Introduction: The Molecular Intimacies of Empire

HSUAN L. HSU, University of California, Davis
DAVID J. VÁZQUEZ, American University

It is strangely fitting that this special forum on *The Molecular Intimacies of Empire* should have been obstructed at various points by Covid-19—a telling instance of the molecular intimacies of empire. As scholars of race and ethnicity and environmental justice, we were not surprised by the ways the pandemic intensified economic, social, and environmental inequalities. But the course of the pandemic—which experts believe originated amid the human–nonhuman intimacies of Wuhan, China—exemplifies the simultaneously global and molecular intimacies considered in this forum. Transmitted by the intimate and unavoidable act of breathing, the virus spread along the trajectories of transnational commodity and labor logistics, its rapid mobility and ongoing mutations facilitated by the proximities of the factory, the supply chain, and other sites sustained by the labor of essential workers.

Wuhan—both the geographical place and the economic space—is itself a product of the intimacies of empire. It arose from the combination of three cities, Hangkou, Hanyang, and Wuchang, as a result of the 1858 Treaties of Tianjin between Britain, France, and China. A major port city tied to global trade, Wuhan has been instrumental in China's development as a world power, including its role as a steel, chemical, and heavy tool manufacturing hub. But the economic forces that make Wuhan a prosperous center of global trade have also wrought consequences like urban sprawl and industrial pollution that have displaced wildlife and degraded water quality in the Yangtze River basin. As Stacy Alaimo has recently noted, human incursions into the more-than-human world as a result of the relentless march of capitalist development have left us ignorant of the long-term implications of our species's effects on the natural world. Alaimo's point underscores not just the identifiable costs of empire (such as the development of novel pathogens), but also those forms of life where "extinction and 'discovery' may happen simultaneously."[1] As Covid has spread worldwide, local outbreaks and new mutations have been enabled by "preexisting

conditions"—such as economic inequality, infrastructure, living conditions (especially in prisons and migrant detention centers) embodied health disparities, and unequal access to (and trust in) health care—wrought by longer histories of racial capitalism and empire.

Online interactions through Zoom and social media have redefined intimacy during the pandemic—and, of course, all the coordination, collaboration, and conversation for this special forum took place online. Yet these online proximities are all made possible by minerals like the cobalt in lithium ion batteries, as well as the coal energy that runs many computers and computer servers worldwide. Cobalt mining in the Democratic Republic of the Congo—which supplies about seventy percent of the world's cobalt—sustains lithium ion devices that enable everyday virtual interactions; but these disembodied intimacies come at the cost of chemical toxicity dispersed through air and water to the bodies, families, and communities of miners in the DRC. Thus, the disembodied intimacies of work, leisure, and community engagement that have become normalized as a precautionary measure for the privileged are continually refueled through chemical exposures that manifest in the bodies of miners and others living near the mines in the form of lung disease, heart failure, birth abnormalities, and other health conditions.

Produced through and amid these conditions of starkly differentiated viral and chemical "intimacy," this special forum features interdisciplinary research on topics situated at the intersection of molecular and transnational scales. Centering the molecular brings into the focus the ways in which intimacy is produced and/or influenced by biochemical structures and processes involving diminutive masses or tiny units such as cells, DNA, food components, and synthetic chemicals. But our interest in the molecular also implies the constituent parts of empire: those tiny sites of knowledge, culture, discourse, and power relations where the quotidian gravity of empire is expressed on and in bodies and populations. By molecular intimacies we mean to suggest both the microregisters through which empire expresses itself and is reproduced and the literally microscopic scale of biochemical interactions. The molecular intimacies of empire encompass a broad range of everyday and exceptional intimacies: from the bioprospecting and racialized labor regimes oriented by chemo-sensations of sweetness, spice, and fragrance produced through plantation labor to US pharmaceutical testing in Puerto Rico; from eugenic and dietetic discourses on genes and calories to embodied negotiations of toxic intimacies. Simultaneously chemical and social, molecular intimacies between landscapes, species, laboratories, commodities, and bodies have shaped the history, geographies, and ontologies of racial capitalism. In shifting attention to molecular exchange, our hope was to hold space for generative conversations between transnational scholarship on the "intimacies of empire" and New Materialist work on material agency and "trans-corporeality."[2]

