

Anthropology of Toxicity

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Abstract

Uncertainty, disavowal, forgetting, and stigmatisation are common responses to toxicity: dumping grounds are habitually portrayed as ‘strange, alien spaces with no comprehensive histories’ (Little and Akese 2024). How can we best face this strangeness? What are the methodological and theoretical tools we would need to do so? Three recent volumes offer provocations for anthropologists of toxicity from phenomenological, activist, and heritage management standpoints.

Keywords

Toxicity, Heritage, Activism, Materiality, Ethnography.

Toxicity complicates distinctions between body and environment, health and illness, normality and crisis. Toxicity instigates lively attention on longstanding questions in medical anthropology: how to talk about suffering? How to account for multiple or conflicting strategies of healing and repair? How to critique power? The three volumes reviewed here, by Vincanne Adams, Nicole Fabricant, and editors Elizabeth Kryder-Reid and Sarah May, offer provocations for anthropologists of toxicity from phenomenological, activist, and heritage management standpoints. All see an opportunity for anthropology to expand or reform itself in response to toxic injuries and injustices. But each volume makes a different argument for what ethnography is (a critique of scientific reduction? A data collection method for environmental justice? A way to connect past with present?) and what toxicity is (elusive chemicals? A byproduct of racist urban policies? A material heritage?) The turn to toxicity among anthropologists speaks to larger concerns about not just what anthropology can know, but what anthropology can *do* for a troubled world.

‘If you have developed a vertigo about glyphosate and its presence in the world, then I have done my job,’ Vincanne Adams announces on the last page of *Glyphosate and the Swirl: An Agroindustrial Chemical on the Move* (2023). This accurately sets up what readers should expect from this text. The writing is relentlessly tentative and repetitive, mimicking glyphosate’s ‘swirl’ of uncertainty itself. The result is to experience a kind of simulation of the cognitive and sensory disequilibrium glyphosate elicits. Adams takes a weed killer and deploys it as a narcotic. Anthropology here functions as an invitation to inhabit the subjectivity of glyphosate’s symptoms rather than unravel its mysteries. Readers familiar with Jason Pine’s *Alchemy of Meth: A Decomposition* (2019) will find resonances in Adams’ approach to glyphosate, although her literary disorientations are firmly scaffolded on a backbone of conventional argument and narrative. Anthropologists inspired by affect theory will be in their element. While this book will likely find its audience in predominantly academic circles, the theoretical queries of *Glyphosate and the Swirl* come out of broader project: the book is a sequel of sorts to another publication about glyphosate which is more directly a critique of biomedical and industrial common sense (Perro and Adams 2017).

Glyphosate is a chemical owned by Monsanto and an ingredient in the popular herbicide known as Roundup, making it quite useful for industrialised agriculture and therefore the food systems most of us rely upon to survive. Yet once absorbed into our cells, glyphosate may intercept and even deplete the minerals we need to metabolise our food. This Gordian knot makes injury and nourishment seemingly inseparable. ‘Might glyphosate disrupt the notion that care must not be violent?’ Adams asks as she takes inventory of glyphosate’s irreconcilable multiplicities and

contradictions. She calls the unresolved dance of attraction and fear toward glyphosate a ‘swirl’.

Like spilled ink or a storm cloud, a flock of birds swarms aesthetically over the cover of *Glyphosate and the Swirl*. The image comes from a series of evocative photographs from *Black Sun* by Danish photographer Søren Solkær (2023). Solkær’s bird photography does a lot of heavy lifting for the concept of the swirl. Each chapter zooms into different areas of a ‘bird’s-eye view’ of facts about glyphosate that ‘refuse to settle’. The ‘swirl’ as an analytic comes into focus on page 106, where Adams describes the ‘fluid solidity’ of starlings in flight. For Adams, this pattern of movement (called ‘murmuration’) ‘conjoins specific kinds of tangibility, visibility, and the appearance of temporary firmness’, while remaining unpredictable and open to perturbations.

