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HEAT

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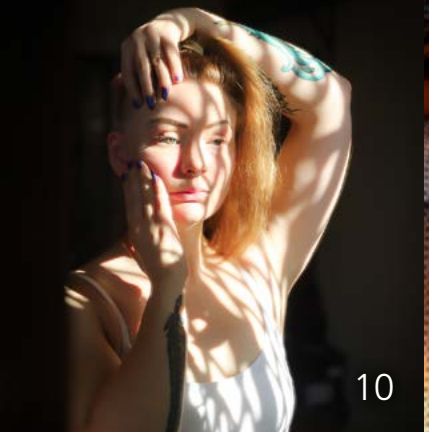

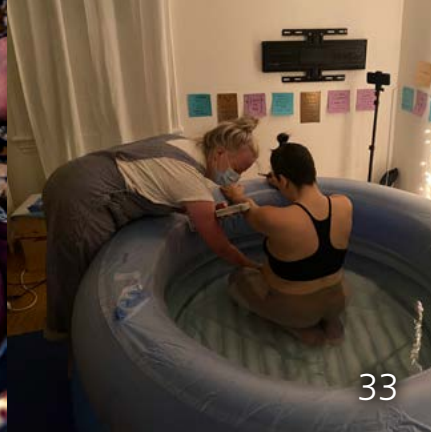

AN 65.1 turns our attention to heat of all kinds in all places, delving into ways people experience and respond to resource insecurity on an increasingly hot planet, examining the bodily sensations of cancer treatment and giving birth, and showcasing artistic engagements with changing landscapes and climates.

news

on the cover

Al-Sinak Street, summer 2023 (Credit: Murtaja Lateef). From "Under the Baghdad Sun" by Juliette Duclos-Valois.

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GOING **NATIVE**

By Bernard Perley © 2024

Battling against Air-e

By Valeria Tafurt and Pablo Jaramillo

Air-e and gas meter on the wall of a house. PABLO JARAMILLO

"Could you imagine heat like this without a fan?" people in San Juan del Cesar ask rhetorically, while sweating. As a municipality in the southern part of La Guajira, Colombia, San Juan del Cesar is one of the sunniest and hottest places in the tropical country, with temperatures that exceed 30°C (86°F) every day of the year. The sky in San Juan del Cesar is clear during most of the daylight hours, so objects seem to melt in the constant light; fresh air from a sporadic breeze always feels like a blessing. Between San Juan del Cesar's leaden sun and hot Caribbean air, electricity is paramount, and fans are everyday necessities, not luxuries.

This combination creates a perfect pressure cooker, so urban activists in the municipality are locked in a battle with Air-e (literally "air," but with an inconsequential hyphen), the electric utility company. They organize demonstrations in public spaces, where they use baseball bats to hit the air around them and set fire to electricity bills. They stage sit-ins at the company's offices to demand lower tariffs, reject the installation of "smart" meters, and claim that Air-e has not provided appropriate electric infrastructure despite constant requests. Even nonactivists in San Juan del Cesar resist in their own ways. Some inhabitants of the so-called subnormal neighborhoods have constructed their own energy infrastructure using tree trunks, while others have connected illegally to the electric grid so that they can power their televisions, computers, cell phones, refrigerators, and, most importantly, fans. At the end of the month, they refuse to pay their bills; nonpayment is also part of the protest.

Las Tunas 2 is one of those "subnormal" neighborhoods on the outskirts of San Juan del Cesar. Many of its residents are poor and its roads are unpaved, so sand rises into the air every time a moto-taxi drives through. Most houses are built by the inhabitants, including the home of one of its leaders. With an average temperature around 38°C (100°F), the front yard of his house is the coolest because a roof blocks the sun; there is space to sit and talk in Rimax plastic chairs. In this same front yard is an Air-e smart meter, which the company installed even though his house is not connected to the local distribution system. To have electricity, the neighborhood leader had to cut down a tree, put it at the corner of the street, and connect wires he bought. Now, his energy

bill arrives printed in red ink because the company sees him as a defaulter, since he has accumulated a large debt—but the heat is high and his family needs cool air from a fan, even though they can't afford the bill.

Across the municipality and the country at large, there are many similar situations, and the dynamics of energy infrastructure in the Caribbean have a long and fraught history. The previous energy utility company, ElectriCaribe, went bankrupt and finally shut down—but only after constant cuts and high bills, not to mention loose wires in the streets that often caused deaths. In 2020, Air-e came into the picture, but the problems have only worsened. People must still fight for fair billing rates, even as the heat intensifies because of climate change, harsher El Niño periods, building materials that raise temperatures, and new construction that removes shade-providing trees, all of which require fans, refrigerators, and—the ultimate dream—an air-conditioning unit.

VALERIA TAFURT

An Air-e truck performing maintenance in San Juan del Cesar.

Here, the heat is not just a matter of temperature. In Colombia, they say that an area is *caliente* (hot) when it is dangerously violent and when there is the presence of paramilitary groups and guerrillas. San Juan del Cesar was certainly caliente, and one of the zones most affected by armed conflict. In the 1980s, the Ejército de Liberación Nacional (ELN) and the Fuerzas Armadas Revolucionarias de Colombia - Ejército del Pueblo (FARC-EP) patrolled part of the municipality. At the beginning of the 2000s, Guamachal, one of its rural villages, became the center of operations of the Northern Block of the AUC (Autodefensas Unidas de Colombia). Stories of disappearances, massacres, extortions, and kidnappings are part of the municipality's memory. The process was fueled by a chain reaction initiated by land-grabbing, partially because the municipality has such an enviable geostrategic position, in the valley of the Cesar's River between the Sierra Nevada de Santa Marta and the Serranía del Perijá. Close to the border with Venezuela, San Juan del Cesar has a long agricultural—specifically pastoral farming—tradition. Now, in addition to the barbed wire, guerrilla resistance to land encroachment, and rising rental rates that made it metaphorically caliente, its literal heat is making it Colombia's energy frontier.

The collusion of thermodynamic and social heat makes this region a promising territory for advancing the "just energy transition" in the country. On one hand, according to Institute of Hydrology, Meteorology, and Environmental Studies maps, this area has excellent solar radiation throughout the year, making it perfect for developing renewable energy projects, especially solar power. Conversely, its violent past and existing landownership structure make it attractive for private companies seeking to install solar and wind farms on private land, mostly former *terratenientes* (landowners with big extensions of land), where they are negotiating with socioeconomically disadvantaged rural residents.

Take the example of Guamachal, a rural community of San Juan where all energy transition projects meet: a future solar farm, multiple high-voltage lines, and an electric substation. It was also the place from which paramilitary groups in the region operated. "We live here in an *enredero* [entanglement], and we are at the center of it," said Rafael, one of Guamachal's leaders, as we navigated the rural area under high-voltage cables, foundations of future towers, and plots in which solar panels will be installed. He also used the word "enredero" to designate the cumbersome information and negotiation meetings with electric companies and their constant excuses for not repairing roads or executing the "social investment" they promised. The hassle is worth it, Rafael said, because there are jobs, occasional gifts (shirts, toys for kids, furniture for the primary school), and hope that there will be opportunities to improve the road. But there is also a deep sense of unfairness because the projects will not bring cheaper electricity: "We are poor, victims of the conflict, a rural population; there is no way we can afford the bills," said Rafael, citing one case of an elderly woman living alone with nothing but a fan, a couple of light bulbs, and no refrigerator.

Likewise, in La Esperanza, another of San Juan's urban areas, one of the people

leading the protests against Air-e told us, "We don't have [electric] networks. We have *telarañas* [spiderwebs] because we are subnormal neighborhoods." These informal grid connections feed long-standing conflict with Air-e. A woman in that neighborhood, herself displaced by paramilitary groups from Magdalena (a neighboring department) after they killed her partner and brother, said to us, "Of course, we plug ourselves to the grid: do you know what it means to sleep in the heat?" Air-e's response, one of the protest leaders told us, was to install "smart meters" that, he complained, "keep measuring when there is no electricity, are installed in inaccessible places, and can be read from a distance, from Barranquilla [a capital city a few hundred kilometers away]."

As these two neighborhood leaders navigated undesirable entanglements, new schemes emerged to cool down the conflict. Air-e intends to normalize "subnormal energy" through payment plans to write off the debts. At the same time, the new left-leaning national government under President Gustavo Petro is proposing "energy community enterprises" to provide solar panels to urban houses. Rural areas have gotten solar panels because San Juan is among those territories prioritized for rural development in the aftermath of the 2017 peace agreement with FARC-EP, the largest and oldest guerrilla group in the country. But all of these strategies replicate state-making practices that made the region caliente in the first place. One of the protest group leaders told us, "They want us to charge people with a bill for the maintenance of the equipment; imagine that, now I'll do the bills, madness." A state contractor already charged "maintenance bills" for the solar panels installed as part of the post-peace-agreement development of rural households. In the meantime, energy projects systematically reject giving rural and urban communities cheap electricity, reasoning that they do not "distribute" energy, citing the laws that structure the energy system in Colombia as if this were a fact of nature.

Meanwhile, turning solar brightness into electricity remains central to fantasies of a different life. Some residents dream of being able to afford a regular cold breeze from a fan, cold drinking water, and cold food from a refrigerator. Then there are dreams of charging a phone, watching TV, or even having an air-conditioning unit. Beyond that, some dream of the chance of growing their own food and caring for animals (and their own families) by being able to keep chickens alive—they normally die of heart attacks in the extreme heat—not to mention having a stable job with one of the new solar energy companies. But the most common dream of all? To disconnect entirely from the grid, which looms as a figure that excludes them, hoarding their energy.

"Energy transition for life" is one of President Gustavo Petro's premises (and promises), and he has emphasized that the transition needs to happen without excluding any community or nation; he says that projects must benefit the inhabitants of historically excluded territories. However, the political discourse around "just energy transition" hasn't reflected that heat is a topic with different facets of justice; a particular moral economy influenced by extreme heat and deep wounds in San Juan de Cesar is where these ethics and politics are still taking shape.

Energy transition on this frontier demands that we think about justice in broader terms—like reparations to people who, amid extreme heat, have had to live through violence and who now live the legacy of the conflict. To create a just energy transition, Colombia must acknowledge heat—in all its senses—as part of the entanglements replicating injustice throughout its territories.

PABLO JARAMILLO

A solar panel installed as part of one of the programs instituted after a 2017 peace agreement with Colombia's oldest and largest guerilla group.

Valeria Tafurt is a Colombian anthropologist and digital storyteller driven by a passion for social and environmental justice. With a background in the "Futuros Energéticos" research group at the Universidad de los Andes, Colombia, she envisions and advocates for alternative futures.

Pablo Jaramillo is an anthropologist interested in speculative futures surrounding minerals and energy in Colombia. He is associate professor of anthropology at University of the Andes, Bogotá.

¡Dispara las chelas!

Oaxaca City at night. ISTOCKPHOTO.COM/CARLOS MACOUZET

By Alejandro Echeverria

Note: this piece contains strong language and sexual content.