Following the foundational work of Ann Laura Stoler, Laura Wexler, Amy Kaplan, Nayan Shah, Lisa Lowe, and others, scholars have traced the formative and frequ-

ently disavowed relations between colonialism and intimacy across sites such as plantations, factories, residential schools, kitchens, and bourgeois bedrooms.[3] As Lowe has taught us, modern institutions of bourgeois individualism and domesticity are inextricable from a far-flung web of intimate relationships:

> Bourgeois intimacy, derived from the private and public split that was the socio-spatial medium for both metropolitan and colonial hegemony, was produced by the "intimacies of four continents"—both in the sense that settler colonial appropriation with enslaved and indentured labor founded the formative wealth of the European bourgeoisie, and … in the sense that colonized workers produced the material comforts and commodities that furnished the bourgeois home.[4]

Expanding conceptions of intimacy far beyond the scope of the bourgeois individual, Lowe draws attention to the formations of labor and colonialism that underlie the sensuous material trappings of the bourgeois home ("Chinese porcelain, muslins, and silks, chintz and calicoes…"), while also emphasizing how colonial and imperial relations of labor that reproduce everyday materials and sensations for the metropolitan bourgeoisie have created conditions for unruly counterintimacies: "the sexual, laboring, and intellectual contacts among enslaved and indentured nonwhite peoples."[5]

Alongside (and entangled with) these "sexual, laboring, and intellectual contacts," we wish to draw attention to colonial and imperial intimacies that occur on the molecular scale. New Materialist and feminist scholars such as Karen Barad, Nancy Tuana, Alaimo, and Michelle Murphy have theorized dynamic, material processes—"intra-action," "viscous porosity," "trans-corporeality," and "chemical regimes of living"—that both constitute and continually traverse the individual boundaries of body and self.[6] Together with the sexual, emotional, and intellectual relations frequently emphasized by scholars of the intimate, the exchange of matter between bodies and environments is a vital site for understanding "intimacy"—a word that derives from *intimare,* Latin for taking in or becoming *intimus,* "inmost." Thus, elaborating on trans-corporeal research as a "politicized knowledge practice," Alaimo writes: "Going in search of our ecological roots has both intimate and far-flung dimensions."[7] It follows that we may not be able to ascertain the full implications of empire's reach into individual bodies and far-flung polities by studying either of these in isolation. Part of the reason why we wanted to explore these intimacies, then, was to provide an intellectual space for triangulating such material knowledges and experiences, and to explore understudied and little noticed dimensions of imperial projects.

Another aspect of the intimacies that we wanted to explore has to do with the relations between toxins, bodies, and commodities. In *Animacies: Biopolitics, Racial*

Mattering, and Queer Affect, Mel Chen writes of "molecular intimacies"[8]—material exchanges between bodies that have toxic—and potentially queer, intoxicating—repercussions, and that materialize and sometimes disrupt biopolitical hierarchies. Commodities are products not only of a range of interpersonal intimacies, but "nonhuman intimacies" such as those that transpire when a boy licks a toy train painted in a Chinese factory, or when Chen's interactions with everyday toxins pave the way for experiencing an "interabsorbent, interporous" intimacy with their couch.[9] Understood from these perspectives, it appears that such intimacies have both microscopic and macropolitical implications—implications that have become increasingly complex and difficult to grasp with capitalism's ongoing technological advances, molecular manipulations, and ecological depredations.