Theoretical physicists believe that murmuration has a protective function, ‘enabling the birds to collectively seem larger than they are as individuals and thus avoid predation’ (108). Swarming also allows birds to ‘sense’ in a larger mass and thus perceive more of their surroundings than they could alone. The abortive attempts at consensus around glyphosate’s safety chase this feeling of largeness: ‘the resting points of certainty and of harm reveal clusterings of things that can make evidence seem larger than it might otherwise be’ (110). As an aside, Adams also ponders how glyphosate’s endocrine-disrupting properties might affect birds themselves and their ability to even participate in murmuration, underscoring her point throughout the book that the materiality of glyphosate and its itinerant existence has conditioned how scientists and anyone or anything else has come to know it.

Most importantly, the swirl is analytically and ethically superior to ‘consensus’ for Adams. Scientific consensus ‘may have outlived its utility’ if we accept the harsh reality that academic and industrial interests are tangled together. As such, directly arbitrating on questions of ‘corrupt versus trustworthy’ or ‘reliable versus biased’ science is not of interest to Adams. Instead, she analyses the compulsion to split science into good or bad. For Adams, the quest for a clean, transparent answer about glyphosate is understandably appealing but ultimately futile in the chaotic conditions in which chemicals and people co-mingle.

Even when she is skeptical, Adams writes with generosity and curiosity about her friend Michelle, a pediatrician disillusioned with mainstream medicine who guides families with chronically sick children to focus on nutrition and eliminate glyphosate from their diets. These families, described in chapter five, seem pragmatic rather than ideological about glyphosate’s risks, and start buying only organic food. For medical anthropologists, these ethnographic sections offer intimate glimpses into the tricky process of navigating different clinical encounters, both conventional and

alternative, in search of something that ‘works’. These observations left me wondering how much this is a Californian story. The Bay Area has been called ‘a major, if not the major locus of the holistic health movement in the U.S.’ (Baer et al. 1998). Some context for this reputation would help us grasp exactly how Michelle and her clients fit into an ‘alternative’ versus ‘mainstream’ dichotomy in a place where a healthy lifestyle is openly commercialised and valorised.

Adams accompanies anti-glyphosate activists who deliver emotional and often depressing testimonies of ruined health to California state legislators. The lack of response they receive highlights the steep level of organising capacity needed to get laws to shift even slightly toward restricting glyphosate’s circulations. However popular the idea of protecting children from glyphosate might be, a movement needs large, powerful constituencies, like farmers, the California Nurses Association, or the United Auto Workers. While Adams flags a bias toward parent/child anxieties in toxic activism, it would have been helpful to also hear about other interlocutors’ positionalities within a given food system. Scientists, patients, activists, or simply glyphosate itself dominate the cast of characters. Even though Adams is more interested in ‘upstream’ effects, I still found myself wanting to hear more about farm owners, labourers, and other agricultural actors. A crisp delineation of what glyphosate means for rural California versus urban California, or for food producers versus consumers, would only strengthen Adams’ project to render glyphosate a shapeshifter.

Where does Adams land in her own swirling analysis? We are left with the hopeful and morally uplifting idea that the swirl is not simply ‘chaotic’ but can be ‘mobilized for deliberative action’, and perhaps even be an ‘instrument of distributive activist justice’ (citing Michelle Murphy). The mountain of information (valid or otherwise) we have about payoffs and malicious actors has only made us feel even more powerless about glyphosate, Adams argues. ‘Facts do not make consensus; people do, by holding some kinds of evidence close and others distant’ (106). If we could see ourselves as moving in a swirl rather than grasping tightly at evidence, perhaps we would become more agile and flexible in our navigations of toxic harm. But how to square these emancipatory potentials with the desire to find facts that make us ‘feel larger’ and thus safer, to return to the lesson of the swarming birds? I’m intrigued, but like someone with a compromised gut, I struggle to digest the questions that have been posed. This is not necessarily a bad thing.

Where Adams is moved to flights of theory, Nicole Fabricant is down-to-earth in her work with grassroots communities in *Fighting to Breathe: Race, Toxicity, and the Rise of Youth Activism in Baltimore* (2022). This book will likely resonate with anthropologists who feel ambivalent about academia and are drawn to teaching and activism. Fabricant spent ten years as an active participant in environmental

justice organising in Baltimore, and this long-term perspective results in a deeply informed account of both failure and success. Fabricant does not shy away from describing political splintering and racial tensions within activist spaces. These descriptions offer valuable examples for readers seeking to carry out similar activism or infuse their teaching with community partnerships. Fabricant's experiences of the ups and downs in such work have left her hopeful: in 'the murky gray spaces of organizing, or even working through conflicts and challenges . . . great learning often occurs', leading to 'more resilient inter-racial, intersectional coalitions' (18).