"CRUISING" FOR CHACALES IN LA CANTINA

"They are, but are not. There are many, but not so many," Enrique explains to me after I ask him, "Are *chacales* gay?" We are drinking over fresh *chicharrones* with two other queer individuals in La Cantina Tobahalá—or just La Cantina—in Oaxaca City, Mexico. Fellow patrons are drinking and singing while giving each other subtle "looks." Although the *chelas* (beers) are icy, they only provide temporary relief from the insistent humidity outside. Even if the beers pair well with the chicharrones, I wonder if they are worth enduring the trapped heat radiating from the ever-running fryer inside. Enrique takes another sip and explains, "There are numerous Indigenous men in Oaxaca who are into other men but do not identify as gay or queer. Instead, these men are chacales."

La Cantina is located three blocks south of Oaxaca City's central plaza, El Zócalo. Although there are other gay bars across Oaxaca City, like Blue69, La Costa, and El Número, La Cantina stands out. Besides being close to the "cruising" spot of El Zócalo, La Cantina offers cheap, cold beers in the touristy neighborhood of El Centro Histórico. Its proximity to El Zócalo makes La Cantina an ideal place for local men to refresh themselves and "cruise" after work. *Centraleros* provides a literary representation of these behaviors in Oaxaca City. Despite being warned by some that only "low-class people" frequent La Cantina, I continued going. What made La Cantina a key place in my investigation of Oaxaca's queer geographies is that it was not initially established as a gay bar; rather, La Cantina became a popular gay bar after one of Oaxaca's oldest gay bars, La Chinampa, closed during the COVID-19 pandemic. After La Chinampa closed, gay and "straight" patrons began socializing

with one another at La Cantina in the cramped bathroom, over the jukebox, and through the bartop mirror.

Among those patrons at La Cantina were the chacales that Enrique had mentioned. I learned that a chacal is a "straight" man who self-identifies as heterosexual due to the stigma located around homosexual practices and identities. Chacales usually are working-class men—often employed as construction workers, water-bearers, or mechanics—who exchange sexual favors with gay men. The postwork "cooling-off" ritual at La Cantina sometimes involved gay men offering ice-cold beers, or *disparar las chelas*, to chacales as part of the exchange, but I soon realized that while alcohol raised *la calentura*, or sexual fever, in these exchanges, it ran the risk of rapidly consuming itself without something to refresh or release it. Here, I explore my observations about the burning desires and cooled-off bodies of chacales and their partners in and around La Cantina.

The twenty-first-century expansion of language in LGBTQ+ writing began to include more about "othered" expressions of gender and sexuality, including documentation about the chacal, or what Mexican queer social critic Carlos Monsiváis called the "proletarian sensuality."

FETISHIZING THE "PROLETARIAN SENSUALITY"

In the twenty-first century, the language used to discuss the lives of gay, lesbian, and trans individuals in Mexico expanded to include terms that captured more sexual diversity and more dissidence; in doing so, the language signified more about the "othered" expressions of gender and sexuality that had been often overlooked in previous LGBTQ+-based writings and conversations. That expansion included more documentation about the chacal, or what Mexican queer social critic Carlos Monsiváis called the "proletarian sensuality." For Monsiváis, the chacal represents an Indigenous and/or Mestizo man of dark-bronze skin who has developed a muscular, hypermasculine appearance by working in labor-intensive occupations and who is open to various sexual experiences. Within Oaxaca, which is sometimes seen as an exotic place for sexual exploration and experimentation, chacales are viewed by some gay men as ideal lovers.

Maro, one of my collaborators, shared his perspective on what defines a chacal: "A chacal is a man who works rough jobs, like as a mason. He's a manly man who looks like a cholo, but he likes men. He gets drunk so he can meet gay men." In Maro's characterization, alcohol provides an aperture, an opening, for chacales to act on their sexual desires. In the "proletarian sensuality," chacales are valued lovers among some gay men because they are hypermasculine and often live in "unsafe" neighborhoods due to their socioeconomic class, which heightens the danger and excitement, and alcohol becomes a means of realizing a sexual interaction with these men. The film *Semento* provides a fictional and dramatized look at the opening alcohol provides for homoerotic relations between men like chacales in Mexico. But some view these interactions and desires toward chacales as classist and racist, arguing that sexually craving the bodies of working-class and darker-skinned chacales fetishizes them and reduces their value to sex, muscles, and sweat.

While we were drinking with fellow queers over a bucket of beers at La Cantina, Enrique spotted a young chacal sitting alone at the bartop. We agreed that Enrique should try his luck by inviting him over for a beer. After a smiling handshake and a couple of nods, the man agreed to Enrique's offer; Enrique returned to the table with the chacal, Oscar. Shortly after introductions, Oscar indicated that he wasn't gay. He explained that he'd gotten married a year before and that his wife had just had a baby. We congratulated him while he shyly grinned. Then Oscar unexpectedly revealed that he had recently accepted that he was sexually attracted to other men. He clarified that he began visiting La Cantina after work with the hope of exploring these feelings more. After the beers in the bucket evaporated, Oscar explained that he had to return home to his family. Once he departed, a brief silence fell over the table. Enrique broke the stillness by lamenting, "How I wish I had a chacal like that. A manly man with a beard and big arms like those!"

Enrique's lament is just one spark in a larger sexual fire across Mexico. As "straight" men, chacales embody "traditional" heterosexual values, and to help maintain this manliness, they also self-label as *complemente activos* (or "tops") within their male sexual relations. This display of hypermasculine and virile qualities can attract the attention of many gay men across Mexico, who view these

qualities as signs of an ideal sexual partner. Oliver, a young gay man from Oaxaca City, explained, "There are many gay and trans people in Oaxaca, but how do they interact socially? They don't hang out with other gays. Instead, they pay with drugs or alcohol for their 'heterosexual' male lovers." Oliver's account indicates that gay men across Oaxaca are more than willing to provide disparar las chelas, drugs, and other gifts in order to maintain a sexual-romantic relationship with a socially "straight" man. These interactions might be commonplace, but they are still influenced by stigma toward homosexual behaviors and identities.

COOLING AND RELEASING "LA CALENTURA"

In 2021, Mexico began its first national census on its LGBTQIA+ population, which indicated that at least 5.1% of Mexico's total population self-identified as LGBTQIA+. While Oaxaca reported 6.9% of its total population self-identified as LGBTQIA+ and is widely recognized as a queer region for having Muxe, or Mexico's third gender, in 2022 Oaxaca was labeled the most dangerous state for LGBTQIA+ people in Mexico. This indicates that stigma persists against and even among queer people about homosexual practices in Oaxaca. As I discovered in La Cantina, this stigma pushes some individuals who participate in queer sexual behaviors to "sexually distance" themselves from gay communities instead of identifying as queer. Thus, Mexico's total queer population may be larger, but remains generally elusive to institutional metrics.

While it is difficult to perceive these elusive types of queerness, there are some spaces and individuals that can provide insight into these discreet intimate encounters. Antonio, a queer man from Oaxaca, told me that intimate relations among working-class men differ from and even evade common understandings of desire and sexuality. Antonio stated, "In Oaxaca, there can exist two guys who are attracted to each other and who say, after one night out drinking, 'We are going to fuck.' And they do it on two sacks. They fuck on a Saturday after carrying bags of maize, working hard all day, full of dust. They do it with their *chelas sudadas*, or sweaty bottles of beer. They're going to fuck, smelling of dust and sweat. It is distinct." Again, alcohol seems to be a key feature in these elusive interactions. Thus, places like La Cantina are strategic: offering cold beers is a vital step in challenging the stigma around queerness and homosexuality, allowing a type of intimacy they might not otherwise permit themselves.

This stigma pushes some individuals who participate in queer sexual behaviors to "sexually distance" themselves from gay communities instead of identifying as queer.

Even if chacales are fetishized by some gay men, some take pride in their "distinctness" by drawing value from the duration and intensity of the la calentura they help create—although the process of both heating and cooling is important. Even though chacales are sexually prized lovers, their muscular and sweaty bodies are often "cleaned up" before a sexual encounter. This includes stripping away any "unpleasant" odors, sweaty clothing, and dirt. In this sanitization process, la calentura is maintained, but mitigated. This sometimes occurs in discreet places like hotels, or *expresses*, where individuals may rent a room for an hour or two. Across Mexico, these hotels play a key role in the sanitization—but also the maintenance—of la calentura, allowing individuals to rest and sexually enjoy themselves beyond the prying eyes of neighbors, friends, and family, for a cost. In an express, the distinctness of an encounter with (or for) a chacal can be washed away with soap and deodorant.

Ernesto, one of my collaborators, once described how he met a chacal on a popular gay dating app. In order to hide the encounter from family and neighbors, they decided to meet for drinks in El Centro after work. Afterward, they shared a taxi ride and a room at an express outside the city. On the way, Ernesto felt nervous, but also sexually excited. Upon arriving, Ernesto noted that the chacal was dirty from working all day in the hot sun, so he asked the man to shower—but his partner refused. Ernesto explained, "I made him take a shower even though he didn't want to. I grabbed him out of bed and took him to the bathroom. I wanted to do everything. I wanted to have a good time." While drinking cold beers, showering, and applying deodorant may cool the sexual ardor temporarily, it also allows la calentura to continue without the passion burning out all at once. Extending the sexual passion has greater potential in satisfying the emotional-physical needs of gay men and chacales. Thus, maintaining the sexual ardor over a longer period of time can keep both types of men invested in continuing these types of intimate encounters and exchanges despite facing the stigma associated with homosexuality in Mexico. Though some consider chacales ideal lovers, part of the process of preparing for sex can erase the real lives in which they're grounded—keeping the heat of the sexual fantasy while cooling it down slightly in reality.

Between cold beers and hot showers, chacales and gay men find themselves moving amid poles of desire in which more fluid understandings of desire and sexuality are allowed. In a way, by resting and relaxing with a cold beer in a hot bar after a long day of work, these men challenge the stigma around queerness and homosexuality for a moment, normalizing casual, intimate encounters among men in Oaxaca.

Alejandro Echeverria is a PhD candidate at UC Riverside investigating citizenship, queer visibility politics, and queer geographies in Oaxaca, Mexico. He is a cohost for the podcast *Unconditional Love*, which is dedicated toward the "coming-out" experience under the EthnoLab at UC Riverside. He is also a contributing editor for *AnthroPod: The Podcast for the Society of Cultural Anthropology*.