Putting these two frameworks for research on "intimacy" in conversation highlights emergent lines of interdisciplinary inquiry for scholars of transnational American studies. Understanding intimacy in simultaneously molecular and imperial terms provokes questions about the chemo-social[10] aspects of empire and the biochemical aspects of "biopolitics"—whether those manifest as foods, fragrances, paint pigments, or chemical and radioactive exposures. If food and scent are common conditions of metabolic capacity and bourgeois intimacy,[11] what conditions make available the molecular constituents—as well as the chemical externalities—of such quotidian metabolic processes and chemosensory experiences? How does the manipulation (whether deliberate or unintentional) of molecular structures modulate social and sexual intimacies? How can we continue adapting methods from science and technology studies—often in conversation with affect studies and environmental justice research—to better understand the material conditioning of subjectivity, embodied sensation, and social life? How can we respond to the interdisciplinary and methodological challenges of attending to cross-scalar interactions between transnational geographies and molecular exchanges? Flowing from Edward Said's observation that "imperialism … is an act of geographical violence,"[12] how can we reconceive of US imperialism and colonization as a project that terraforms landscapes, ecologies, bodies, and affects through molecular transformations whose risk burdens are allocated to the most vulnerable bodies and communities? How do dispositions and circulations of matter at the molecular scale intersect with ongoing struggles over the (racialized, gendered, sexualized, settler colonial, ableist, bourgeois) framing and exclusions of the "Human"? What new approaches to comparative, transnational research emerge when we attend to arrangements of molecular intimacy? And how might the recognition of molecular intimacies that span nations shift practices of resistance, resurgence, and the building of more just and livable futures? These are some of the vital questions explored, collectively, by the contributors to this forum.

Spanning fields such as food studies, visual culture, history of science, literary studies, environmental justice, and critical ethnic studies, the essays presented in this forum exemplify the interdisciplinary, geographic, and archival connections enabled by research focused on transnational, molecular intimacies. In "The Making of the

American Calorie and the Metabolic Metrics of Empire," **Athia N. Choudhury** develops a far-reaching critical genealogy of caloric biocitizenship that reframes her personal experiences with calorie counting and fat-phobic discourses that stigmatize the bodies and pleasures of racialized, working-class people, especially female-bodied and fem-identifying people. Tracing practices of energy management and bodily discipline from colonial military outposts, nineteenth-century domestic manuals, dietetic discourses in the Philippines, and Native American boarding schools to a range of reform projects that framed calories as a tool for inculcating responsible eating through the domestic practices of white, bourgeois women, Choudhury highlights continuities between colonial subjection and modern biocitizenship, as well as the ways in which the putatively objective metric of the calorie positioned the New American Woman as "a powerful catalyst for policing race in the intimate domain of the home."

Theresa Ventura's "Consider the Coconut: Scientific Agriculture and the Racialization of Risk in the American Colonial Philippines" traces the coconut as a transnational biocommodity to the colonial Philippines, where US agricultural entrepreneurs drew on the colonial state to establish a "coconut plantation economy" grounded in forced labor on penal farms. Contrary to the popular botanical belief that coconuts spread naturally throughout the equatorial regions of the world, Ventura chronicles how colonial powers established monocrop plantations created and supported by racialized and incarcerated laborers. Ventura goes on to demonstrate how US empire contrasted the body burdens of racialized plantation labor with marketing strategies in the US that emphasized the health of coconut consumers. While coconut oil and products—such as oleomargarine—that depended on it were advertised as economical and healthy substitutes for dairy butter, dairy farmers retaliated by associating Philippine copra with racialized images of filth and corruption. By exposing the Western coconut market's origins in colonial domination, carceral capitalism, and ecologically destructive practices of "scientific" agriculture, Ventura's essay offers a striking counternarrative to contemporary efforts to market the coconut as a "primitive" health food.

Where Ventura traces contemporary Western foodways to the colonial plantation, **Marcel Brousseau**'s "Birdseye's Frosted Possession: Processing, Storing, and Transmitting the Gift of Inuit Thermocultural Knowledge" considers the transnational, colonial history of the frozen food industry embodied by shifting historical accounts of Clarence Birdseye's theft of Inuit practices of quick-freezing. Drawing on Aileen Moreton-Robinson's (Goenpul) concept of "white possession," Brousseau shows how accounts of Birdseye's "discovery" mobilized scientific discourses involving molecular processes and the crystalline structure of ice to deracinate and commodify Labrador Inuit and Métis knowledges about quick-freezing, recasting an Indigenous technology of food preservation geared towards survival in Labrador's local seasonal system as a portable, salable, and scalable idea. Brousseau concludes by reflecting on the moral imperative of reciprocity embedded in quick-frozen foods—the "frozen archives of Inuit-settler discourse" which can now be found in everyday spaces worldwide.

