants and enable the subsequent sale of the property, providing a cash injection for housing associations "through an often racialized realization of a 'rent gap'" (Clare et al. 2022, 6). Following the revelations of *Surviving Squalor*, the Chair of the G15 group representing the UK's largest Housing Associations, framed severe, widespread mold on one estate in a context of needing to "encourage people to move" as part of its planned regeneration-by-demolition (Simpson 2021). The notion of providers deliberately running down estates to justify regeneration was also prominently discussed in a government inquiry focusing on severe damp and mold endemic in much social housing (Levelling Up Housing and Communities Committee 2022). Not limited to British social housing, research on private rentals in Albany Park, Chicago, shows disrepair and poor structural conditions function as "discrete yet accretive violence" aiming to displace low-income and racialized communities (Huq and Harwood 2019, 711). Further to this, it is also the *association* with decay that functions as epistemic violence foundational to the process of dispossession (Ferreri 2020, 1010)—warranting further empirical research is hence needed to draw out the potential relationship between household mold, the designation of certain types of homes as "toxic" and violent urban processes like dispossession. The above discussion, however, runs contrary to such implicit assumptions around the political work of toxins, demonstrating that, much like toxicants, they too can "produce 'invisible opportunities' for capital accumulation and other consolidations of power" (Ofrias 2017, 16).

Like many other toxic substances, mold's violence is not just dispersed temporally, but spatially, revealing a sense that the comfort of Western domesticity remains precarious to disruption from seemingly far-flung global events. In a Finnish context, Tammi (2020, 1329) names Western energy crises during the 1970s, resulting from the interruption of Middle Eastern oil exports amid the 1973 Arab-Israeli War, as a "crucial entrance point" for the contemporary mold problems in schools. Similarly, in the United States, the emergence of toxic mold and "Sick Building Syndrome" have both been tied the 1970s energy crises (Money 2004; Murphy 2006). In these instances, it is argued that an increase in indoor toxicity has resulted from widespread practices of "sealing" buildings (through improved double glazing and insulation) to reduce heating costs. This proposition that mold can be spurred by the "sealing in" of atmospheres troubles framings of it as an intrusion of the banished "outside" (Mee et al. 2014; Kane 2023). In this sense, these events reveal the

"interactive and entangled nature of domestic life and geopolitics, collapsing together the dualism often set up between small 'p' non-state politics (read: home) and big 'P' politics (read: geopolitics)" (Brickell 2012, 576).

Such international displacement of the causalities of toxic mold exposure is likely to be further catalyzed by anthropogenic climate change, both due to slower changes in local climates and weather patterns including increased rainfall and humidity, and with more frequent extreme weather events like hurricanes and flooding (Vardoulakis et al. 2015; Michaels 2017; Neumeister-Kemp, Kemp and Tijsen 2023). In the case of the latter, mold then manifests as an aftermath of a "hot" or "fast" event (Christian and Dowler 2019), where its long endurance again mirrors the slow toxic exposures of the poor and racialized. From New Orleans following Hurricane Katrina, 2005, where health complications due to toxic mold were dubbed the "Katrina Cough" (Franklin 2006, 191), to Houston following Hurricane Harvey: mold ultimately marks "the divide between the people who can afford to escape it and people for whom the storm doesn't end" (Hamblin 2017).

Mold is not *just*, then, a "newly emergent" materiality produced by austerity (Kane 2023, 1). Given toxicity demands geographers think porously—about the permeable edges of bodies, spaces, things—the "crises" of mold and housing are shown to be multiply constitutive of each other, as blurred and amorphous. In this context of slow crises, rather than resulting from a singular, bounded, "housing crisis," mold is one manifestation of exposure to a "state of injury" (Mbembe 2003, 21). We may think of mold as a continual process of being generated as a political or profit-driven accumulation and neglect, left unfettered in its spread and persistence in communities where "the premise of their disposability is already firmly entrenched" (Pain 2019, 394). This slow process of unabated exposure and re-exposure, and the gradual production of vulnerable geographies, operates to make those most vulnerable to mold akin to the "chemically wounded" (Shapiro 2015, 370) who "may never have the culprit of their injuries revealed or proven" (Davies 2022, 418).

## Black mold and black skin: Race and toxic mold

Scholarship on toxic environments has a long-standing engagement with environmental racism, including documenting the racially uneven impact of toxic exposure (Davies 2018, 2022; Hicken et al. 2021; Liboiron 2021; Mansfield 2022; Bruno 2024). Such work illustrates how the "racial condemnation" of "normal life" is "spatially evident in the sites of toxicity" (McKittrick 2013, 6). However, alongside attending to the racialized spatialization of toxic mold, this section examines the racialization of toxic mold itself with reference to Chen's (2012) work on toxic animacies. As such, the moldy racializations of bodies and locations and the ways in which they shift across time and context, reveal how "matter coheres onto the organization of existing mattering" (Waterton and Yusoff 2017, 5).

### *Racialized regimes of exposure to household mold*

Living with mold is often a highly racialized experience. In the United Kingdom, "mixed" or black Caribbean households were found to be over four times more likely to have damp and mold problems than white British households (Department for Levelling Up Housing and Communities 2020). Epidemiological research has further shown how Black, Asian, and Minority Ethnic (BAME) households are disproportionately *impacted* by damp and mold in terms of disease burdens due to the inequalities both in exposure to mold and in the underlying health conditions of black and minority ethnic groups (Clark et al. 2023; UK

Health Security Agency 2023). In the United States, racialized minorities have been shown to have higher rates of mold exposure than non-Latinx whites (Sun and Sundell 2011; Reponen et al. 2013). These racial disparities often persist even when factors like tenure type are accounted for. For instance, among private renters in New Zealand, 16.7% of those of European ethnicity live in homes with patches of mold larger than an A4 sheet of paper—the lowest rate amongst any ethnic group—compared with 33% of Māori and 41.8% of Pasifika renters (Statistics Tatauranga Aotearoa 2020).

The intersection between race and class in housing provision means that racialized people are more *likely* to live in homes made toxic by mold. However, it is also the case that residents often face racial discrimination when seeking remediation (Levelling Up Housing and Communities Committee 2022). The inquest into Awaab Ishak's death revealed that Rochdale Boroughwide Housing had blamed the mold on presumed "lifestyle choices" of his parents, who came to the United Kingdom from Sudan as asylum seekers in 2015, which staff assumed involved "ritual bathing" (Cuffe 2023). In an ITV report, one tenant spoke of receiving a "better response" from his housing provider when using only his surname, a choice he made due to the suspicion that his first name, Leroy, identified him as black and therefore as a person they "don't want to deal with" (Hewitt 2021). While anecdotal, these accounts align with research showing that BAME residents on London council estates perceived there to be a "racialization of space which blamed them for the conditions" (Lees and Hubbard 2022, 353). Similarly, research on toxic mold exposure in the First Nations Haisla community in British Columbia, Canada, shows the pervasive blaming of local cultures and practices "effectively obscures systemic and distal drivers of poor health, thereby rendering marginalized groups as the authors and not the victims of population health inequities" (Stephenson and Stephenson 2016, 303). Schemann (2020) describes mold as a semiotic element beyond its materiality that signals guilt and shame. Here, we see how that maps onto racial structuring, of importance given theorizations of shame *as* racialization (Fetta 2018). Considering this, we can extend Davies' (2022) argument further: it is not just that the toxic exposures of marginalized and racialized communities do not count, but instead, are often *counted against* them.