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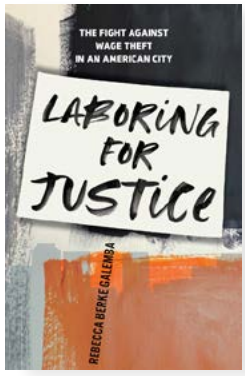

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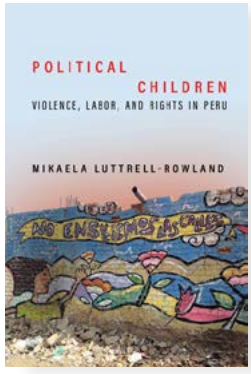

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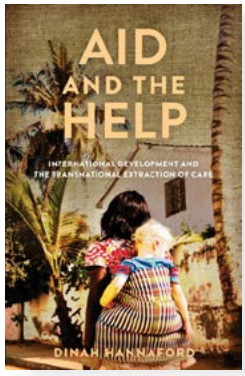

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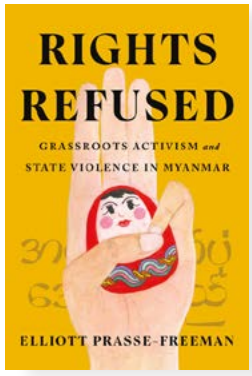

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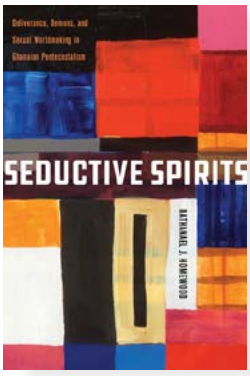

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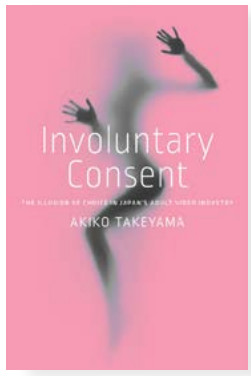

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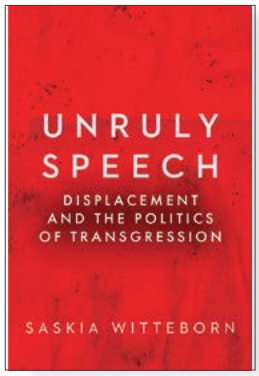

Unruly Speech
Displacement and the Politics of Transgression
Saskia Witteborn
GLOBALIZATION IN EVERYDAY LIFE

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Radiation Drain

By Alyssa Kitt Hanley, with photography by Ash Marinaccio

ASH MARINACCIO

CASE STUDY

A 34-year-old woman presented to a neurologist in Sydney, Australia, in April 2021 after experiencing a first occurrence of severe facial paralysis overnight. The neurologist (mis) diagnosed the patient with Bell's palsy following an "unremarkable" computed tomography (CT, or CAT) scan of her cranial nerve, and suggested that the patient "meditate to reduce stress." The neurologist reassured the patient that her paralysis will be alleviated without further intervention.

A few months later, in August 2021, the patient relocated to New York City for a PhD in theatre and performance at CUNY. She did not seek further medical advice at that time. In January 2023, after noting that her facial droop was steadily becoming more pronounced—unusual for people with Bell's palsy—and experiencing a whole host of other symptoms, including her eye "bugging" out of the socket (globe luxation), blurred vision due to her eyelid not closing completely (paralytic lagophthalmos), rapid muscle spasms in her upper and lower eyelid, facial numbness and stabbing pains, the patient consulted another neurologist and a facial plastic surgeon in New York.

The patient noted that fear and uncertainty about the US medical system, combined with fear about the source of her symptoms and what a diagnosis would mean, were the underlying factors in the delay between her initial evaluation and the secondary one. However, she said she was aware that nerves can atrophy after one year of muscular stasis, which prompted her to seek additional treatment.

While additional magnetic resonance imaging (MRI) of her cranial nerve was also "unremarkable," an MRI of her face with and

without contrast showed "abnormal thickening enhancement" on the left ascending segment of the temporal facial nerve extending to the extra-cranial trunk. In April 2023, the patient had a surgical biopsy of the area and was diagnosed with "high-grade adenoid cystic carcinoma"—a parotid gland malignancy with a high propensity for invading nerves.

■ ■ ■

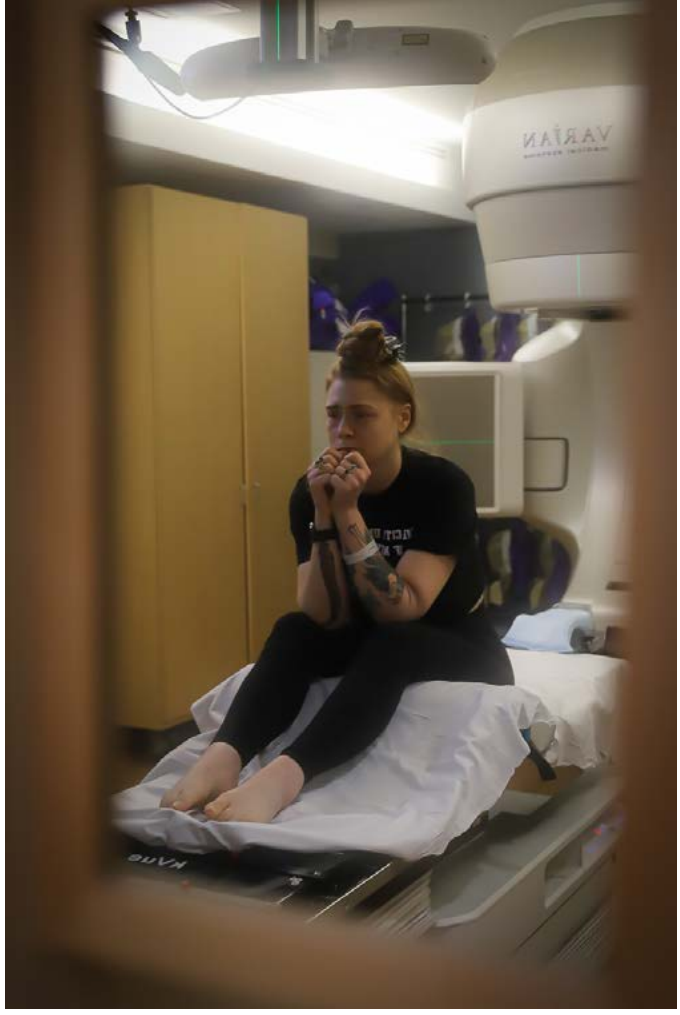
I'm *the patient.*

I'm Alyssa Kitt Hanley, a burlesque dancer whose choreographic ability relies on "face dancing"—perfectly timed winks, smiles, and cheeky expressions. On June 14, 2023, my surgical oncologist, Dr. Adam Jacobson, and a team of specialists performed a radical nerve parotidectomy to remove the cancer from my entire facial nerve, parotid gland, portions of my ear, and 34 lymph nodes. During this 15-hour operation, surgeons also transplanted muscle and tissue harvested from my upper thigh to my face (a procedure called a gracilis free flap) and extracted a long nerve from my calf that was used to weave a cross-facial nerve graft. The goal of this procedure was "facial reanimation"; once the nerve regrows, movement will return, and I will smile again. To ensure there were no lingering malignant cells, my oncologists recommended I undertake radiation and chemotherapy. The dual treatment decision was easy—I wanted the fastest fix with no possibility for cancer to return.

Here, in photographic collaboration with Ash Marinaccio, I'd like to share an excerpt about the second part of my treatment—the heat of radiation—which is part of a larger project that documents my journey to facial reanimation following cancer treatment.

THE RADIATION DUNGEON: WEEK ONE, AUGUST 1, 2023

Radiation is delivered in the basement-floor bunker of the Perlmutter Cancer Center at NYU Langone Health, an academic medical center. I call it "The Dungeon," this crypt to crisp cancer cells. The machine (a medical linear accelerator, or linac) takes up the bulk of this 32-square-foot open-floor-plan room. It's essentially a giant vault, equipped with high-density concrete walls and lead-plated ceilings that work to contain the high-energy gamma radiation and thermal neutrons from the linac. The room is cold, and I feel an expectant sort of danger as I enter it, like I am walking to the gallows, where my sentence is read by two large LED screens displaying my treatment information. I lie on a slab and am screwed in place in my Kevlar mask (think Anthony Hopkins in *The Silence of the Lambs*), which is designed to both buffer my face and guide the beams. I can't move more than a few millimeters. Once the lead-lined, neutron-shielding doors close, the linac operators are protected from exposure to the rays designed quixotically to both destroy and heal. They view me, and the behemoth machine, through cameras as they deliver treatment to obliterate my cancer cells. My Mum is allowed in as the operators prepared me, but is ushered out along with them when the doors shut.



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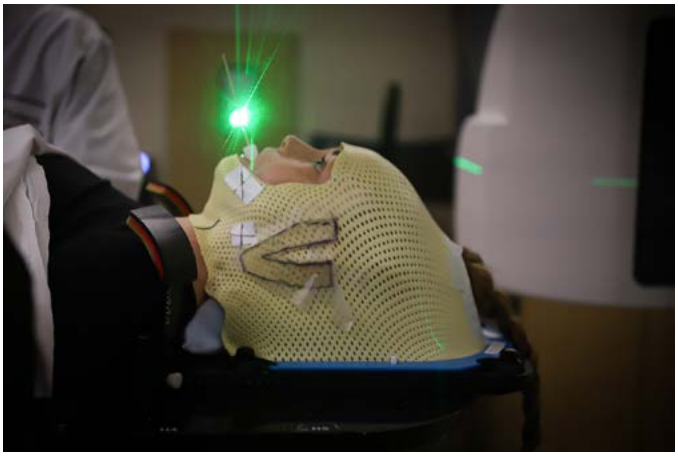
I get a sense of how many other patients are receiving treatment in this room by the numerous rows of racks behind the machine; suspended in solemn silence are hundreds of disembodied radiation masks and torso protectors that hang eerily in wait for their hosts to arrive. For all the cutting-edge technology, each individual's radiation armor is merely marked with a handwritten name on a piece of tape. I am isolated in here, but also strangely connected to the other slab-bound souls. I experience a sense of foreboding as the machine begins its work, but I also realize that all of us, we patients, are meant to have hope that once our time in The Dungeon is over, we will be cured.

Alone in the darkened chamber, I'm terrified. Stacked vertically above me are the "brains" of the beast, an electric gun, the electron beam transport, the x-ray target, and the gantry axis. As the arms of the accelerator orbit my head, my imagination twists the word "radiation." I expect radioactive lasers to burn my flesh like James Bond in an evil villain's torture lair. I stare into the "eye of the machine," where a game of Tetris is being played by a "multileaf collimator" that causes Lego-like logs to fall—shaping and varying the intensity of the beam that will project atomic particles into my cancer zone. Parallel planks form zigzag patterns that manipulate this external beam by bouncing neon-green lasers onto mirrors that perform hypnotic choreography across my face. The arms of the machine move up and down, left and right, tilting its angle to be as precise as possible. The beams move in an arc, delivering small, squirted doses of radiation to the tumor and nerve pathways while sparing important structures like my cochlea, brain stem,



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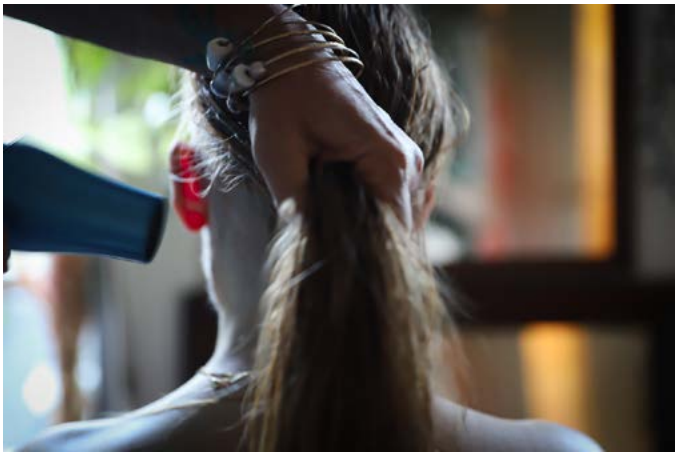
salivary glands, swallowing muscles, mouth, and jawbone. Waiting in the wings to go on stage, I've hidden from the lights that illuminated my sparkling burlesque costumes, but in the linear accelerator, I cannot hide as I stare into my own eyes in the mirror that frames my Kevlar mask. I have no cheeky expressions left. The machine's grinding sounds like the World War II Enigma code cracker. Despite the dramatic build of the movement and noise, the treatment itself sounds like nothing; it's eerily anticlimactic. After the first session, I ask The Dungeonmaster, "Is . . . that . . . it? Is it over?"