Aiko Takeuchi-Demirci's contribution, "From Radiation Effects to Consanguineous Marriages: American Geneticists and Colonial Science in the Atomic Age," considers the career of the US geneticist James Neel in post-WWII Japan. While historians have critiqued the racial and ideological dimensions of Neel's work on the genetic study of atomic bomb survivors in Hiroshima, Takeuchi-Demirci focuses instead on Neel's subsequent work on Japanese consanguineous marriages. She argues that Neel speculatively framed consanguinity as a strategy for maintaining white Americans' racial purity in the face of increased immigration and interracial marriages in the US.

In "Viruses, Vaccines, and the Erotics of Risk in Latinx HIV Stories and Covid-19" **Suzanne Bost** reflects on her earlier readings of Latinx writings on HIV/AIDS from the perspective of the Covid-19 pandemic. In a striking blend of literary analysis, personal reflection, and Covid-19 chronicle, Bost reconsiders arguments about the racialized intimacy produced by shared vulnerability to HIV. Reading John Rechy's *The Sexual Outlaw* and Julia Álvarez's *Saving the World* alongside the poems responding to the novel coronavirus collected in Alice Quinn's volume *Together in a Sudden Strangeness*, Bost brings critical insights from Latinx poetry, fiction, and memoir to bear on the globally uneven and deeply racialized patterns of disease risk and health care accessibility crystallized by the ongoing permutations of Covid-19.

Zaynab Quadri's article, "TGI Fridays in Kandahar: Fast Food, Military Contracting, and the Intimacies of Force in the Iraq and Afghanistan Wars," analyzes the development of Name Brand Fast Food (NBFF) establishments on US foreign military bases during the Iraq and Afghanistan wars. Drawing on work in food studies, logistics, and military history, Quadri argues that the chemosensory qualities of fast food sustained the morale of US volunteer soldiers. Meanwhile, these NBFF restaurants drew on expansive, transnational commodity chains and labor networks, effectively channeling the labor of a "shadow army" of disproportionately racialized, migrant workers into gastronomic intimacies that supported the projection of US imperial and military power abroad. As Quadri points out, the bourgeois sensibility that buoyed the morale of US soldiers engaged in imperial conflicts in Iraq, Afghanistan, and other spaces in the Global South relied on subordinated workforces that allegedly included unpaid coerced labor. The ironies of such a system of under/unpaid labor in support of bourgeois comforts, Quadri argues, brings into sharp relief the commodity exchanges that underwrite imperialism in the age of global capital.

In "Visions of Consent: Nunavummiut Against the Exploitation of 'Resource Frontiers,'" **Amber Hickey** considers how womxn-led groups in Nunavut have leveraged visual media to expose and challenge the environmental violence of militarization and extractive industry. Drawing on Traci Brynne Voyles's concept of "wastelanding," Hickey critiques Canadian and US representations that frame the Arctic as an uninhabited, empty space available for settler colonial exploitation. By contrast, visual works by the Place Names Program and Arnait Video Productions put forward representational models of Indigenous consent and reciprocity that emphasize Inuit womxn's intimate, intergenerational knowledge of the land.

In "Affective Chemistries of Care: Slow Activism and the Limits of the Molecular in Ocean Vuong's *On Earth We're Briefly Gorgeous*," **Rachel Lee** reads Ocean Vuong's novel as a counterintuitive account of extended forms of emotional support that enable precariously positioned Vietnamese and white working-class characters to mitigate their everyday toxic exposures. By centering the novel's scenes of care work, Lee tracks instances of "slow activism" in which characters respond to the dynamics of environmental slow violence and "molecular recruitment" (or the turn to chemical modes of managing embodied harm) through queer, crip modes of responsiveness and reciprocity. While it is informed by Vuong's engagements with intergenerational trauma, war, domestic violence, and queer-of-color coming-into-consciousness, Lee's analysis moves the novel into new interpretive terrain by framing it as a model of intersectional care work that might extend allyship across the lines of class, race, sexuality, citizenship, and gender.