As Danewid (2020, 304) argues in the case of the Grenfell Tower fire, mold alerts us to "the racial structuring of neoliberal urban governance." Attending to the racial realities of "unliveable" conditions of toxic mold makes visible who is allowed to inhabit the liveable and who is subjugated to "death-in-life" (Mbembe 2003, 21). In this sense, the experience of living with toxic mold in the context of the slow crises of UK housing can be read necropolitically—as an experience of being left to die.

## Toxic mold's racialization

Toxic mold further takes on its own racialization, in line with the notion that a toxin is readily racialized because "it can be detached and reattached to diverse cultural and biological forms" (Chen 2012, 187). In their work on animacy, Chen charts how the inanimate toxin of lead became subject to complex racialization. As part of this, they highlight how, despite an earlier association of black children with lead intoxication, they became a "less-urgent population under threat" during the 2007 "lead panic" in the United States compared to the white American child (Chen 2012, 184). Chen argues this in part occurs because the medicalized symptoms of lead neurotoxicity, including the lowering of intelligence quotient (IQ), hold affinities with the racial construction of blackness. Therefore, for the white body, toxic

contamination by lead represents a double racial contamination: first, with the dirty black toxin itself; and secondly, through the threat to "class-elaborated white racial celebreality" (Chen 2012, 185), underscored by a long history of contamination discourses where blackness is already-always seen as both contaminated and a contaminant. While Chen talks about "dead" lead in the context of animacy toxic, mold is very much alive; indeed, this is a core part of the uncanniness Kane (2023) highlights, alongside other readings of "subnature" (Campkin 2013*b*). Despite this difference, there are strong parallels here with mold narratives.

Firstly, a similar reprioritization of toxic vulnerability is evident in toxic mold narratives in a US context. Despite its "ground zero" being in the cases of the poor and black in Cleveland suffering from severe illness, and studies which pointed to higher rates of exposure for marginalized groups, anxiety grew among white and middle- and upper-class individuals around non-specific symptoms grouped under the label "toxic mold syndrome". Thus, once legal cases began to soar, white homeowners became more urgently vulnerable population to toxic mold. This echoes the development of "Sick Building Syndrome," another contested illness associated with indoor exposure often linked to mold exposure (Straus 2009), where minor health complaints became foregrounded "in conditions of relative privilege and luxury" (Murphy 2006, 3).

Accompanying this shift in who was considered most urgently vulnerable to the threat of toxic mold exposure is, as with Chen's lead, a racialization of the toxin itself. Many of the neurological symptoms linked to mold toxicity —such as increased anger and agitation, cognitive decline, language and reasoning problems, slowed mental processing, and poor educational performance in children (Baldo, Ahmad and Ruff 2002; Anyanwu, Campbell and Vojdani 2003; Lees-Haley 2003)—mirror Chen's proposition concerning the black racial construction of toxic lead. Similarly, for Kane, mold's presence provokes the fear of becoming the socially constructed "dirty body" (Kane 2023, 7), a construction already proximate to blackness in the white imaginary (Berthold 2010). Further highlighting mold's racialization is the foregrounding of the color, the *blackness*, of toxic *S. chartarum*. In a natural history of toxic mold, mycologist Money (2004, 40) characterizes black molds as "shrouded by their melanism" (molds get their blackness from the same melanin that pigments human skin); their blackness is his explanation for their "their menace to humanity"—a provocatively racial phrasing. The blackness of mold and human skin are compared: for instance, he argues that traits such as disparities in economic prosperity "associated with skin pigmentation in humans offer a useful analogy" to those associated with fungal melanization in that they are "remote rather than direct consequences of being black" (Money 2004, 117). This racializing process has been identified in cultural depictions of black mold also. Considering the present popularity of mold narratives in 21st century fiction,[3] Keetley (2021) argues that the use of black mold has come to serve as "anxious stories not of species death but of white death in the face of a spreading and racialized 'darkness'" (45), where characters strive "to contain, control, and expel a *black* mold that is equated with black flesh, with Black people" (61).

Household mold has also been treated as migratory and foreign in nature. Broadly, mold is frequently treated as non-human entity foreign to, and unwanted in, the domestic space. One mycology paper describes *S. chartarum* as an "altogether unwelcome lodger that should be evicted as quickly and carefully as possible" (Hyde et al. 2018, 177). Recalling the earlier-discussed political ecology and psychoanalytic framings, it belongs elsewhere (Campkin 2013*a*; Mee

et al. 2014; Kane 2023). However, toxic mold has also been characterized as crossing national boundaries. The doctor who treated the IPH infants in Cleveland suggested the toxic *S. chartarum* they encountered was unwittingly imported from Canada, while researchers at the Environmental Protection Agency posited it traveled from Eastern Europe (Money 2004, 122–123). The racialization of toxic black mold therefore extends, as with people, beyond color and to perceived uprootedness (Ang, Ho and Yeoh 2022). Spurred by the US government reports of *S. chartarum* mycotoxins being used as biological warfare (Wannemacher and Wiener 1997), sensationalistic accounts have suggested that toxic black mold can only be found in Western homes because of its supposed development as a bioweapon by countries such as Vietnam, the Soviet Union, Egypt, and Iraq (Money 2004, 72–76; ABC Adelaide 2018; Exposing Mold 2022; Damage Control 911 2023). Here, toxic black mold is not just migratory by chance, but interpreted through a frame of deliberative harm in line with cultural imaginaries of threatened security in the US and the West.

Considering the above, like other toxins, toxic mold adheres to existing racial and spatial dynamics, both materially and discursively. From this departure point, its presumed physical toxicity reveals the logics of disposability that allow certain groups to be more readily exposed to harm in a very real sense, while in parallel drawing out how certain homes, spaces, and bodies are rendered *as* toxic more readily than others. Through interpolating Chen's work on toxic lead panics in the case of mold, this establishes a more multivalent understanding of toxicity. Such an approach can push geographical scholarship on toxicity further, bringing to the fore what is at stake in the "toxic" beyond a narrow framing of harm. This has scope to provide value for thinking through the layered racial dynamics of toxicity beyond racialized sites of exposure.