My radiation oncologist, Dr. Kenneth Hu, warns that radiation accumulates. By the second half of my seven-week treatment, the side effects will truly kick in: my skin will redden, raise, peel, and open. I will develop mouth sores. My ear will become congested. My hearing could be permanently damaged. Because I'm young, fit, and healthy, in Dr. Hu's words, "radiation should be well tolerated." But that doesn't prepare me for the heat that's coming. And his cautionary comment, "You might notice a bit of fatigue," doesn't quite capture the smackdown of desperate tiredness.



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HAIR LOSS: WEEK TWO, AUGUST 13, 2023

I am also warned that my hair will get "patchy" in the region receiving treatment. So, to retain a sense of control, I shave off a quarter of my long red locks. With the bulk of hair off my surgical site, I gain a sense of freedom. I feel like an edgy punk-rocker as I proudly show off my prominent neck scar for my first sessions of treatment. To anyone that is bold or rude enough to ask what happened, I jokingly respond that I got into a back-alley knife fight or had an altercation with a crocodile back home in Australia.

FIRESTARTER, HERE COMES THE SUN: WEEK THREE

At the beginning of each radiation session, the linac machine in The Dungeon does a CAT scan that repositions my setup. Typically, radiation is only delivered for five-minute spurts, but I am in the machine for at least 20 minutes. Five days a week, for over seven weeks, I perform the latitudinal lines of a new kind of choreography: step up, sit on the bench, lie back into the hands of The Dungeonmasters. Shuffle down, set the shoulder guards to five, grasp the pegs at rung 11. Kevlar mask, scootch down, thread braid atop mask, wriggle chin, open mouth, insert bite chomp, dribble. "One warm blanket or two? Your hands are ice! Music suggestions?" The Prodigy's "Firestarter," or "Here Comes the Sun" from The Beatles. Lie still. Breathe.

By week three, I've started to feel heat differently, like I've been in an air fryer. As my cells incinerate, I detach from my fighting body. I become a half-ghost.

The side effects are extreme, baffling, and opposing.
Blistering bubbles buoy atop my lips.
Tastebuds are lost.
Food homogenizes into a sudsy milieu.
Sweets become tin-flavored.
Water tastes "off." My arid mouth is unquenchable.
I gargle with aloe vera gel (AKA, slug-goop).
Nausea waves crash hot inside my tummy.
Endless exhaustion plus steroids means I sleep 15 hours a night or not at all.
My cheek tightens like a tarp trapping full-to-bursting balloons underneath. Bubbling headaches rise out of my baked brain.
I cannot think. My head is an egg, cracked during rapid boil.
I am now just a "patient."

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I am now just a health insurance code.
I am now just "Name, date of birth, what treatment today?"
I wait in freezing rooms.
I pump veins. Get zapped. Hydrate. Meditate.
I swallow 12 pills to tame the daily bodily melodrama and stabilize my crashing pain waves—opposing tsunamis of Arctic ice and molten magma.
I ice my cheek and erect icy emotional walls.
I cry constantly. Tiny tasks are insurmountable.
My Mum still waits outside every day.

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POLAR EXPEDITIONS IN THE DESERT: WEEK FIVE

Being outside is an elemental attack, an environmental onslaught. Because I must prevent further harm to my skin, leaving the house is like packing for two polar opposite expeditions: I'm arctic trekking in the Sahara dunes, with layers of linen scarfs, cashmere wraps, medications, and tolerable snacks. The avenues of Manhattan are hostile; wind whips off the fabrics I swaddle myself in to bar the sun's rays. Outings are a maximum of four hours, and then it's a logistical battle back to bed in Brooklyn. I'm so energetically drained that I barely make it three city blocks at a time.

CHEMO FREEZE: WEEKS ONE THROUGH SEVEN

I begin chemotherapy the same week as radiation, a brutal double sentence. I receive chemo on Tuesdays. On "needle day," I sit in a chair for eight hours attached to an IV stand—to me, "my mate, Stan." Nurses prep my veins by heating my arms with heat packs—the kind you crack to deliver near-instant warmth. I also receive two hours of hydration and steroids before the chemo IV eventually runs. The second those hydration bags begin, I feel a freezing flow into my veins.

Undergoing chemotherapy is willingly opting into a poisonous concoction of chemical annihilation. My sinister chilling agent is called Cisplatin. The gruesome chemical mix of anti-nausea medication (palonosetron) and Cisplatin burns my tongue. As the gloopy drugs are pushed through the IV, I taste what I imagine slugs would if they have been lurching around a forest in Chernobyl. I'm wrapped with numerous heated blankets, but continue to feel ice-chills mixed with hot nausea.

With chemo, there is no "Goldilocks period." The nausea hits so hard after my first infusion that I barely eat for three days. By week four of chemo, my arms are dappled with splotchy bruises. I am damaged by the effects of the previous week's beatings. By week five, it can take four to five attempts before the nurses find a usable vein.

I cry hot tears after every cold session.

THE BELL RINGS: WEEK SEVEN

A mix of mania and abject enthusiasm gets me through my last day of treatment. I couldn't physically do another round of treatment, but I high kick off the radiation slab and "drop it like it's hot" to a round of applause from The Dungeonmasters.

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I sign my radiation release papers while I'm still receiving the last dose of chemotherapy.

Nurses give me my Kevlar mask to take home as a memento, noting that numerous people make art from them. They even prompt me to use it for a burlesque costume. I have zero interest in glamorizing my uncanny cranial doppelgänger or undertaking any further character development with it.

For seven weeks, this helmet protected me, but now it is just an empty shell. I experience something akin to Stockholm syndrome because the mask was both my captor and guardian. With its purpose fulfilled, I feel strangely alone, left to walk through the rest of the fire without a guide.

I cradle it tenderly in my arms as I walk out of the hospital, feeling as though the "V" on the side—the one that marked my cancer zones—now stands for "victory."

AFTER THE BELL: POSTTREATMENT

After my 33rd and final session, after the bell rings,
I truly come asunder.
Wired and strung out, I succumb to broken sleep.
I wake parched, seeking an oasis of ice water in a glass.
A viscous film of sweat covers my skin and soaks my sheets.
I'm a broiled carcass in a vat of oil.
My pillow is sodden with gunk from my infected, congested ear.
My fingertips tremor toward my blistering, scorched scar—it is
itchy, dry, yet somehow simultaneously a weeping wound.

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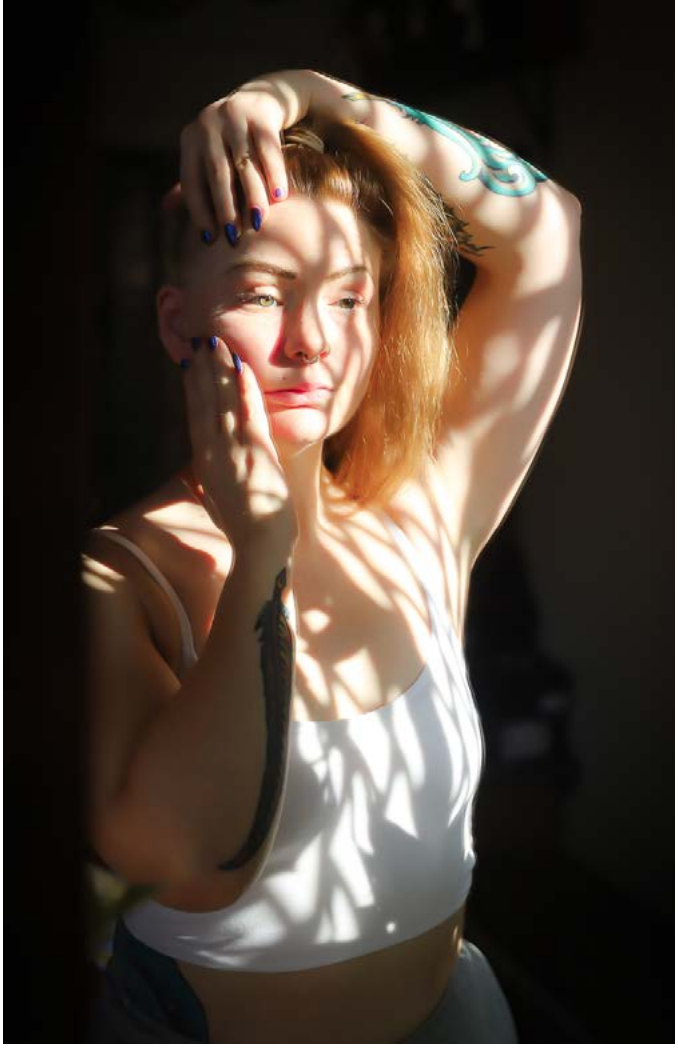

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Coagulated clumps cake up. I'm petrified to cleanse the ooze-crust.
My limbs are frozen, but my stomach is hot.
I'm a towel of tepid nausea, thrown into in a seven-week washing machine that cycled hot, blasted cold, then lost its ability to drain.
My neck solidifies into volcanic rock.
I feel like my face has been peeled off burning bitumen.
I need ice, but barely make 10 steps to my freezer.

RETURN FROM THE BURN: NOVEMBER 2023

Relieved of the onslaught from treatment, my body seeks equilibrium, but I am mentally broken by sorrow and survivor's guilt. I bask in the natural sunlight I am now allowed, but remain somehow in a dissociative grayscale, without the pretty palette of pleasure. The cancer is gone . . . but so is my sense of self. The heat of radiation has receded, but it took with it other warmth: my own emotional warmth, my passion. The pain, of course, continues: cold hydration bags, the icy IV of chemo, the accumulated radioactive seeds, and the hot waves of nausea from my dance with the linac.

My body remembers the burn. The bruises. The battering.

CANCER FREE: DECEMBER 14, 2023

Six months after my surgery and three months after my last day of treatment, I go in for the PET scans that will determine whether there are any lingering cancer cells in my body. I lie painfully still for several hours with yet another radioactive material coursing its way through my system. The nurses couldn't get a vein, everything was flat—but that's no surprise, since I remain exhausted from the months of being prodded, torn open, pumped full of painkillers; processing chemotherapy; and being zapped within an inch of functional existence by the linac.

A day later, I get the call from Dr. Jacobson: "The PET scans came back clear. You've got nothing to worry about."

I have a new face. I'm starting to see the beginnings of my smile—my cheek moving and the corner of my lips turning. It's magical, beautiful. I am a work of surgical art.