The South Baltimore Peninsula is a partially postindustrial and economically depressed neighborhood. Its homes, schools, and playgrounds stand beside heavy industry, landfills, and incinerators, resulting in soaring cases of asthma that leave many residents 'fighting to breathe'. Deep histories of segregation have created a 'Black Butterfly' in the geography of Baltimore, in which Black residents are concentrated in two 'wings' of the city adjoined to a majority white L-shaped area (Brown 2016). The part of Baltimore Fabricant focuses on is so far south it doesn't even register on the butterfly map. Its residents are working-class descendants of Eastern European, Appalachian, and Black migrants, resulting in dynamics that invite curiosity about how race and racism operate here.

The book traces an arc of transformation in a cohort of high school students. We follow them as they mature into activists and move from classroom lessons to public speeches and protests. Their teacher Danny, a former Peace Corps volunteer, uses a blend of Freirean pedagogy, Socratic method, and hands-on activities like crafts, music, or cooking to get students to bond and talk about their lives. Gradually, students become more comfortable and adept at adding layers of geography, history, and politics to their autobiographies. The students frame most of these narratives in terms of trauma, which becomes the template for further articulating toxic injustices in their neighborhoods. While generative, this process is fraught. In a striking metaphor Fabricant observes that 'human stories of pain and trauma can get commodified and exchanged, even speculated upon, just like the abandoned buildings in low-income neighborhoods' (164).

Students, and the teachers and experts who mentor them, persist through cycles of disappointment and hope as they attempt to establish community land trusts, block the building of a new 'green' incinerator, and promote city-wide composting, with varying success. The students are inspired by a professional theater production of Henrik Ibsen's *An Enemy of the People*, a play in which a town ostracises a doctor who speaks up about polluted waters. They build a stage for performances in their own divided city. They feel a mix of anxiety about public speaking, excitement to work together, and ultimately restless dissatisfaction with

art as a vehicle for change. Experimentation with civil disobedience culminates in a particularly talented student winning an international award for environmental activism, a sequence of events that aptly illustrates the many ambivalences that thread through Fabricant's account. Is activism compromised when it begins to resemble a professional path dictated by academia, nonprofits, and government? Can youth activists be taken seriously or will they be ignored, patronised, or controlled? These are the uncomfortable questions Fabricant urges us to think through as we see students move through a web of institutions with opaque agendas.

One seemingly intractable antagonism in Baltimore appears to be between labour politics and environmentalism. Henry, a steelworkers' union leader, represents hard-nosed realism, while the students' voices come across as much more idealistic. One can imagine the compelling results if these cross-generational perspectives combined forces, but one of the main takeaways from this book is that solidarity is never easy to accomplish. In reality, the environmental and economic crises facing South Baltimore manifest in simmering tensions that occasionally boil over, dissipating energy rather than channeling it. On one ninety-five-degree summer day, young protestors block the entrance of an incinerator. In the frustrating traffic jam that ensues, one garbage truck driver starts screaming and threatens to run them over. Another driver asks, 'what about our jobs?' The activists reply, 'we want you to have clean and green jobs,' and 'you will be part of the just transition,' but one senses that even the students feel less than confident in this lukewarm rhetoric. The concept of halting or disrupting production is one that in theory would unite workers and environmentalists, yet we see here how messy this can be in practice.

It is clear that Fabricant is passionately committed to teaching and that she genuinely respects and cares about the students she writes about. This is admirable but sometimes it blunts her critical edge when it comes to describing her interlocutors. As someone who has also struggled with questions of allyship in a highly politicised fieldsite, I would have loved to read more about Fabricant's own challenges acting as both ethnographer and mentor, and how these two roles worked together. In her postscript, Fabricant laments the insular priorities of the academy. Rather than hoard their methods, Fabricant suggests anthropologists of toxicity 'turn over' their knowledge creation toolkits to activists. The paradigm of participatory action research is lauded, but perhaps does not go far enough for Fabricant, who wonders what it would look like for anthropology to simply 'become extinct'. While it is true that in academia one is encouraged to publish in an idiom that contributes little to social change, Fabricant could elaborate much more on whether training activists in ethnographic data collection is a realistic or effective alternative. Some scholars of toxicity have argued that seeking to convince

polluting industries or negligent governments with ‘evidence’ is a dead end (Shapiro, Zakariya and Roberts 2017). I think many readers would appreciate seeing Fabricant engage more with this epistemological debate.