## Concluding discussion: Growing the toxic in geography

Returning to the case of Awaab Ishak, I want to conclude by considering again the fact that the cause of his death was widely reported as "toxic black mold" or "toxic mold," despite the Coroner not specifying cause beyond "mold exposure." To some degree, this reveals a popular preoccupation with the "toxic" as a form of threat. More specifically, however, this framing of toxicity creates space to consider how Awaab Ishak's death, like that of other victims of chemical wounding, demands a tracing of the temporally and spatially dispersed antecedents of violence rather than just the immediate context. This approach also bridges struggles for housing justice and the long histories of international environmental justice movements, to "recognizing the interconnectedness of the structures that create our unbreathable contexts" (Thompson 2023, 1701). But the circulation of this "toxic" label—even without scientific confirmation—perhaps shows us something else about what is at stake in the designation "toxic." Recognizing the racial and classed logic underpinning the toxicity of mold, it is critical to consider if the discourse of toxicity adhered to Awaab's case because he and his family were black, were poor, lived in a social housing tower block, were asylum seekers from Sudan. In other words, Awaab Ishak's home was labeled as toxic because it had always already been understood to be polluted, even without the mold. And indeed, it was in such an environment, of material, discursive, symbolic devaluation, that the material toxicity of mold was able to grow and flourish.

This paper has placed the topic of household mold in conversation with a broader body of geographical and other social science literature concerned with toxicity. It thus makes the case

for both attending to the materialities within both research fields—as subjects rather than background objects—and for a wider analytical gaze in toxic geographies. "Growing the toxic" in geography means looking beyond "classic" toxic substances to consider the more mundane, quotidian ones, including naturally-occurring toxins. Doing so not only provides new avenues for the topic of toxicity, and draws to the fore their political salience, but serves to reaffirm an ethical commitment to overlooked, contested, and insidious forms of harm and violence. Building from existing critical geographical scholarship to read mold through the angle of toxicity, therefore, reminds us that while "exposure to some form of toxicity is an unavoidable and necessary part of everyday life," it is the "discriminatory geographies of pollution ensure that certain populations are subjected to the power of death more readily" (Davies 2018, 1359).

As the "mold epidemic" and UK housing crisis continue as embedded and embodied realities for many, attending to it toxically can help unpack slower lineages of violence alongside broader struggles beyond housing justice. Similarly, research into toxic geographies benefits from a closer focus on the discrete toxic matter in question rather than unspecified treatment under a broader umbrella. Doing so opens the possibility of generating research which attends to the particular and multivalent manifestations of the substance at hand—from the material and medico-scientific to the cultural and discursive—as such, creating scope for a richer body of work which acknowledges that human interactions with toxic materialities are not uniform. As demonstrated, viewing something so seemingly ubiquitous and mundane through a lens of toxicity can provide room for provocative political discussion; in this respect, it underscores the case for closer examination of that which many overlook. Redirecting attention to a "natural" toxic object undoes the notion that there is such a thing as a pre-toxic past for us to return to. In other words, the focus should not only be solely placed on the toxin itself, but also the suffocating regimes of exposure that unevenly inure people to them.

## Acknowledgments

This work was supported by the Economic and Social Research Council (grant number ES/P000703/1, project reference: 2887215). I would like to thank my supervisors, Katherine Brickell and Phil Hubbard, for their invaluable support, guidance, and encouragement. I would also like to thank members of the King's College London Urban Futures research group, who gave generous and generative feedback on an earlier version of this paper, and Marek for reading through every iteration of it. I would also like to thank the anonymous reviewers for their insightful feedback, which helped shape and ultimately improve this piece.

## Declaration of conflicting interests

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

## Funding

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Economic and Social Research Council (grant number ES/P000703/1, project reference: 2887215).

## ORCID iD

Elara Shurety https://orcid.org/0000-0002-4096-3798

## Notes

1. In practice, the distinction between these two terms is not consistently upheld, with the label "toxin" often being used to describe what is technically a "toxicant."
2. The treatment of cases of mycotoxicosis with anti-fungal medication is proposed as illogical because anti-fungal medications treat fungal infections, not the effects of toxins.
3. In her analysis, Keetley focuses on the film *I Am the Pretty Thing That Lives in the House*

(Perkins 2016), a miniseries adaptation of *The Haunting of Hill House* (Flanagan, 2016), and the segment "Gray Matter" in Shudder's reboot of *Creepshow* (2019). In addition, she also highlights other notable instances of black mold in 21st century fiction alongside other works part of a broader "fungal weird." Since the publication of her chapter, black mold has continued to have prominence in fiction media, particularly within the horror genre, including the film *Black Mold* (Pata 2024), the Netflix series *Archive 81* (Sonnenshine 2022), and the BBC radio-drama *Spores* (Kirkbride and Aphonica 2023).

## References


ABC Adelaide. 2018. "The Hidden Risk of Toxic Spores." *ABC*, 25 July 2018. https://www.abc.net.au/listen/programs/adelaide-evenings/biotoxins/10036146?fbclid=IwAR1mPmYg7rFlhHceHW26tpz3OSt1SJ_yyx3lH-jBmLQeW7A0d-3iOfftetg.

ACOEM Council on Scientific Affairs. 2002. "Adverse Human Health Effects Associated with Molds in the Indoor Environment." Illinois.

Ahmann, C. 2018. "It's Exhausting to Create an Event out of Nothing": Slow Violence and the Manipulation of Time." *Cultural Anthropology* 33 (1): 142–71. https://doi.org/10.14506/ca33.1.06.

Anderson, N. 2022. "Britain's "Mould Epidemic" Made Worse by Cost-of-Living Crisis: How 4.7million Private Renters Have Battled Fungus in Their Homes over the Past Year as Hard-Pressed Tenants Cut Back on Heating." *Daily Mail*, 22 November 2022. https://www.dailymail.co.uk/news/article-11456351/Britains-mould-epidemic-worse-cost-living-crisis.html.

Ang, S., E. L.-E. Ho, and B. S. A. Yeoh. 2022. "Migration and New Racism Beyond Colour and the "West": Co-Ethnicity, Intersectionality and Postcoloniality." *Ethnic and Racial Studies* 45 (4): 585–94. https://doi.org/10.1080/01419870.2021.1925321.

Anyanwu, E. C., A. W. Campbell, and A. Vojdani. 2003. "Neurophysiological Effects of Chronic Indoor Environmental Toxic Mold Exposure on Children." *The Scientific World Journal* 3: 281–90. https://doi.org/10.1100/tsw.2003.22.

Baldo, J. V., L. Ahmad, and R. Ruff. 2002. "Neuropsychological Performance of Patients Following Mold Exposure." *Applied Neuropsychology* 9 (4): 193–202. https://doi.org/10.1207/S15324826AN0904_1.

Berlant, L. 2007. "Slow Death (Sovereignty, Obesity, Lateral Agency)." *Critical Inquiry* 33 (4): 754–80. https://doi.org/10.1086/521568.

Berthold, D. 2010. "Tidy Whiteness: A Genealogy of Race, Purity, and Hygiene." *Ethics and the Environment* 15 (1): 1–26. https://doi.org/10.2979/ete.2010.15.1.1.

Bickerstaff, K. 2022. "Living on with Sellafield: Nuclear Infrastructure, Slow Violence, and the Politics of Quiescence." *Transactions of the Institute of British Geographers* 47 (4): 955–70. https://doi.org/10.1111/tran.12540.

Biehler, D. D. 2009. "Permeable Homes: A Historical Political Ecology of Insects and Pesticides in US Public Housing." *Geoforum* 40 (6): 1014–23. https://doi.org/10.1016/j.geoforum.2009.08.004.