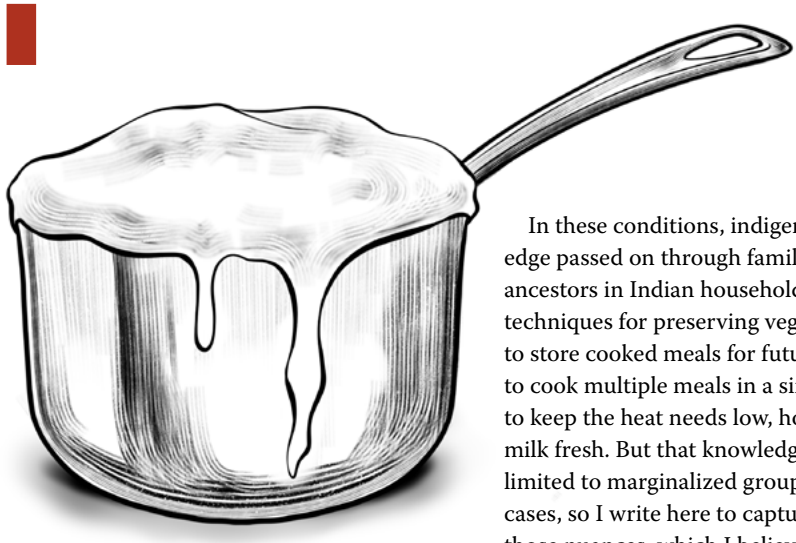
And I can proudly say that I am cancer-free. The moment I got the call from Dr Jacobson to tell me, I felt the thick weight of worry lift, it was as though my jaw loosened, I stopped clenching, my breathe deepened and I felt confident to bask in the natural sunlight (albeit with a little extra sunscreen). I returned to Australia for Christmas with the best present, happy news for my family. While the hottest heat of our concern might have cooled with the latest scan results, I remain aware that my trickster-type cancer will be in the back of my mind for some time: while most cancers are considered "cured" after three years, my official cured status will take ten.

Alyssa Kitt Hanley is one of the world's leading minds and behinds of the global industry and art-form of the burlesque. Beginning her career in the emerging boom of Australia's neo-burlesque revival in 2007, she has been at the forefront of shaping the modern world of burlesque and is an award-winning performer, renowned teacher, and producer. She has twice competed for the Burlesque Hall of Fame's coveted Queen of Burlesque competition in Las Vegas (2017, 2022), and was a feature presenter at BurlyCon (2022). Based in New York City, she is a specialist burlesque historian, journalist, writer, researcher, and physical dramaturg. Alyssa is currently undertaking her PhD in Theatre and Performance at City University New York. Her academic focus is on erotic performance art, burlesque, and striptease history. She is a graduate teaching fellow and lectures in theatre history at Brooklyn College. Connect: www.alyssakitt.com and on Instagram: @missalyssakitt

Ash Marinaccio is a New York–based visual storyteller and documentarian working in theatre, photography, and film. She is a PhD candidate in theatre and performance at the CUNY Graduate Center, where her research investigates documentary theatre and theatre in war/conflict zones. For her creative work, Ash has received a Lucille Lortel Visionary Award from the League of Professional Theatre Women, has been listed as one of Culture Trip's "50 Women in Theatre You Should Know," and is a recipient of a Drama League Residency, a NY Public Humanities Fellow, and is a two-time TED Speaker. Ash is the founding artistic director of the United Nations recognized NGO Girl Be Heard and in 2021 created Docbloc, dedicated to bringing documentary artists from across genres together to create live performance projects. Connect: ashmarinaccio.com and on Instagram: @AshMarinaccio.

Cooking in the "Melting Pot" of Delhi

By Rashmi Kumar



CHARON HENNING

For most of the world, El Niño has transformed our thinking about the consequences of rising global temperatures from "climate change" to "weather change," and the experience in Delhi, where I live, is no different. Delhi has been long known as the melting pot of culture in India because so many different cultures and communities reside together—but it's also melting in a different way due to its dense population, poor air quality, increasing humidity, and precarious weather. People in upper- and middle-class Delhi neighborhoods own private vehicles in higher numbers than ever and can afford to purchase (and run) air conditioners, which only contribute to the unbearable heat in the city and the difficulties for the rest of its aggrieved urban population. There are additional challenges for those, like me, who love to cook. I'm an underpaid scholar and a passionate cook—and like most Delhi residents, I cannot afford electronics like a refrigerator or an air conditioner, much less a large electricity bill in the struggling economy. With already-scorching and ever-rising temperatures, heat waves in North India, and extreme sun exposure, food preservation has become very difficult.

In these conditions, indigenous knowledge passed on through families and ancestors in Indian households is vital: techniques for preserving vegetables, how to store cooked meals for future use, how to cook multiple meals in a single session to keep the heat needs low, how to keep milk fresh. But that knowledge is now limited to marginalized groups, in many cases, so I write here to capture some of those nuances, which I believe hold the potential for deeper anthropological and sociological exploration of the everyday, intersectional impact of climate change on marginalized groups in urban India. In my Indian kitchen, it's easy to see the ways in which climate change is not merely an environmental crisis but also a social crisis.

Delhi is one of the most densely populated cities in the world; its air quality is poor, and it is also known for its weather pendulum, with sweltering summers and deadly winters. A typical summer in Delhi starts with excessive humidity in the morning followed by unbearable heat waves, sun exposure in the afternoon, and a damp, oppressive evening. Most shops in Delhi are closed from lunch to early evening, and residents also try to avoid the *tez dhoop* (fuming sun). Working in the afternoons, especially for street hawkers and small shop staff, feels like being butter on the hot pan of the road. At home with no air conditioner, my single room set with a small kitchen and an attached bathroom feels like a slow-cooking wooden oven. My ceiling fan circulates the hot air, but that only

means I cook evenly—not that I'm actually cooled. My table fan is supposed to help, but contributes more to moving the heat in a sensorial experience I imagine is similar to Hades. In the mornings, I wake up drenched, and the prickly-heat talcum powder many of us use to bring a cooling sensation feels like a failure, washed off in my sleep sweat. Just to sleep, I often add a wet cloth to my face and aim the fan at it on the highest speed.

In such heat, cooking a meal feels like cooking myself inside of a box; storing vegetables and prepping meals becomes a full-day task. It is crucial to reheat cooked dishes more than once for them to last the entire day before getting spoiled in summer. The raw ingredients must also be managed according to daytime temperatures; the type of vegetables we purchase is dictated by the climate. During my daily commute from my campus to my rented flat in Katwaria Sarai, I observe people buying vegetables from the local *sabzi mandi* (vegetable markets), just like me. I live independently in a student-populated area called Qutub Institutional Area, surrounded by the prominent educational institutes of Delhi like Indian Institute of Technology Delhi, Jawaharlal Nehru University, National Institute of Educational Planning and Administration, and more. My neighborhood also includes working-class people living in rental houses in an urban village setting, dominated by a landowning community of Jats. On my way to and from my flat, I witness working-class laborers, especially men who migrated from their families, buy small amounts of vegetables to cook for dinner after returning to their rented houses. I see students, many of whom reside in groups in compressed flats, buy the same small amount of vegetables for that night's dinner, or perhaps for the next day. Fruits are generally expensive for the working class, but some students buy bananas (the least-costly fruit in India), small melons, and mangoes in small quantities. These everyday ethnographic vignettes about people at the equator encapsulate what it's like to be a low-income resident or a struggling scholar in the Delhi heat, highlighting

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In my Indian kitchen, it's easy to see the ways in which climate change is not merely an environmental crisis but also a social crisis.

class differences, consumerism, and technology, and their intersectional impact on the Global South.

As a PhD student, I find that sticking to a specific schedule helps me avoid stress and convenience eating while I manage my academic commitments, so I plan my meals ahead of time. My vegetable purchases more closely mirror what a lower-income household with a family might do: I buy my vegetables weekly, in advance, in order to plan my meals for myself, minimize the precarity of managing everyday cooking, and control costs. I consider nutrient value, calories, and time when making my selections. Alongside me, I come across women buying vegetables, as they are mostly responsible for the gendered labor of feeding the family, along with doing paid work, in some cases. Katwaria Sarai has several small-scale tiffin services—food joints serving daily meals like curries and Indian *thalis*—but for me, I find that cooking my own food is a more intimate endeavor. I would miss the labor of preparing meals and feel alienated from enjoying my food if I didn't make it myself, using knowledge passed to me by my parents and grandparents—and even from observing my neighbors in Katwaria Sarai.

I buy daily vegetables for base curries like sautéed vegetables or soups—these are things like onion, tomatoes, potatoes, chilies, coriander, ginger, and garlic. To those, I add seasonal vegetables like *lauki* (bottle gourd), *turai* (ridged gourd), capsicum, "Chinese carrot," spinach, and mushrooms in the summer. For salads, I religiously consume cucumber, beetroots, and curd. I eat fruits like bananas, watermelons, and musk melons to balance my body's water content and to fight exhaustion from constant sweating in summers that average well over 100°F during the day. But of course, shopping for vegetables on the weekend is just the beginning; they need to be transformed, preserved, or stored using heat and cold.

Indian households often revolve around methodical, daily food preparation, largely by women as unpaid labor. Many Indian families frown upon weekly "meal prepping" because they believe food loses its nutritional value during refrigeration and storage—which is partially true for soluble nutrients like vitamins and minerals, but which could also be remedied through supplementation with fresh ingredients or salads added to leftover food. To the social opposition, we must also add access as an aspect affecting whether people cook daily in their homes. While the idea of convenience is a significant force—familiar especially in Western or colder countries more familiar with cooking and storing food in large batches—struggling city dwellers in Delhi don't always have access to the refrigerators that make this type of cooking practical. That's where more traditional methods come in.

As some vegetables do not survive the heat of Delhi summers, I immediately place them in the open air, on a newspaper, under the fan.

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- For spinach, I chop the leaves into medium pieces, remove the stems, and wash the leaves thoroughly at least three times, because fine particles of soil can set in the folds of the leaves. Then, I boil water in a larger container with salt, add the washed spinach, and simmer it for five to seven minutes. The boiled water can then be strained or used to water plants, and the spinach can be stored in a closed container for two to three days.
- For coriander, I sort the dried leaves or branches out and roll them in a piece of paper—or, in the case of a thick bunch, I chop off the stems and set them in a glass filled with a little water at the bottom, submerging the end roots of coriander.
- Boiling is an excellent technique to preserve cooked food as well. My mother suggests boiling the dishes cooked early in the morning again to extend their life by diminishing the chances of germination. During a time of struggle when we had no access to electricity or a functional refrigerator, she used to boil milk three times a day, starting with breakfast.
- *Roti* (wheat chapatti) in North Indian households is part of everyday meals. Sometimes, you can keep extra dough made out of wheat submerged in cold water to keep the temperature cool, which delays the beginning of *Khameer* (fermentation) and extends the life of the dough from 12 to about 24 hours. *Khameeri roti* (chapatti of fermented dough) is a delicacy in India, but it cannot be eaten daily due to its slightly sour taste.
- Tap water or groundwater can also be used to preserve fruits like mangos, apples, watermelon, and musk melon. In the summer, I keep my fruits, especially mangos, submerged in water for two to three days, which also dilutes the acidity in mangos.
- My maternal grandfather used to bring a packaged slab of butter for me whenever I visited his house. I would put the butter in another plastic bag to protect it from water, then place it in a bucket with cool water, alongside fruits or vegetables, to preserve it in the heat. The temperature of the tap water kept the butter solid and cold. I still use the same technique to preserve raw materials during summer.

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I prepare my meal every day in the first half of the day before leaving for college, and these techniques come in handy to help the food I cooked for lunch and dinner survive the whole day. These tips were passed to me from my parents and grandparents, who migrated to Delhi with minimal wealth and power as Dalit urban poor. The very act of practicing this epistemological transfer about how to bring nutrition to a plate is vital to carry on our food culture—which is ultimately a story of survival, resilience, and negotiation of the marginalized class as well as the unpaid labor of women within it—with the impact of heat, especially rising temperatures from climate change. While one part of the class stratum has conditioned and purified air, planned infrastructure, and electricity, older parts of Delhi bear harsher consequences not only of the absence of access to those luxuries but also of other people's use of them, since heat emissions have significant effects. The elite class has convenience—with all of its injustice, its contributions to violence (direct and indirect), and pollution. Preservation is one way we combat the heat.