In *Toxic Heritage: Legacies, Futures, and Environmental Injustice*, we find an edited volume with eighteen chapters interspersed with shorter, more impressionistic ‘case studies’ and ‘visual essays’ that offer glimpses of toxic places around the world. Taken as a whole, the contributions deliver an impressive balance of conceptual and applied writing. This volume will thus have something of interest for many kinds of anthropologists, whether their niche is theorising the Anthropocene or working in a museum (or both). Many of the authors are interested in how the memory techniques of heritage management—monumentalising, landmarking, preserving—can have political impacts as a powerful ‘counternarrative to the denial and amnesia that often serve corporate and state interests’ (344).

The strongest essays draw out the moral ambivalences of both ‘toxicity’ and ‘heritage’. In this volume, the definition of heritage, like the definition of toxicity, owes much to an earlier concept, the Greek *pharmakon*, which can mean either blessing or curse, and thus does not have a purely negative meaning as the contemporary usage of ‘toxicity’ does (see Butler 2011). Whether toxic heritage is best understood as spatial or temporal is another interesting dichotomy that stays in flux across the chapters. While neoliberalism (and resistance to it) looms large in many of the case studies, ‘heritage’ itself could be situated in a broader political landscape. For example, do reactionary or nationalist sentiments ever surface in heritage work? If so, what does it look like for those ideologies to intersect with toxic sites?

The ways of interpreting heritage are manifold. Heritage can be ‘valorization, remembrance, forgetting, spur to action, or mechanism for forgiveness’ depending on the context (7). In rural Scotland, artists are drawn to dramatic mounds of deposited industrial waste and deliberately compare them to ancient, neolithic structures like Stonehenge, which are more uncontroversially accepted as ‘heritage’. John Schofield and Celmara Pocock plot plastic objects (or ‘technofossils’) along a stress-strain curve to make a distinction between cultural heritage (when plastic objects retain structural integrity as recognisable, useful objects) and toxic heritage (plastics when they become embrittled, fractured, and break down into dispersed microplastics). This temporal mapping brings into focus a crucial window of opportunity where plastics can either be discarded and become ‘toxic heritage’ or conserved as ‘cultural heritage’ (68). We might start to wonder: what kind of heritage do we want to contribute to?

The 'heritage management life cycle' adopted from Cecilia Pasquinelli (2016) offers another temporal model for scholars who wish to engage memory and history practices as active, social creations. In this framework, heritage is a tool in post disaster recovery in which 'the past is defined in natural order toward reconstruction' as 'dark heritage, reconstruction, and restored' (86). Sarah May elaborates on this model by arguing that these three stages 'are not naturalized positions related to the passage of time, but political positions, reflecting choices and negotiation' (86). May, and many other authors, are critical of neoliberal agendas in the pursuit of heritage management. But who are the actors in 'climate and public health politics' for whom May advocates as collaborators, ethnographically speaking? How can they be clearly distinguished from the 'economic actors' in corporations, research institutions, and government agencies who regularly cite concern for climate and public health in their initiatives? In another chapter, Marina Weinberg and Valentina Figueroa caution social scientists against uncritically absorbing 'green utopic' terminology around energy transitions and sustainability, as they find these future-oriented visions 'often contribute to abandoning the contradictions of the present' (120).

The anthropology of toxicity deals not only with the material contingencies of human life, but also extends into exploring a set of secondary questions about the politics of representation. Rendering toxicity visible can be a corrective to counter strategic 'productions of ignorance' (cf. Proctor and Schiebinger 2008) that obfuscate accountability for toxic harms. Indeed, many communities protest toxic conditions by turning to tactics of exposure and witnessing. Authors in *Toxic Heritage* are quite directly engaged in facilitating increased visibility, while Adams is compelled by the way toxic visibility can operate like an optical illusion. For Fabricant's interlocutors, autobiographical recognitions of toxic injury are an essential (but not final) developmental step in the cultivation of the activist subject.