Blay, K., K. Agyekum, and A. Opoku. 2019. "Actions, Attitudes and Beliefs of Occupants in Managing Dampness in Buildings." *International Journal of Building Pathology and Adaptation* 37 (1): 42–53. https://doi.org/10.1108/IJBPA-06-2018-0044.

Bonderup, S., and L. Middlemiss. 2023. "Mould or Cold? Contrasting Representations of Unhealthy Housing in Denmark and England and the Relation to Energy Poverty." *Energy Research & Social Science* 102 (August): 103176. https://doi.org/10.1016/j.erss.2023.103176.

Borchers, A. T., C. Chang, and M. E. Gershwin 2017. "Mold and Human Health: A Reality Check." *Clinical Reviews in Allergy &s Immunology* 52 (3): 305–22. https://doi.org/10.1007/s12016-017-8601-z.

Brickell, K. 2012. "Geopolitics of Home." *Geography Compass* 6 (10): 575–88. https://doi.org/10.1111/j.1749-8198.2012.00511.x.

Brooks, S. K., S. S. Patel, D. Weston, and N. Greenberg. 2023. "Psychological Effects of Mould and Damp in the Home: Scoping Review." *Housing Studies*, 1–23. https://doi.org/10.1080/02673037.2023.2286360.

Bruno, T. 2024. "More Than Just Dying: Black Life and Futurity in the Face of State-Sanctioned Environmental Racism." *Environment and Planning D: Society and Space* 42(1): 73–90. https://doi.org/10.1177/02637758231218101.

Bush, R. K., J. M. Portnoy, A. Saxon, A. I. Terr, and R. A. Wood. 2006. "The Medical Effects of Mold Exposure." *Journal of Allergy and Clinical Immunology* 117 (2): 326–33. https://doi.org/10.1016/j.jaci.2005.12.001.

Butler, D., and G. Sherriff. 2017. ""It's Normal to Have Damp": Using a Qualitative Psychological Approach to Analyse the Lived Experience of Energy Vulnerability among Young Adult Households." *Indoor and Built Environment* 26 (7): 964–79. https://doi.org/10.1177/1420326X17708018.

Campkin, B. 2013a. "Placing "Matter Out of Place": *Purity and Danger* as Evidence for Architecture and

Urbanism." *Architectural Theory Review* 18 (1): 46–61. https://doi.org/10.1080/13264826.2013.785579.

Campkin, B. 2013b. *Remaking London: Decline and Regeneration in Urban Culture*. London, New York: I.B. Tauris & Co Ltd.

Centers for Disease Control and Prevention. 1997. "Update: Pulmonary Hemorrhage/Hemosiderosis Among Infants – Cleveland, Ohio, 1993-1996." 17 January 1997. https://www.cdc.gov/mmwr/preview/mmwrhtml/00045680.htm.

Centers for Disease Control and Prevention. 2000. "Update: Pulmonary Hemorrhage/Hemosiderosis Among Infants — Cleveland, Ohio, 1993-1996." 10 March 2000. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4909a3.htm.

Champagne, S. N., E. Phimister, J. I. Macdiarmid, and A. M. Guntupalli. 2023. "Assessing the Impact of Energy and Fuel Poverty on Health: A European Scoping Review." *European Journal of Public Health* 33 (5): 764–70. https://doi.org/10.1093/eurpub/ckad108.

Chang, C., and M. E. Gershwin. 2019. "The Myth of Mycotoxins and Mold Injury." *Clinical Reviews in Allergy & Immunology* 57 (3): 449–55. https://doi.org/10.1007/s12016-019-08767-4.

Chapman, J. A., A. I. Terr, R. L. Jacobs, E. N. Charlesworth, and E. J. Bardana. 2003. "Toxic Mold: Phantom Risk vs Science." *Annals of Allergy, Asthma & Immunology* 91 (3): 222–32. https://doi.org/10.1016/S1081-1206(10)63522-3.

Chen, M. Y. 2012. *Animacies: Biopolitics, Racial Mattering, and Queer Affect*. Durham and London: Duke University Press. https://doi.org/10.1215/9780822395447.

Chng, I., J. Reades, and P. Hubbard. 2024. "Planning Deregulation as Solution to the Housing Crisis: The Affordability, Amenity and Adequacy of Permitted Development in London." *Environment and Planning A: Economy and Space* 56 (3): 961–78. https://doi.org/10.1177/0308518X231209982.

Christian, J. M., and L. Dowler. 2019. "Slow and Fast Violence: A Feminist Critique of Binaries." *ACME: An International Journal for Critical Geographies* 18 (5): 1066–75. https://doi.org/10.14288/acme.v18i5.1692.

Clare, N., N. de Noronha, S. French, et al. 2022. "Actually Existing Racial Capitalism: Financialisation and Bordering in UK Housing Associations." *Geography Compass* 16 (11): 1–14. https://doi.org/10.1111/gec3.12665.

Clark, S. N., H. C. Y. Lam, E.-J. Goode, E. L. Marczylo, K. S. Exley, and S. Dimitroulopoulou. 2023. "The Burden of Respiratory Disease from Formaldehyde, Damp and Mould in English Housing." *Environments* 10 (8): 136. https://doi.org/10.3390/environments10080136.

Coulburn, L., and W. Miller. 2022. "Prevalence, Risk Factors and Impacts Related to Mould-Affected Housing: An Australian Integrative Review." *International Journal of Environmental Research and Public Health* 19 (3): 1854. https://doi.org/10.3390/ijerph19031854.

Cuff, G. 2023. ""Notable" Damp and Mould Affects up to 160,000 Social Homes in England, Says Regulator." *Inside Housing*, 2 February 2023. https://www.insidehousing.co.uk/news/notable-damp-and-mould-affects-up-to-160000-social-homes-in-england-says-regulator-80079.

Cuffe, G. 2023. "Contractor at RBH Presented "Ritual Bathing" as Cause of Condensation Six Months after Awaab Ishak Inquest." *Inside Housing*, 27 November 2023. https://www.insidehousing.co.uk/news/contractor-at-rbh-presented-ritual-bathing-as-cause-of-condensation-six-months-after-awaab-ishak-inquest-83923.

Damage Control 911. 2023. " Mold As A Bioweapon." 11 September 2023. https://www.damagecontrol-911.com/modern-government-bioweapons/.

Danewid, I. 2020. "The Fire This Time: Grenfell, Racial Capitalism and the Urbanisation of Empire." *European Journal of International Relations* 26 (1): 289–313. https://doi.org/10.1177/1354066119858388.

Davies, T. 2018. "Toxic Space and Time: Slow Violence, Necropolitics, and Petrochemical Pollution." *Annals of the American Association of Geographers* 108 (6): 1537–53. https://doi.org/10.1080/24694452.2018.1470924.

Davies, T. 2022. "Slow Violence and Toxic Geographies: "Out of Sight" to Whom?" *Environment and Planning C: Politics and Space* 40 (2): 409–27. https://doi.org/10.1177/2399654419841063.