Rashmi Kumar is a PhD candidate at the Department of Humanities and Social Sciences, Indian Institute of Technology (IIT) Delhi, India. Her research interests include sexuality, ethics, the everyday, intersections of caste and gender in urban spaces. She has also worked with Zubaan, a feminist publishing house, along with several other social organizations with field research experience in the cities of Thane, Ahmedabad, and Guwahati. Currently, for her doctoral project, she is conducting an anthropological study of a lower-caste community in Delhi, exploring the experiences and negotiations of lower caste communities located in lower-income neighborhoods in urban areas.

The Aeroroutes of Stuttgart

By Indrawan Prabaharyaka

Author's note: "Aeroroute" is a composite term I introduce in this article to capture the unique material character of what Stuttgart locals call Frischluftzufuhr, Frischluftschneise, Kaltluftschneise, *or* Luftleitbahnen, *all of which refer to a passage through which fresh and cool airs flow. Route—a space created from movement—is one of four types of spatial figure in sociology of space (as proposed by Martina Löw and Hubert Knoblauch). The prefix "aero" comes from the Greek noun "meteoron" and adjective "meteoros": "meta" means a higher level, while "aoros" means elevated, floating in the air. As explored by the philosopher of winds Rainer Guldin, the meaning of the term "meteor" today has shrunk to refer only to extraterrestrial objects that enter the Earth's atmosphere, which many people picture as a fireball in the sky. Together with Guldin and philosophers such as Michel Serres and Arden Reed, I also aim to bring the wider sense of the term meteor—as various atmospheric forces and events—back into the discourse of philosophy, humanities, and beyond. The video embedded here is also available on the AN website as part of the online version of this article.*

As soon as I, a Jakarta-born ethnographer, experienced my first summer in Munich in 2016, I was surprised by the German habit of "naturally" airing rooms (*lüften*), in which the locals open and close windows or doors regularly, cutting a path for currents of fresh, cool air (*Durchzug*) to make its way from one inlet to an outlet. In Jakarta, houses and offices are often designed to prioritize electrical ventilation over the manual kind; people rely on air-conditioning (A/C) devices or electrical fans to cool their offices during the day and their bedrooms at night. In Germany, I found myself in the opposite situation: I had never lived in an apartment nor worked in an office that had A/C. In Munich, my office had an electrical fan—the best I could get to combat the summer heat. I quickly had to learn the art of airing (and closing my curtains during the day).

Click above to watch video.

Stuttgart from above. The green spaces are the aeroroutes. INDRAWAN PRABAHARYAKA

I was once again surprised in Stuttgart when I did my fieldwork. Stuttgart has the reputation of being a city with significant air pollution and extreme summer heat, but apparently, German people love to air not only their rooms, but also their cities. I had dinner with a friend, Claudia Mendes—a former colleague in Munich—and her family around New Year's Eve 2023, and she told me, "This city is crisscrossed by wind corridors [*Frischluftschneisen*], channeling fresh air from green spaces on higher ground to the literal *down*town, the lower and the hotter parts of the city." From the perspective of her father, Hans-Christoph Bernhard, the city's commitment to aeroroutes was a mixed bag: "For landowners, like me, it means a set of restrictions. It could be unfortunate. I cannot, for example, expand my house even though there is an available space, a garden behind it."

CIRCULATION

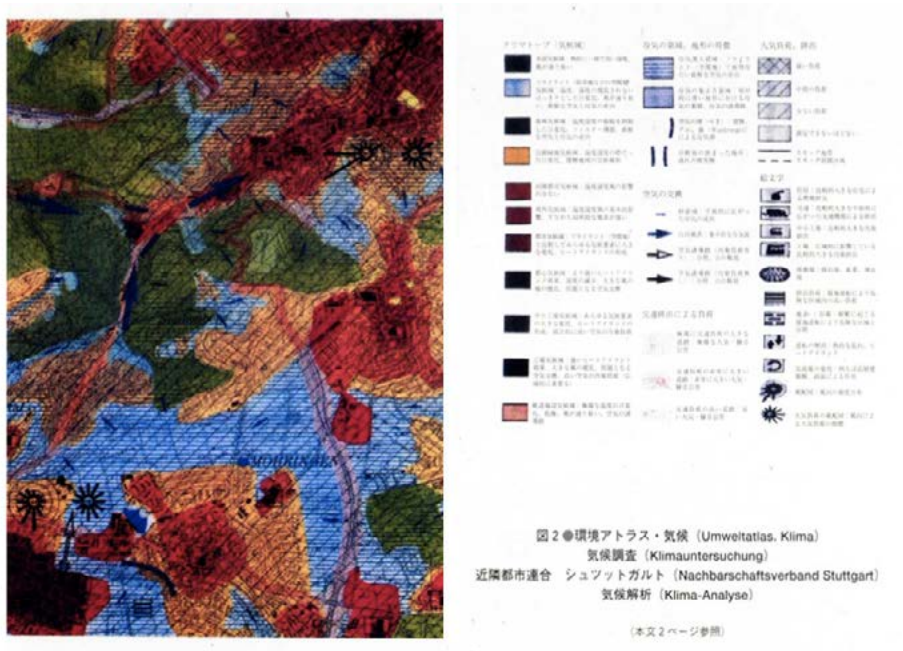
Stuttgart is known as a city where empirical urban climatology was born, albeit accidentally. Karl Schwalb, the first meteorologist hired by the City Council in 1938 to work in the Office of Chemical Investigation, experimented with chemical fog seedings as part of the Nazi regime's compulsory military service. The goal was to conceal valuable buildings in the city center and protect them from the Allies' air raids. While the primary experiment failed because pilots could still locate their targets using radar, Schwalb identified urban air routes from his observations, so he knew where fresh and cool air flowed or got stuck.

According to postwar documents in the Stadtarchiv Stuttgart, Schwalb was employed by the city in the same office again and tasked with formulating a microclimate planning program (*Klimaplanung*) for the postwar reconstruction project of severely destroyed Stuttgart. Based on his observations of wind patterns in the city, he proposed that certain areas should be protected using microclimate planning principles, so that the fresh air supply (*Frischluftzufuhr*) could flow unobstructed from places like the forest areas on the city's western side. As it expanded from a one-person job, climatology became a section (*Abteilung*) in Stuttgart in 1961, with a number of scientists and technicians led by Schwalb. In 1976, at the end of his leadership, a short film about the application of urban climatology to urban

planning—showing Schwalb in a brown suit describing the arrows of aeroroutes on the city map—was screened at the first UN-Habitat conference in Vancouver.

The 1980s were a period of intense experimentation by meteorologists in Stuttgart and their comrades in the Ruhr metropolitan area. There was a sort of spatial turn in urban climatology, thanks to the new qualitative mapping method and the development of the concept of climatope. Climate was spatialized. Peter Stock and his successor, Wolfgang Beckröge, formulated a new climate-analysis technique in the Ruhr area and tested it in cities such as Mühlheim, Essen, and Dortmund. Previously, urban climate maps had been drawn according to temperature gradation and did not differentiate the thermal specificity of one area's landscape features from another, but the climate analysis proposed by climatologists in Stuttgart and Ruhr made the distinction. They suggested using a climatope, a term borrowed from the discipline of landscape ecology, as the smallest climatic-spatial unit of representation in which the microclimate characteristics are considered to be similar. A water climatope, for example, is the coolest area in the city during the day and can assist air exchange around its immediate shoreline, different from an inner-city climatope with its strong heat-island effect. This climate-analysis technique using climatope types became an essential reference for the 1992 landmark publication of the *Climate Atlas of Stuttgart Metropolitan Area.*

After the publication of the *Climate Atlas*, Stuttgart boosted its position as a global reference for other regions looking to implement wind corridors as a primary urban climatological planning feature, especially Japan. In 1994, the first Japanese-German Meeting on Urban Climatology was held in Karlsruhe. The then-leader of the Section of Urban Climatology of the city of Stuttgart, Jürgen Baumüller, and his colleague from the Ruhr metropolitan area, Wilhelm Kuttler, traveled to Japan more than a dozen times to transfer knowledge and train environmental engineers, architects, and planners to be urban climatologists. A Japanese version of the *Climate Atlas* and eight bilateral meetings are the product of their long-lasting collaboration. Nevertheless, the application of German urban climatological concepts in Japanese cities was difficult, if not nearly impossible, because dense high-rise buildings already occupied the urban spaces. Kobe was one city that could replan its urban spaces, but only because the Great Hanshin Earthquake of 1995 had crumbled its buildings and infrastructures.



The Japanese version of *Climate Atlas*.

SCREENSHOT BY AUTHOR

Some scholars celebrate Stuttgart as a successful model of application of climatology in urban planning and point out the failed circulation of knowledge from German-speaking cities as the main problem. In my view, there is something missing from that calculus, though: the application of climatology in urban planning still requires extensive programmatic effort and is rife with conflicts and barriers, even in Germany.

PLANNING WITHOUT AIR-CONDITIONING

If Daniel Berber's *Modern Architecture and Climate: Design before Air Conditioning* is a compendium of buildings historically designed before the massive proliferation of A/C, then Stuttgart is a living example of planning before and *without* A/C. This type of planning requires collaboration between urban climatologists and planners, and climatopes are a crucial element in the collaboration, because with them (according to the urban climatologists I've interviewed), climatological language can be translated into something urban planners understand.

Furthermore, planning without A/C requires a continuous socialization and usually involves residents in the collaboration—making climatology public. This is sometimes accomplished through newspaper articles, pamphlets, exhibitions, tours, radio broadcasts, CDs and DVDs, and websites. Some members of citizen action groups learned about urban climatology in those ways; for example, key media in the 1990s–2000s, before modern citywide internet availability, was "STADTKLIMA (URBAN CLIMATE) 21," a set of discs that contained a wind simulation program. Today's urban climatology is a public science in Stuttgart. *All* Stuttgarters I met had at least a basic knowledge of Stuttgart's specific topography (*der Kessel*: the kettle, a boiler whose bottom is the hottest), if

not also different winds and their routes in their city. However, the fact that urban climatology has become a public science comes with a consequence: the wind corridors are not only a designated top-down regulation/instruction from experts to laypeople, but the latter also can protest—and *have* protested—against construction projects along those routes and demanded protection of the routes.

These sociospatial conflicts along the aeroroutes could be read as a political statement against the long dominance of conservative parties and groups at the local level led by the Christian Democratic Union (CDU). In the 2000s, a social movement emerged in which concerned citizen groups (*Bürgerinitiativen*) protested against a plan to convert green areas at the city's periphery into buildings, which culminated in 2009, when the Green Party won the communal election for the first time. The local council's conservative majority aspired to dedicate these areas for high-priced, surface-sealing, single-family homes for higher earners. Hypocritically and cunningly, the primary justification for their aspiration was the urgent need to alleviate the housing shortage for low- and middle-income households.