The final entry in this forum, "The Materials of Art and the Legacies of Colonization: A Conversation with **Beatrice Glow and Sandy Rodriguez**," presents a conversation that we held with two exciting artists whose work reckons with the imperial and colonial histories that underlie conventional materials of art and aesthetic experience. Among other things, Glow and Rodriguez share insights about their artistic processes, their experiments with pigment-making, scent production, field research, and collaboration, and how they have reflected on and enacted alternatives to the transnational sourcing of pigments, dyes, scents, and tastes.

By way of conclusion, we also want to highlight some of the methods and questions that came up when we brought these various sites of inquiry together for this special forum. We were not surprised to see that the essays focused on the peoples, cultures, and histories who experience the brutal force of colonial and racial capitalism most acutely. What was more surprising, however, were the diverse methodologies—including autotheory, archival research, close reading, history of science, and queer-crip studies—that scholars from literature, history, visual culture, sociology, food studies, and ethnic studies are bringing to bear on a striking range of individual sites. The contributors bring this breadth of topics and approaches to a common set of concerns informed by research on settler colonialism, empire, biopolitics, and transnational American studies. We were also impressed by the transscalar analysis featured in these contributions: from contemporary imperial incursions into Iraq and Afghanistan that highlight the macropolitical machinations of global capital, to the regulation of individual fat cells in racialized womxn's bodies vis-à-vis the calorie, each contributor sought to hold temporal, geographical, and cultural scales in macro/micro tension. The result, we think, is an exciting conversation that traverses numerous temporal, molecular, and geographical dimensions. Finally, we were struck by the generative ways in which these essays draw on conversations in science and technology studies to highlight the workings of toxicity across diverse sites of America's transnational influence.

We hope this special forum will contribute to further scholarship that endeavors to work through the molecular entanglements of transnational American studies—an endeavor that requires thinking at multiple scalar, geographical, and temporal levels at once. We are excited about the resonances among the essays presented here, and we hope they will propel others to interrogate more neglected sites of molecular knowledge, power, and resistance. Finally, we hope this special forum will provoke readers to explore their own relationships to the molecular intimacies of empire, regardless of their social or political location.

Notes

1 Stacy Alaimo, "Introduction: Science Studies and the Blue Humanities," *Configurations* 27, no. 4 (2019): 430, https://doi.org/10.1353/con.2019.0028

2 For a formative discussion of research on "intimacies of empire," see Ann Laura Stoler, "Tense and Tender Ties: The Politics of Comparison in North American History and (Post) Colonial Studies," in *Haunted by Empire: Geographies of Intimacy in North American History* (Durham, NC: Duke University Press, 2006), 23–67; on "trans-corporeality," see Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self* (Indianapolis: University of Indiana Press, 2010).

3 Stoler, "Tense and Tender Ties," and Ann Laura Stoler, *Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule* (Berkeley: University of California Press, 2002); Laura Wexler, *Tender Violence: Domestic Visions in an Age of U.S. Imperialism* (Chapel Hill: University of North Carolina Press, 2000); Amy Kaplan, "Manifest Domesticity," *American Literature* 70, no. 3 (September 1998): 581–606, https://doi.org/10.2307/2902710; Nayan Shah, *Stranger Intimacy: Contesting Race, Sexuality and the Law in the North American West* (Berkeley: University of California Press, 2012); Lisa Lowe, *The Intimacies of Four Continents* (Durham, NC: Duke University Press, 2015).

4 Lowe, *Intimacies*, 30.

5 Lowe, *Intimacies*, 88, 35.

6 On "intra-action," see Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 132-85; Nancy Tuana, "Viscous Porosity: Witnessing Katrina," in *Material Feminisms,* ed. Stacy Alaimo and Susan Hekman (Bloomington: Indiana University Press, 2008), 188–213; on trans-corporeality, see Alaimo, *Bodily Natures*, 2; Michelle Murphy, "Chemical Regimes of Living," *Environmental History* 13 (October 2008): 695–703, https://www.jstor.org/stable/25473297

7 Alaimo, *Bodily Natures*, 98.

[8] Mel Chen, *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (Durham, NC: Duke University Press, 2012), 16.