Department for Levelling Up Housing and Communities. 2020. "Housing with Damp Problems." Ethnicity Facts and Figures Service. 8 August 2020. https://www.ethnicity-facts-figures.service.gov.uk/housing/housing-conditions/housing-with-damp-problems/latest/.

Dewan, C., and E. A. Sibilia. 2024. "Global Containments and Local Leakages: Structural Violence and the Toxic Flows of Shipbreaking." *Environment and Planning C: Politics and Space* 42(1): 80–101. https://doi.org/10.1177/23996544231208202.

Dodge, L. 2020. "Mouldy Nation Report - UK Homes in Mould Crisis." Uswitch. 6 May 2020. https://www.uswitch.com/gas-electricity/mouldy-nation-report/.

Douglas, M. 1966. *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo*. London: Routledge & Kegan Paul.

eClinicalMedicine. 2022. "Awaab Ishak and the Politics of Mould in the UK." *EClinicalMedicine* 54 (101801): 101801. https://doi.org/10.1016/j.eclinm.2022.101801.

Ellaway, A., and S. Macintyre. 1998. "Does Housing Tenure Predict Health in the UK Because It Exposes People to Different Levels of Housing Related Hazards in the Home or Its Surroundings?" *Health & Place* 4 (2): 141–50. https://doi.org/10.1016/S1353-8292(98)00006-9.

Exposing mold. 2022. "Live with Exposing Mold: Stachybotrys Is a Nerve Agent." 24 March 2022. https://www.facebook.com/exposingmold/videos/696189915168454.

Fedock, G., C. Doria, and M. Malcome. 2024. ""Scum (of the Earth)": Incarcerated Mothers' Experiences of Slow Violence." *Social Problems* 71(4): 1068–83. https://doi.org/10.1093/socpro/spac058.

Feltrin, L., A. Mah, and D. Brown. 2022. "Noxious Deindustrialization: Experiences of Precarity and Pollution in Scotland's Petrochemical Capital." *Environment and Planning C: Politics and Space* 40 (4): 950–69. https://doi.org/10.1177/23996544211056328.

Ferreri, M. 2020. "Painted Bullet Holes and Broken Promises: Understanding and Challenging Municipal Dispossession in London's Public Housing "Decanting"." *International Journal of Urban and Regional Research* 44 (6): 1007–22. https://doi.org/10.1111/1468-2427.12952.

Fetta, S. 2018. *Shaming into Brown: Somatic Transactions of Race in Latina/o Literature*. Columbus: The Ohio State University Press.

Flanagan, M. 2016. "The Haunting of Hill House." Netflix. https://www.netflix.com/title/80189221.

Franklin, E. 2006. "A New Kind of Medical Disaster in the United States." In *There Is No Such Thing as a Natural Disaster: Race, Class, and Hurricane Katrina*, edited by C. Hartman, and G. D. Squires, 185–95. New York: Routledge.

Gabrielson, T. 2016. "The Everyday Toxicity of the "Average" North American Home." In *The Greening of Everyday Life: Challenging Practices, Imagining Possibilities*, edited by J.M. Meyer, and J. Kersten (eds), 82–97. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198758662.003.0006..

Galtung, J. 1969. "Violence, Peace, and Peace Research." *Journal of Peace Research* 6 (3): 167–91. https://doi.org/10.1177/002234336900600301.

Garnett, E. 2020. "Breathing Spaces: Modelling Exposure in Air Pollution Science." *Body & Society* 26 (2): 55–78. https://doi.org/10.1177/1357034X20902529.

Githang'a, D., O. Anzala, C. Mutegi, and A. Agweyu. 2019. "The Effects of Exposures to Mycotoxins on Immunity in Children: A Systematic Review." *Current Problems in Pediatric and Adolescent Health Care* 49 (5): 109–16. https://doi.org/10.1016/j.cppeds.2019.04.004.

'Grey Matter'. 2019. Shudder.

Gutarowska, B., M. Sulyok, and R. Krska. 2010. "A Study of the Toxicity of Moulds Isolated from Dwellings." *Indoor and Built Environment* 19 (6): 668–75. https://doi.org/10.1177/1420326X10378803.

Halliday, J. 2023. ""I Don't Sleep": How a Mould Crisis Torments Blackpool Renters." *The Guardian*, 13 November 2023. https://www.theguardian.com/uk-news/2023/nov/13/blackpool-tenants-damp-mould-crisis.

Hamblin, J. 2017. "The Looming Consequences of Breathing Mold." *The Atlantic*, 30 August 2017. https://www.theatlantic.com/health/archive/2017/08/mold-city/538224/.

Hardin, B. D., B. J. Kelman, and A. Saxon. 2003. "Adverse Human Health Effects Associated with Molds in the Indoor Environment." *Journal of Occupational and Environmental Medicine* 45 (5): 470–78. https://doi.org/10.1097/00043764-200305000-00006.

Hardin, B. D., C. A. Robbins, P. Fallah, and B. J. Kelman. 2009. "The Concentration of No Toxicologic Concern (CoNTC) and Airborne Mycotoxins." *Journal of Toxicology and Environmental Health, Part A* 72 (9): 585–98. https://doi.org/10.1080/15287390802706389.

Haringey Council. 2023. "Damp and Mould Policy for Council Housing Stock." In *Cabinet Agenda and Minutes*, 1–7. London: Haringey Council. https://www.minutes.haringey.gov.uk/documents/s138662/Damp%20and%20Mould%20Policy%20for%20Council%20housing%20stock.pdf.

Heath, L. 2022. "Inside Student Housing's Mould Epidemic, and How Rising Energy Bills Are Making It Worse." *INews*, 28 December 2022. https://inews.co.uk/news/inside-student-housings-mould-epidemic-and-how-rising-energy-bills-are-making-it-worse-2028070.

Heseltine, E., and J. Rosen, eds. 2009. *WHO Guidelines for Indoor Air Quality: Dampness and Mould*. Copenhagen: World Health Organisation.

Heslop, J., and E. Ormerod. 2020. "The Politics of Crisis: Deconstructing the Dominant Narratives of the Housing Crisis." *Antipode* 52 (1): 145–63. https://doi.org/10.1111/anti.12585.

Hewitt, D. 2021. "@DanielHewittITV." *Twitter*. https://twitter.com/DanielHewittITV/status/1373966688434200576.

Hicken, M. T., L. Miles, S. Haile, and M. Esposito. 2021. "Linking History to Contemporary State-Sanctioned Slow Violence Through Cultural and Structural Racism." *The ANNALS of the American Academy of Political and Social Science* 694 (1): 48–58. https://doi.org/10.1177/00027162211005690.

Hodkinson, S., and C. Essen (2015) Grounding accumulation by dispossession in everyday life. *International*

*Journal of Law in the Built Environment* 7(1): 72–91. http://dx.doi.org/10.1108/IJLBE-01-2014-0007.

Howden-Chapman, P., K. Saville-Smith, J. Crane, and N. Wilson. 2005. "Risk Factors for Mold in Housing: A National Survey." *Indoor Air* 15 (6): 469–76. https://doi.org/10.1111/j.1600-0668.2005.00389.x.