The citizen action groups highlighted different issues, from conserving endangered species to preserving cultural landscapes. Still, they share one leitmotif: they all spoke in the name of protecting the aeroroutes. Jürgen Lessat and Gretel Quiring, the founders of Frischluft für Cannstatt (which means Free Air for Bad Cannstatt, a district of Stuttgart), shared their experiences of organizing explicit protests against a building project planned on the land of a farmer whose family member was a member of the CDU. They published a series of *Kaltluftpost* (a pun meaning "cold air post") newsletters, wrote letters to the editors of local media, built a wood tower on the intended building site, hung posters in the district, organized a collective painting event for children on the route, and led a public-information campaign against the construction projects. They deliberately and provocatively

SCHUTZGEMEINSCHAFT ROHRER WEG

A protest against construction projects at Rohrer Weg, ca. 2007.

A sticker of Free Air for Bad Cannstatt's political counter-campaign: "Buildings at the Aeroroutes as Climate Killers."
CREDIT: JÜRGEN LESSAT AND GRETEL QUIRING

named the CDU and its coalition as "climate killers" in one of their publications, for example. The election result, in which the CDU suffered heavy losses, testified to the success of their political engagement.

The conflicts sometimes also extended into legal battles. The Schutzgemeinschaft (Conservation Society) of Rohrer Weg, an organization of neighbors in the same district (Möhringen) and citizens from other districts who sought to maintain a type of traditional landscape (*Streuobstwiese*, equivalent to "meadow orchards") on lands that were not owned by the organization's members, had to swallow the bitter pill. Despite years of campaigning and land-use reclassification as a protected area, the land was reclaimed from the city of Stuttgart by private landowners in administrative court. The lawyers of landowners used juridical archaeology to win the case: they unearthed a special instruction under the authority of the führer that had been issued on the eve of World War II, made it valid again, and thereby canceled the building plans after 1942. In another lawsuit, a corporation requested an evaluation of an informal planning instrument enacted by the municipality—the so-called *Semi-Valley Framework Plan* (*Halbhöhenlagen Rahmenplan*)—that forbade construction projects on an almost circular slope through which fresh and cool airs flowed, because the plan affected their intention to expand a building on a privately owned land. The administrative court decided the company's request for legal review was admissible but unfounded. The case now serves as a precedent for restricting construction projects in microclimatically relevant spaces on the valley's slope.

THE FUTURE OF AEROROUTES

At the Theatre of the Long Now, an "an installation and a performance piece" in a public wasteland (*Brachen*, which in German also has an agricultural connotation) meant to be performed over "at least

100 years." The theater is an art project that is performed so that the wasteland will *not* be built and can make more free space for fresh air. It is a ground to test out how art formats can be used to secure public spaces *against* the pressure from investors. I attended the one-hour show and found myself wondering whether aeroroutes can survive or even expand as a way to cool residents without energy expense (and consequence). I am pessimistic about that, even in Stuttgart. It seems like a David-versus-Goliath fight, where Goliath is an assemblage of landowners, lawyers, financiers, politicians, and companies (both public and private) fighting over the land in the city where the cost of living is among the highest in Germany. Of note, the fight involves a dissonance between what is written in official documents and what is actually implemented. For example, in the case of Rohrer Weg, despite it being written in an official draft that construction at the meadow is "an uncompensated incursion into the lands where fresh air is produced and into the relevant fresh air system at the southern part of the city" and the fact that local council members from the conservative coalition have publicly explained the importance of the meadow to the citizens, in the end, new buildings were still built there.

Political complications also aren't confined to land disputes. The idea of allying with nature in a "more-than-human" collaboration isn't always pure. In Tamm and Asperg (two smaller cities that constitute Stuttgart Metropolitan Area), the winds have been politically instrumentalized to meet another agenda: citizens and politicians have argued that housing for immigrants will block the aeroroutes.

Although the population of Stuttgart never dramatically multiplied in the post–World War II era, the city has only expanded—and of course, more buildings have been built, although they tend to be shorter than many American or Asian buildings. But there has never been any official and continuous evaluation of the wind corridors in Stuttgart. Less an entity, more of an intensity, "a force with variation," the winds are difficult to measure and require specific attention—meticulous design—to maintain. I asked an urban climatologist who was also an expert witness in one of the legal trials whether the disappearance of the routes is just my sentiment or might have an actual bearing. Her answer: "That is the correct estimation, that climate-relevant areas are already gradually defeated by a conversion into buildings and a redensification of existing buildings."

INDRAWAN PRABAHARYAKA

The Theatre of the Long Now.

There is a German term for that, of course: *Siedlungsdruck* (settlement pressure, which seemed to appear mostly in the 1990s in the context of Germany's post-reunification era), the predisposition of human-occupied territory to congeal and close a gap. Non-electrical cooling by means of preserving the aeroroutes raises an existential question about the possibility of caring for urban population growth without building new structures, thereby allowing "empty" green spaces to remain and function as the city's ventilation. Such an existential question begets even more fundamental questions for humanity. Taking into account that construction projects have been one of the motors of urban development and economic growth, what would be the effect of not building? Can we maintain the economy *and* support climate adaptation and mitigation? Would it still be called "development" and "growth"? These questions imply that the maintenance of aeroroutes as a non-electrical cooling infrastructure is still costly: it costs the city spatial conflicts and necessitates a different urban world that doesn't exist today.

ACKNOWLEDGMENTS

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Indrawan Prabaharyaka is an anthropologist. In 2022, he defended his dissertation "When Infrastructure Is a Verb" at the Institute of European Ethnology, Humboldt University of Berlin. He is a co-researcher of a transdisciplinary collective, Labtek Apung, studying multispecies health in Indonesia.

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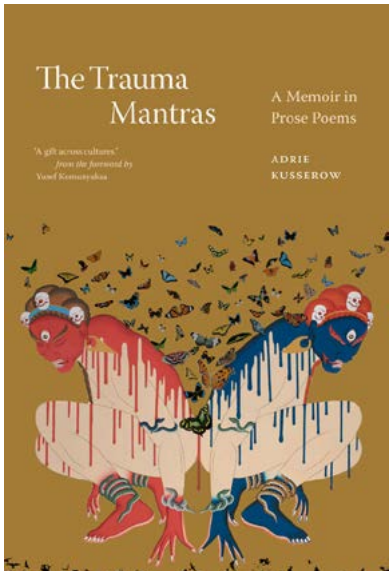

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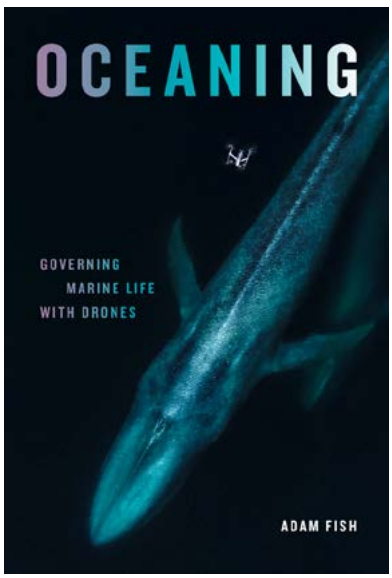

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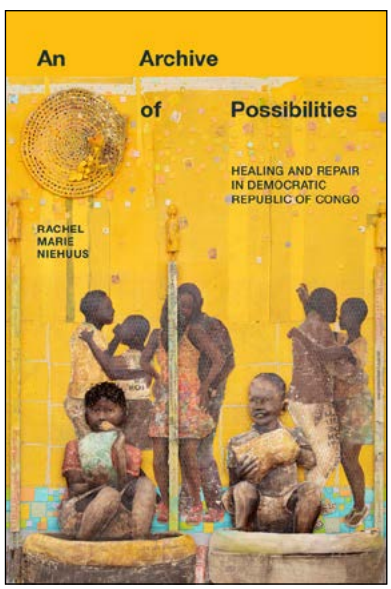

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COOL TECH

Click above for link to video.

By Chitra Sangtani

This article accompanies a short film entitled *COOL TECH*, which was produced as part of the Cool Infrastructures research project. Shot over 10 days of summer in Delhi, India, *COOL TECH* looks at how weather and technology come together to configure life and labor in the city, particularly from the perspective of people who make, sell, or repair cooling technologies.

In Delhi, temperatures have been rising for consecutive summers, reaching highs of 49°C (120°F) in 2022. India has also been identified as one of the countries most vulnerable to heat stress, the consequences of which are readily visible through statistics on the increased incidence of wildfire and heat-related morbidity. However, while such representations of heat alert us to the urgency of climate change, they don't adequately capture how it is managed and lived with in the everyday, particularly in regions like South Asia, where the need to manage heat is not new but has been long been embedded in cultural practices, techniques, and technologies. In making *COOL TECH*, we wanted to capture some of the more mundane ways in which heat is experienced and understood, particularly in a time of "strange weather," where rising temperatures are also accompanied by unpredictable rainfall patterns. Rather than using film to communicate a set of preconfigured ideas, we primarily relied on it as a tool for research and a method for setting up encounters in the field. In what follows, I reflect on some of the learnings through the process.

In Hindi, the word *garmi* describes not only a thermal condition but also a season. Garmi means both "heat" and "summer"; the same is true for *sardi*, which is both "cold" and "winter." Initially, Pranav Jain and I planned to shoot a film focusing on heat in the capital, tentatively titled *Dilli ki Garmi* (Summer of Delhi). However, we quickly realized that garmi was either too abstract (conversations about how hot it is only go so far) or too direct (given how it corresponds to the social organization of class and caste).

In contrast to the English term for summer, which denotes a more collective or generalizable experience, garmi is a much more localized phenomenon, differing from place to place as well as across forms of livelihood. On one hand, people often speak about Delhi's garmi in the same breath as they speak of pollution, cars, crowds, and the proliferation of heat-generating technologies—as a distinctly urban experience. At the same time, garmi is often used to stand in for the idea of hardship. In being intimately tied to the conditions of life and labor in the city, garmi is seen as something that certain people have no choice but to endure.

To speak about technology, then, offers a different scope for engagement. Rather than focusing on exposure to heat or one's inability to escape it, technology directs our attention to the concrete ways in which people attempt to manage, regulate, and respond to changing thermal conditions, as well as the economic spheres through which this is negotiated. In conceptualizing the film, Pranav and I began with the understanding that cooling technologies are ubiquitous—all people rely on them in some form or another, whether through the use of "modern" cooling systems, such as air conditioners and desert coolers, or more long-standing, manual technologies such as ice and earthenware. Working with a more expanded notion of technology allowed us to perceive the varied strategies people employ to keep cool and the wider breadth of ways in which objects, elements, and infrastructures in the city are reconfigured in times of heat. It also revealed how technology can inform ideas of heat, since explanations of why something "works" also correspond to particular notions of comfort and discomfort, weather and health.

In discussing technology, we arrived at new and surprising understandings of weather. Conversely, paying attention to how weather emerged in these conversations also led us to rethink ideas of technology. The method of making a film and the kind of immediacy it affords (in terms of image and sound) facilitated this process in particular ways. For instance, recognizing the centrality of water in relation to cooling was guided by the fact that it appeared as a recurring motif in the environments we were filming. While shooting, we also became attuned to the sensory atmospheres created through the functioning (and breakdown) of technologies, often simply for the fact that these disrupted or made it harder to film—owing to the noise of machinery, lack of light during a cut in power supply, or the periodic shutdown of our cameras in spaces more exposed to sunlight. Such "technical challenges" also constitute anthropological encounters with weather and technology. They may not be directly visible in the film but have informed stylistic decisions in the editing process—for example, cutting between thermal, spatial, and sonic environments in order to accentuate their differences.