[9] Chen, *Animacies*, 203.

[10] See Eben Kirksey, "Chemosociality in Multispecies Worlds: Endangered Frogs and Toxic Possibilities in Sydney," *Environmental Humanities* 12, no. 1 (May 2020): 23–50, https://doi.org/10.1215/22011919-8142198

[11] For important studies of the metabolic and sensory import of transnational food products, see Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin, 1986), and Sarah Tracy, "Delicious Molecules: Big Food Science, the Chemosenses, and Umami," *Senses and Society* 13, no. 1 (2018): 89–107, https://doi.org/10.1080/17458927.2017.1420027; on scent as a medium of enabling and violent intimacies, see Erica Fretwell, "Perfume, Women, and Other Volatile Spirits," in *Sensory Experiments: Psychophysics, Race, and the Aesthetics of Feeling* (Durham, NC: Duke University Press, 2020), 131–66, and Hsuan L. Hsu, *The Smell of Risk: Environmental Disparities and Olfactory Aesthetics* (New York: New York University Press, 2020).

[12] Edward W. Said, *Culture and Imperialism* (New York: Vintage, 1993), 225.

Selected Bibliography

Alaimo, Stacy. *Bodily Natures: Science, Environment, and the Material Self.* Indianapolis: University of Indiana Press, 2010.

———. "Introduction: Science Studies and the Blue Humanities." *Configurations* 27, no. 4 (2019): 429–32. https://doi.org/10.1353/con.2019.0028

Barad, Karen. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning.* Durham, NC: Duke University Press, 2007.

Chen, Mel. *Animacies: Biopolitics, Racial Mattering, and Queer Affect.* Durham, NC: Duke University Press, 2012.

Fretwell, Erica. *Sensory Experiments: Psychophysics, Race, and the Aesthetics of Feeling*, 131–66. Durham, NC: Duke University Press, 2020.

Hsu, Hsuan L. *The Smell of Risk: Environmental Disparities and Olfactory Aesthetics*. New York: New York University Press, 2020.

Kaplan, Amy. "Manifest Domesticity." *American Literature* 70, no. 3 (September 1998): 581–606. https://doi.org/10.2307/2902710

Kirksey, Eben. "Chemosociality in Multispecies Worlds: Endangered Frogs and Toxic Possibilities in Sydney." *Environmental Humanities* 12, no. 1 (May 2020): 23–50. https://doi.org/10.1215/22011919-8142198

Lowe, Lisa. *The Intimacies of Four Continents*. Durham, NC: Duke University Press, 2015.

Mintz, Sidney W. *Sweetness and Power: The Place of Sugar in Modern History*. New York: Penguin, 1986.

Murphy, Michelle. "Chemical Regimes of Living." *Environmental History* 13 (October 2008): 695–703. https://www.jstor.org/stable/25473297

Said, Edward W. *Culture and Imperialism.* New York: Vintage, 1993.

Shah, Nayan. *Stranger Intimacy: Contesting Race, Sexuality and the Law in the North American West.* Berkeley: University of California Press, 2012.

Stoler, Ann Laura. *Carnal Knowledge and Imperial Power: Race and the Intimate in Colonial Rule.* Berkeley: University of California Press, 2002.

_____. "Tense and Tender Ties: The Politics of Comparison in North American History and (Post) Colonial Studies." In *Haunted by Empire: Geographies of Intimacy in North American History,* 23–67. Durham, NC: Duke University Press, 2006.

Tracy, Sarah. "Delicious Molecules: Big Food Science, the Chemosenses, and Umami." *Senses and Society* 13, no. 1 (2018): 89–107. https://doi.org/10.1080/17458927.2017.1420027

Tuana, Nancy. "Viscous Porosity: Witnessing Katrina." In *Material Feminisms,* edited by Stacy Alaimo and Susan Hekman, 188–213. Bloomington: Indiana University Press, 2008.

Wexler, Laura. *Tender Violence: Domestic Visions in an Age of U.S. Imperialism.* Chapel Hill: University of North Carolina Press, 2000.