Huq, E., and S. A. Harwood. 2019. "Making Homes Unhomely: The Politics of Displacement in a Gentrifying Neighborhood in Chicago." *City & Community* 18 (2): 710–31. https://doi.org/10.1111/cico.12393.

Hyde, K. D., A. M. S. Al-Hatmi, B. Andersen, T. Boekhout, W. Buzina, T. L. Dawson, D. C. Eastwood, et al. 2018. "The World's Ten Most Feared Fungi." *Fungal Diversity* 93 (1): 161–94. https://doi.org/10.1007/s13225-018-0413-9.

Ingham, T., M. Keall, B. Jones, D. R. T. Aldridge, A. C. Dowell, C. Davies, J. Crane, et al. 2019. "Damp Mouldy Housing and Early Childhood Hospital Admissions for Acute Respiratory Infection: A Case Control Study." *Thorax* 74 (9): 849–57. https://doi.org/10.1136/thoraxjnl-2018-212979.

Janik, E., M. Niemcewicz, M. Ceremuga, M. Stela, J. Saluk-Bijak, A. Siadkowski, and M. Bijak. 2020. "Molecular Aspects of Mycotoxins—A Serious Problem for Human Health." *International Journal of Molecular Sciences* 21 (21): 8187. https://doi.org/10.3390/ijms21218187.

Jha, R. 2023. "Necrosettlements: Life-Threatening Housing, Necropolitics and the Poor's Deadly Living in Mumbai." *Political Geography* 100 (January): 102815. https://doi.org/10.1016/j.polgeo.2022.102815.

Kaika, M. 2005. *City of Flows: Modernity, Nature, and the City*. New York and London: Routledge. https://doi.org/10.4324/9780203826928.

Kane, M. 2023. "The Violent Uncanny: Exploring the Material Politics of Austerity." *Political Geography* 102 (April): 102843. https://doi.org/10.1016/j.polgeo.2023.102843.

Kaur, R. 2021. "Nuclear Necropower: The Engineering of Death Conditions Around a Nuclear Power Plant in South India." *Political Geography* 85 (March): 102315. https://doi.org/10.1016/j.polgeo.2020.102315.

Kearns, A., O. Kearns, and L. Lawson. 2013. "Notorious Places: Image, Reputation, Stigma. The Role of Newspapers in Area Reputations for Social Housing Estates." *Housing Studies* 28 (4): 579–98. https://doi.org/10.1080/02673037.2013.759546.

Kearsley, J. 2022. "Awaab Ishak – Prevention of Future Deaths Report - 2022-0365." Courts and Tribunals Judiciary. 11 November 2022. https://www.judiciary.uk/wp-content/uploads/2022/11/Awaab-Ishak-Prevention-of-future-deaths-report-2022-0365_Published.pdf.

Keetley, D. 2021. "Black Mold, White Extinction: I Am the Pretty Thing That Lives in the House, The Haunting of Hill House, "Gray Matter," and H. P. Lovecraft's "The Shunned House"." In *Haunted Nature: Entanglements of the Human and the Nonhuman*, edited by S. Blazan, 43–66. Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-81869-2_3.

Kidd, B., A. Tagg, M. Escarameia, B. von Christierson, J. Lamond, and D. Proverbs. 2010. "Drying Flood-Damaged Buildings: Current Guidance." London. https://assets.publishing.service.gov.uk/media/5a79740ee5274a2acd18cf8d/1773816.pdf.

Kirkbride, M., and Aphonica. 2023. "Spores." United Kingdom: BBC Radio 4. https://www.bbc.co.uk/mediacentre/proginfo/2023/47/spores.

Laing Ebbensgaard, C. 2022. "Light Violence at the Threshold of Acceptability." *Urban Studies*, 004209802110679. https://doi.org/10.1177/00420980211067938.

Landa, M. S. 2016. "Crude Residues: The Workings of Failing Oil Infrastructure in Poza Rica, Veracruz, Mexico." *Environment and Planning A: Economy and Space* 48 (4): 718–35. https://doi.org/10.1177/0308518X15594618.

Lavin, C., and C. Russill. 2010. "The Ideology of the Epidemic." *New Political Science* 32 (1): 65–82. https://doi.org/10.1080/07393140903492142.

Lees-Haley, P. R. 2003. "Toxic Mold and Mycotoxins in Neurotoxicity Cases: Stachybotrys, Fusarium, Trichoderma, Aspergillus, Penicillium, Cladosporium, Alternaria, Trichothecenes." *Psychological Reports* 93 (2): 561–84. https://doi.org/10.2466/pr0.2003.93.2.561.

Lees, L., and P. Hubbard. 2022. ""So, Don't You Want Us Here No More?" Slow Violence, Frustrated Hope, and Racialized Struggle on London's Council Estates." *Housing, Theory and Society* 39 (3): 341–58. https://doi.org/10.1080/14036096.2021.1959392.

Levelling Up Housing and Communities Committee. 2022. "The Regulation of Social Housing (HC 2022-07 18)." London.

Liboiron, M. 2021. *Pollution Is Colonialism*. Durham and London: Duke University PRess.

Liboiron, M., M. Tironi, and N. Calvillo. 2018. "Toxic Politics: Acting in a Permanently Polluted World." *Social Studies of Science* 48 (3): 331–49. https://doi.org/10.1177/0306312718783087.

Mansfield, B. 2022. "Particulate Matters: Trump EPA Deregulatory Science, Fossil Fuels, and Racist Regimes of Breathing." *Antipode* 54 (4): 1208–27. https://doi.org/10.1111/anti.12825.

Marquardt, F. 2022. ""Something in the Air": Reasserting Humanity in a Polluted Neighbourhood." *Capitalism Nature Socialism* 33 (2): 26–43. https://doi.org/10.1080/10455752.2021.1989702.

May, N., C. McGilligan, and M. Ucci. 2019. "Health and Moisture in Buildings." London. https://ukcmb.org/wp-content/uploads/2019/10/health-and-moisture-in-buildings-report-1.pdf.

Mbembe, A. 2003. "Necropolitics." *Public Culture* 15 (1): 11–40. https://doi.org/10.1215/08992363-15-1-11.

Mbembe, A., and C. Shread. 2021. "The Universal Right to Breathe." *Critical Inquiry* 47 (S2): S58–62. https://doi.org/10.1086/711437.

McKittrick, K. 2013. "Plantation Futures." *Small Axe: A Caribbean Journal of Criticism* 17 (3): 1–15. https://doi.org/10.1215/07990537-2378892.

McPhee, S. 2022. "Australia's Mould Crisis Almost Turns Deadly as Young Woman Is Left with Permanent Scarring from Spores Growing in Her Lungs." *Daily Mail Australia*, 2 June 2022. https://www.dailymail.co.uk/news/article-10878073/Australias-mould-crisis-turns-deadly-young-woman-left-permanent-scarring-lungs.html.

Mee, K. J., L. Instone, M. Williams, J. Palmer, and N. Vaughan. 2014. "Renting Over Troubled Waters: An Urban Political Ecology of Rental Housing." *Geographical Research* 52 (4): 365–76. https://doi.org/10.1111/1745-5871.12058.