A few other authors in *Toxic Heritage* pull the discussion into a different direction, by calling out the often unconsciously embedded framework of hazard and fear that dominates accounts of the toxic. Take the Chinese villagers Loretta Lou writes about, for whom 'toxic contamination has never been the driving force for changes and actions' (178). These villagers are neither activists nor victims, but instead 'bargain with toxic heritage' while holding on to divergent values that change in relevance and proportion over time. Peter Carskadon Little and Grace Abena Akese, in their account of an e-waste site in Ghana slated for redevelopment, similarly find it is important not to 'overemphasize' toxic heritage over other local interests that play out in conflicts over toxic sites (141). These examples suggest that anthropologists of toxicity need theories of agency that account not only for sincerity but also more subtle positions like negotiation, indecision, or intermittent attachments and obligations.

Many anthropologists of toxicity, like Fabricant, take organised activists as obvious protagonists from the outset. Others, like Adams, start from queries into 'care' or practices such as what Manuel Tironi has called 'hypo-interventions' (2018) and locate in these informal activities a kind of speculative and dispersed potential for building alternative worlds. The blurring of toxicity and activism as objects of inquiry is a matter of active debate in anthropology. How to even define activism itself is an open question. On one hand is a 'confrontational' paradigm of activism (see Lora-Wainwright 2021) and on the other a 'mundane' paradigm that claims the intimate struggles of everyday life as activism or at least a proto-activism. A related disagreement exists over whether the 'tendency in popular and ethnographic writing to equate toxicity with crisis' (Nading 2020) is a problem or not. Some fear that reproducing 'damaged-centered' narratives of toxicity (Tuck 2009) is too limiting and disempowering, while others worry that to hold mixed or unresolved feelings about toxicity ultimately amounts to acceptance, or even worse, plays into corporate hopes to normalise, deny, and profit from toxic harm (see Bond 2021).

The ethical pressures and dilemmas that accompany the study of toxicity are indicative of broader disciplinary anxieties about description versus intervention. It is not a coincidence that uncertainty about classifying anthropology's methods, purpose, and relevance arises in a moment of high institutional insecurity. Higher education administrations are regularly finding reasons to cut social science budgets, and perhaps anthropology is looking for a new lease on life, whether from affiliating more with STEM disciplines or drawing energy from activism. The turn to toxicity in anthropology often delivers a sense of urgency and license to alternative modes of scholarship that speak to these existential concerns. Honestly acknowledging these concerns, when they appear, would be an important corrective to rebalancing the question of what anthropology can do for the problem of toxicity, not only the other way around.

Taken together, these three texts and their stylistic contrasts demonstrate that the anthropology of toxicity is fragmented across different intellectual and political commitments that, if not at odds with each other, are not necessarily cross-pollinating, either. In Adams' hands, anthropology stimulates imagination and emotion in order to puncture scientific rationalities and replace rigid data categories with phenomenological poetics. Adams' ethnographic subject is a chemical compound, but her conclusions are imbued with psychological sensitivity to the serious cognitive (as well as physical) burdens of living with glyphosate. With her direct focus on harm, Adams distinguishes herself from other approaches in new materialisms which have sometimes romanticised toxic entanglement. That said, *Glyphosate and the Swirl* is still a book that makes the reader struggle to reach comprehension, and thus implicitly affirms the scholarly virtuousness of wrestling with difficult and esoteric questions. Fabricant, on the other hand, intentionally

frames her project as antagonistic to academic norms and challenges the hierarchies of value that subordinate teaching to research, pursuing anthropology as a discipline seeking to undo itself and be reborn in service to activists. Pragmatism, collaboration, and accessibility are the virtues that take center stage here. *Toxic Heritage* shows how cultural anthropologists could expand their horizons not only by reaching out into activist pedagogies but also by learning from their disciplinary neighbors in archaeology and museum studies about approaches to toxic pasts that circumvent easy notions of rescue, nostalgia, or progress.

All three books test the boundaries of ethnography and toxicity. In the dissolution and remixing of disciplinary habits, they arrive at different vocabularies, partnerships, and strategies. The distinct paths these books weave through the anthropology of toxicity do not take us to a definite destination so much as they push anthropologists to clarify what they care about and where they want to go.

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An ethical review was not required for this review.

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