Michaels, R. A. 2017. "Environmental Moisture, Molds, and Asthma—Emerging Fungal Risks in the Context of Climate Change." *Environmental Claims Journal* 29 (3): 171–93. https://doi.org/10.1080/10406026.2017.1345521.

Miller, J. D., T. G. Rand, and B. B. Jarvis. 2003. "*Stachybotrys Chartarum*: Cause of Human Disease or Media Darling?" *Medical Mycology* 41 (4): 271–91. https://doi.org/10.1080/13693780310000137350.

Ministry of Housing Communities & Local Government, Department of Health & Social Care, and UK Health Security Agency. 2024. "Understanding and Addressing the Health Risks of Damp and Mould in the Home." GOV.UK. 15 August 2024. https://www.gov.uk/government/publications/damp-and-mould-understanding-and-addressing-the-health-risks-for-rented-housing-providers/understanding-and-addressing-the-health-risks-of-damp-and-mould-in-the-home–2.

Money, N. P. 2004. *Carpet Monsters and Killer Spores: A Natural History of Toxic Mold*. Oxford and New York: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195172270.001.0001.

Montaña, E., R. A. Etzel, T. Allan, T. E. Horgan, and D. G. Dearborn. 1997. "Environmental Risk Factors Associated With Pediatric Idiopathic Pulmonary Hemorrhage and Hemosiderosis in a Cleveland Community." *Pediatrics* 99 (1): e5–e5. https://doi.org/10.1542/peds.99.1.e5.

Mückter, H. 2003. "What Is Toxicology and How Does Toxicity Occur?" *Best Practice & Research Clinical Anaesthesiology* 17 (1): 5–27. https://doi.org/10.1053/bean.2003.0270.

Murphy, M. 2006. *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers*. Durham and London: Duke University Press. https://doi.org/10.2307/j.ctv11smh9f.

Nash, L. 2006. *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Berkeley: University of California Press.

Neumeister-Kemp, H. G., L. M. Kemp, and N. M. Tijsen. 2023. "Mould Contamination of Dwellings After Flooding." *Microbiology Australia* 44 (4): 202–6. https://doi.org/10.1071/MA23053.

Nickalls, K. 2022. "Toxic Mould, Cold and Health." *Practice Nursing* 33 (12): 485–485. https://doi.org/10.12968/pnur.2022.33.12.485.

Nixon, R. 2011. *Slow Violence and the Environmentalism of the Poor*. Cambridge and London: Harvard University Press. https://doi.org/10.2307/j.ctt2jbsgw.

Odd, D., S. Stoianova, V. Sleap, T. Williams, N. Cook, L. McGeehan, A. Garnham, et al. 2021. "Child Mortality and Social Deprivation." https://ncmd.info/wp-content/uploads/2021/05/NCMD-Child-Mortality-and-Social-Deprivation-report_20210513.pdf.

Ofrias, L. 2017. "Invisible Harms, Invisible Profits: A Theory of the Incentive to Contaminate." *Culture, Theory and Critique* 58 (4): 435–56. https://doi.org/10.1080/14735784.2017.1357478.

O'Lear, S., ed. 2021. *A Research Agenda for Geographies of Slow Violence: Making Social and Environmental Injustice Visible*. Cheltenham: Edward Elgar Publishing. https://doi.org/10.4337/9781788978033.

Pain, R. 2019. "Chronic Urban Trauma: The Slow Violence of Housing Dispossession." *Urban Studies* 56 (2): 385–400. https://doi.org/10.1177/0042098018795796.

Pata, J. 2024. *Black Mold*. United States: Head Trauma Productions and The Line Film Company Shatterglass Pictures.

Perkins, O. 2016. "I Am the Pretty Thing That Lives in the House." Netflix. https://www.netflix.com/title/80094648.

Reponen, T., L. Levin, S. Zheng, S. Vesper, P. Ryan, S. A. Grinshpun, and G. LeMasters. 2013. "Family and Home Characteristics Correlate with Mold in Homes." *Environmental Research* 124 (July): 67–70. https://doi.org/10.1016/j.envres.2013.04.003.

Robathan, J. 2024. "King's Speech: New Renters' Rights Bill Will Ban No-Fault Evictions and Extend Awaab's Law to Private Sector." *Inside Housing*, 17

July 2024. https://www.insidehousing.co.uk/news/kings-speech-new-renters-rights-bill-will-ban-no-fault-evictions-and-extend-awaabs-law-to-private-sector-87673.

Roberts, E., C. Groves, G. Thomas, et al. 2024. "Attuning to Ambiguous Atmospheres: Currents of Air, Discourse and Time in a Steel Town." *Transactions of the Institute of British Geographers* 49 (3): 1–18. https://doi.org/10.1111/tran.12631.

Roberts, E. F. S. 2017. "What Gets Inside: Violent Entanglements and Toxic Boundaries in Mexico City." *Cultural Anthropology* 32 (4): 592–619. https://doi.org/10.14506/ca32.4.07.

Russell, C., L. Cooper, T. Arbour, J. Arnold, S. Bailey, D. Kurten, and O. Sahota. 2019. "Keeping out the Chill: Fixing London's Cold, Damp and Mouldy Homes." London. https://www.london.gov.uk/sites/default/files/keeping_out_the_chill_-_final.pdf.

SBS The Feed. 2021. "Mouldy Houses | SBS The Feed." YouTube. 25 June 2021. https://www.youtube.com/watch?v=bpMDJZ7O0lY&t=279s.

Schemann, C. 2020. "Spores of Speculation: Negotiating Mold as Contamination." In *Practices of Speculation*, edited by J. Cortiel, C. Hanke, J. S. Hutta, and C. Milburn, 145–66. Bielefeld: transcript Verlag. https://doi.org/10.1515/9783839447512-007.

Sealey, C. 2023. *Applying Social Policy to Criminal Justice Practice*. Bristol: Policy Press. https://doi.org/10.51952/9781447357490.

Senanayake, N. 2020. "Tasting Toxicity: Bodies, Perplexity, and the Fraught Witnessing of Environmental Risk in Sri Lanka's Dry Zone." *Gender, Place & Culture* 27 (11): 1555–79. https://doi.org/10.1080/0966369X.2019.1693345.

Seppälä, T., E. Finell, and S. Kaikkonen. 2022. "Making Sense of the Delegitimation Experiences of People Suffering from Indoor Air Problems in Their Homes." *International Journal of Qualitative Studies on Health and Well-Being* 17 (1): 1–10. https://doi.org/10.1080/17482631.2022.2075533

Serjeant, E., T. Coleman, and R. Kearns. 2022. "How Tenants in New Zealand Respond to Winter Weather Indoors: A Qualitative Investigation." *Health & Place* 75 (May): 102810. https://doi.org/10.1016/j.healthplace.2022.102810.

Serjeant, E., R. Kearns, and T. Coleman. 2021. "Home Tours: An Approach for Understanding Dampness and Wellbeing in the Domestic Environment." *Wellbeing, Space and Society* 2: 100039. https://doi.org/10.1016/j.wss.2021.100039.

Shapiro, N. 2015. "Attuning to the Chemosphere: Domestic Formaldehyde, Bodily Reasoning, and the Chemical Sublime." *Cultural Anthropology* 30 (3): 368–93. https://doi.org/10.14506/ca30.3.02.

Sigodo, M. 2023. "Awaab Ishak's Death Could Have Brought Change but with UK Housing, the Rot Goes Deep". Mirror. 20 January 2023. https://www.mirror.co.uk/news/uk-news/awaab-ishaks-death-could-brought-28925337.

Simpson, J. 2021. "Capital Conundrums: G15 Boss Geeta Nanda Assesses the Issues London Landlords Face." *Inside Housing*, 24 August 2021. https://www.insidehousing.co.uk/insight/insight/capital-conundrums-g15-boss-geeta-nanda-assesses-the-issues-london-landlords-face-72078.

Sonnenshine, R. 2022. "Archive 81." United States: Netflix. https://www.netflix.com/title/80222802.

Southwell, F. 2022. "Council Transfers Staff to Work on Damp and Mould Cases." *Brighton and Hove News*, 19 December 2022. https://www.brightonandhovenews.org/2022/12/19/council-transfers-staff-to-work-on-damp-and-mould-cases/.

Spivak, G. C. 1988. "Can the Subaltern Speak?" In *Marxism and the Interpretation of Culture*, edited by C. Nelson, and L. Grossberg, 271–313. Basingstoke: Macmillan.

Spratt, V. 2022. "All My Children Are Sick": Shocking Photos Reveal Scale of Mould Epidemic in UK Homes." *INews*, 25 November 2022. https://inews.co.uk/news/renters-damp-mould-infested-homes-health-threat-1992427.

Statistics Tatauranga Aotearoa. 2020. "More than 2 in 5 Māori and Pacific People Live in a Damp House – Corrected." Stats NZ. 19 May 2020.

Stephenson, E. S., and P. H. Stephenson. 2016. "The Political Ecology of Cause and Blame." In *A Companion to the Anthropology of Environmental Health*, edited by M. Singer, 302–24. Chichester: Wiley. https://doi.org/10.1002/9781118786949.ch15.

Stevens, K. 2022. "Sydney Real Estate Agent Sparks Outrage over Email to Tenants on How to PreventMould - but Is His Advice Fair Enough?" *Daily Mail Australia*, 10 June 2022. https://www.dailymail.co.uk/news/article-10902583/CobdenHayson-tells-renters-open-windows-prevent-mould-Sydney-shivers-freezing-week.html.

Straus, D. C. 2009. "Molds, Mycotoxins, and Sick Building Syndrome." *Toxicology and Industrial Health* 25 (9–10): 617–35. https://doi.org/10.1177/0748233709348287.

Sun, Y., and J. Sundell. 2011. "Life Style and Home Environment Are Associated with Racial Disparities of Asthma and Allergy in Northeast Texas Children." *Science of The Total Environment* 409 (20): 4229–34. https://doi.org/10.1016/j.scitotenv.2011.07.011.

Tammi, T. 2020. "What If Schools Were Lively More-Than-Human Agencements All Along? Troubling Environmental Education with Mold Schools." *Environmental Education Research* 26 (9–10): 1325–40. https://doi.org/10.1080/13504622.2019.1584881.

Terr, A. I. 2009. "Sick Building Syndrome: Is Mould the Cause?" *Medical Mycology* 47 (s1): S217–22. https://doi.org/10.1080/13693780802510216.

Theriault, N., and S. Kang. 2021. "Toxic Research: Political Ecologies and the Matter of Damage." *Environment and Society* 12 (1): 5–24. https://doi.org/10.3167/ares.2021.120102.

Thompson, K. 2023. "Toward a World Where We Can Breathe: Abolitionist Environmental Justice Praxis." *Annals of the American Association of Geographers* 113 (7): 1699–710. https://doi.org/10.1080/24694452.2022.2157789.

Thorn, C., and T. Cook. 2023. "Damp, Cold and Full of Mould: The Reality of Housing in the Private Rented Sector." London. https://assets.ctfassets.net/mfz4nbgura3g/UYinLQM79sdfwz52aDPkh/a067dd40fe0584e5e6242e50e564726b/Damp__20cold_20and_20full_20of_20mould_20_1_.pdf.

Topping, S. 2022. "Awaab Ishak's Mould-Hit Home "Unfit for Human Habitation without Repairs", Court Hears." Manchester Evening News. 10 November 2022. https://www.manchestereveningnews.co.uk/news/greater-manchester-news/awaab-ishaks-mould-hit-home-25481336.

Turnbull, J. 2020. "Checkpoint Dogs: Photovoicing Canine Companionship in the Chernobyl Exclusion Zone." *Anthropology Today* 36 (6): 21–4. https://doi.org/10.1111/1467-8322.12620.

Tyner, J. A. 2020. "The Slow and the Fast Violence of Displacement." In *The Handbook of Displacement*, edited by P. Adey, J. C. Bowstead, K. Brickell, V. Desai, M. Dolton, A. Pinkerton, and A. Siddiqi, 79–99. Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-47178-1.

UK Health Security Agency. 2023. "The Burden of Disease Caused by Damp and Mould in English Housing." UK Health Security Agency. February 2023. https://research.ukhsa.gov.uk/our-research/damp-and-mould/.

Vardoulakis, S., C. Dimitroulopoulou, J. Thornes, K.-M. Lai, J. Taylor, I. Myers, C. Heaviside, et al. 2015. "Impact of Climate Change on the Domestic Indoor Environment and Associated Health Risks in the UK." *Environment International* 85 (December): 299–313. https://doi.org/10.1016/j.envint.2015.09.010.

Vigh, H. 2008. "Crisis and Chronicity: Anthropological Perspectives on Continuous Conflict and Decline." *Ethnos* 73 (1): 5–24. https://doi.org/10.1080/00141840801927509.

Wall, T., and S. Das. 2022. "UK Tenants Face Blame for Causing Toxic Mould and Deadly Hazards under New Rules." The Guardian. 19 November 2022. https://www.theguardian.com/society/2022/nov/19/uk-tenants-face-blame-for-causing-toxic-mould-and-deadly-hazards-under-new-rules.

Wannemacher, R. W., and S. L. Wiener. 1997. *USAMRICD Textbook of Military Medicine. Medical Aspects of Chemical and Biological Warfare*. Edited by F. R. Sidell, E. T. Takafuji, and D. R. Franz. Washington D.C.: Office of the Surgeon General at TMM Publications.

Waterton, C., and K. Yusoff. 2017. "Indeterminate Bodies." *Body & Society* 23 (3): 3–22. https://doi.org/10.1177/1357034X17717111.

Watt, P. 2021. *Estate Regeneration and Its Discontents: Public Housing, Place and Inequality in London*. Bristol: Policy Press (Bristol University Press).

Worsley, S. 2018. *The Mold Epidemic: The Truth About Mold, Your Home and Your Health*. Pinedale: Self published.