In his writings on visual anthropology, David MacDougall suggests that audiovisual mediums are particularly suited to the study of "sensory" knowledge—"that is, how people perceive their material environment and interact with it, in both its natural and cultural forms." In researching something as abstract as heat, the audiovisual medium certainly aided the work of noticing, sensing, and "attuning" to its particularities in Delhi. It allowed us to observe the ubiquity of technologies around us, drawing out a more complex picture of technology than the one present in popular discourses of climate. Rather than viewing technology as a "fix" for environmental problems or, conversely, responsible for them, we were led to appreciate the very material ways in which technology mediates everyday human interactions with the environment and its connections to work, housing, and infrastructure in the city. This, in turn, was useful for revealing how heat, as phenomenon/risk that is intensifying globally, is also negotiated alongside the mundane economic circuits of a city and the less-perceptible risks arising for people who contend with it as an everyday challenge.

CHITRA SANGTANI

A still from the *COOL TECH*.

Working with a more expanded notion of technology allowed us to perceive the varied strategies people employ to keep cool and the wider breadth of ways in which objects, elements, and infrastructures in the city are reconfigured in times of heat.

Chitra Sangtani is an anthropologist and visual artist. She is a PhD candidate at the University of Edinburgh and is studying the politics of fire and flammability in Delhi.

Heatcraft: Handmade Story of an Iceshelf in the Persian Gulf

By Yāmāl Collective (Elaheh Habibi, Ahmad Moradi, and Zohreh Moradi)

Standing in the shade at the waterfront historical pearl market of Laft, we were struggling to look at the sea, squinting against the glaring sun. Laft, an ancient coastal village in Iran's south renowned for its windcatchers (*bādgir*), was once a bustling and vital port connecting the Persian Gulf to far-flung corners of the world. Amid the oppressive heat, an idea emerged, one that later evolved into a children's picture book. The story centered on the enigmatic arrival of an ice shelf on Laft's shores. Initially a source of relief from years of water scarcity, the residents of Laft soon learned that the ice shelf attracted harmful winds, or *Zars*. The community, along with local healers, communicated in various languages—Arabic, Indian, Swahili, and Persian—imploring the winds to leave and striving to push the ice shelf back to Antarctica.

This story is rooted in the very real climate threats facing Laft, and the entire Persian Gulf region. With global warming, the Persian Gulf is projected to become increasingly inhospitable. While excessive heat is common in the region, in recent years, the Persian Gulf has endured especially prolonged periods of scorching weather, with extended periods of extreme heat indexes, exacerbated by suffocating humidity levels. This brutal pairing originates from the searing heat emanating from nearby deserts and the extraordinary humidity coming from the Gulf, resulting in a sweltering environment unparalleled anywhere on Earth.

Along the Persian Gulf's coast, the cities and villages are shaped not only by the scorching heat and high levels of humidity but also by the winds. Laft exemplifies this interplay with its more than 300 unique windcatchers, designed to harness the winds for natural cooling. The winds here are more than merely meteorological phenomena; they are personified entities, possessing both extraordinary power and an enigmatic, often capricious, nature. Locals see them as supernatural beings, sometimes malevolent, capable of possessing individuals and causing various maladies. Those affected by the winds are called *Faras-e Baad*, meaning "the mount of the wind," signifying their subjugation to the winds' whims. These individuals, under the winds' influence, may act in ways uncharacteristic of their normal behavior, driven by the winds' capricious desires.

Motivated to address the localized effects of climate change, we formed a collective called Yāmāl in the summer of 2023. The collective aims to explore the intersection of craft, anthropological collaboration, and speculative futures in the Persian Gulf region. Our first collaborative project was to conduct a summer school involving mostly female students pursuing bachelor's degrees from the University of Hormozgan, Iran. Fifteen students specializing in traditional handicrafts collaborated with local artisans to illustrate a children's book.

During a two-month online workshop, participants received intensive training in ethnographic methods. This equipped

Qeshm Island, the largest in the Persian Gulf, with a population exceeding 100,000 people, grapples with severe drought and water scarcity, particularly during scorching hot, dry seasons, where temperatures can soar to around 40–46°C (104–115°F), significantly affecting the daily lives of inhabitants. MOHSEN MEHDIPOUR

them to choose and closely work with local female artisans, experts in the traditional handicraft art of embroidery.

Following the workshop, through weekly in-person meetings between members of the Yāmāl Collective, students, and local artisans, we found the opportunity to delve deeper into the narrative of the book, exploring myriad visual motifs that could complement and enhance the storytelling.

The heart of our project lies in the unique contributions of the female artisans. With each passing week, they infused the narrative with their personal touch, drawing from a deep well of patterns and motifs that have been preserved and passed down through generations. These artisans, with their intricate knowledge of traditional designs and a keen sense of aesthetics, ensured that every illustration was a reflection of the region's rich culture.

MOHSEN MEHDIPOUR

Women collect water from ancient well structures, originally built to store rainwater for year-round use after the rainy season. Sadly, these reservoirs have become obsolete due to water scarcity. Historically, it was women who managed and maintained these wells.

A mountainous landscape near Laft, Qeshm Island MOHSEN MEHDIPOUR

In the next part of our collaborative project, these illustrated embroideries have become the main materials for an Iranian professional designer to finalize the layout of the book, scheduled for publication in late 2024 in Iran. Upon the book's release, in addition to distribution in bookstores, we are planning special book events in Iran. These events will feature image sharing and book readings, drawing inspiration from traditional Persian oral storytelling (*naghalli*) as well as the ancient Japanese storytelling technique of *kamishibai*. The proposed gatherings will provide an opportunity to ensure that our collaborative process resonates with the youth, who are set to face the real impacts of global warming in the years to come.

YĀMĀL COLLECTIVE

Laft Harbor, also known as Bandar-e Laft, is located on Qeshm Island in the Straits of Hormuz, south of Iran. This ancient city, with a history spanning over 2,000 years, is still inhabited and preserves traditional structures such as windcatchers.

Elaheh Habibi is a visual anthropologist, writer, filmmaker, and cofounder of the Yāmāl Collective. She's a PhD candidate at Paris 1 Panthéon-Sorbonne, researching 1980s documentary photography in Iran. Her ethnographic film *About Love on a Small Island*, set in Qeshm Island, won Best Student Film at the 2019 AAA annual conference and Ethnocineca in 2020.

Zohereh Moradi is an assistant professor of handicrafts and traditional arts at the University of Hormozgan and an advocate and ambassador for autism awareness. She recently defended her PhD in art studies examining the localized practices of autism art therapy in the southern region of Iran.

Ahmad Moradi is a postdoctoral fellow at the Anthropology Institute of Freie Universität Berlin. Ahmad has carried out extensive ethnographic research in low-income neighbhorhoods of Bandar Abbas, a major city bordering the Persian Gulf. The results of this research are set to be published in a monograph in early 2024.

MOHSEN MEHDIPOUR

In this drought-stricken landscape, where only a few hardy plants endure, the women's vibrant floral embroidery on their garments is an oasis of life. These intricate designs and vivid colors breathe vitality into the barren surroundings, akin to blossoms in the desert. They exemplify the creativity and resilience of the women who craft them.

YĀMĀL COLLECTIVE

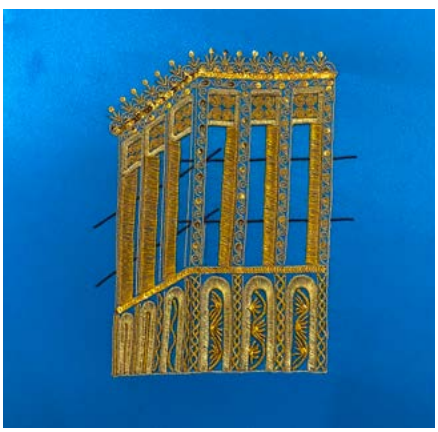
We successfully organized hybrid meetings to facilitate a workshop aimed at illustrating the book. This collaborative effort brought together students of handicraft, their teachers, and local artisans all working together to brainstorm and generate ideas for the book.

MONA ZAREH ZADEH

Fatima, a talented local artisan residing in one of the small villages, skillfully portrays the ice shelf. She became part of our group during last year's summer school, where students were taught ethnographic skills and tools to enhance their creative abilities.

MONA ZAREH ZADEH

The embroidery technique known as *golabatoon doozi* has evolved in the region during the years of trade in the Persian Gulf. Much like other aspects of life in this area, this art form draws inspiration from Indian styles. Before artisans commence the embroidery, the fabric is securely fixed onto a loom. The pattern in this particular piece is inspired by traditional motifs, yet it also incorporates entirely new elements, showcasing the fusion of tradition and innovation.



YĀMĀL COLLECTIVE

Fatima's skillful depiction of the ancient windcatchers. *Golabatoon doozi* embroidery represents the rich visual heritage of the region; however, its existence is now under threat, mirroring the precarious state of the windcatchers themselves. These remarkable structures once had the ability to transform scorching hot weather into a cooler, more-bearable climate.

YĀMĀL COLLECTIVE

We are creating 10 art cards based on the picture book. These cards are placed inside the kamishibai, and a book-reading facilitator will perform the story. *Kamishibai* is a Japanese method of storytelling, often referred to as "paper theater" or "suitcase theater." It's an art form that combines storytelling and narration with visuals, blending multiple artistic disciplines.

Birth Is Hot and Sweaty, and So Am I: Accessing Patient Care through Shared Discomfort

By Emily Gillard

Throughout my career as a registered midwife, I've delivered hundreds of babies in hundreds of birthing rooms: hospital rooms; living rooms; kitchens; bedrooms; bathrooms a few times; a front hallway, twice; a staircase, once; a parking lot, almost once; an elevator. Birthing rooms, no matter the location, are places of labor—and where there is labor, there is heat. The heat of the birthing room is the heat of bodies in close proximity, of physical exertion, and of emotional intensity. It is heavy breathing, shallow breathing. It is deep moans, high cries. It is clutching hands, massage, draped bodies, bellies and breasts, fluid and blood, pacing, crying, slow dancing, showers, baths, teas, and towels. It is "No, keep going," "Yes, keep going," "You're right there," and "Don't let go." It is pushing, pushing, pushing. Birthing rooms are hot and uncomfortable places, for the hot and uncomfortable work of birthing a baby. I can't think of a birth I didn't leave sweat-dampened, grateful for the window down in the car on the way home.

COOL CLOTH

Leila's bedroom is a 6 ft x 8 ft rectangle; the double bed occupies almost two-thirds of the space, to the point that when the door opens, it bumps into the footboard. Once we are all in, inches from each other, the door remains closed, because Leila is worried that her toddler will wake before the new baby is born. Leila is lying on her side on the bed. Her partner, Juan, is behind her, kissing her shoulder between labor pains. She is only wearing a T-shirt, while he is only wearing shorts, as if they are sharing one outfit in solidarity. I can fit in the space between the bed and the wall, kneeling, the side of the mattress pressing into my chest as I lean toward Leila. My student midwife, Ada, perches at the foot of the bed, by the door. Heat radiates from the bed—Leila's intense laboring, and the sweet romance of her husband's support.

Of course, heat radiates from our bodies, too, just by being in the space. There is nowhere for the heat to go, so it sits between us and envelops us. Sweat shimmers on Leila's forehead and thighs, on Juan's chest. My T-shirt is glued to my skin. Ada struggles to don sterile gloves over slick hands. There is a basin of water and one cloth in it. If the water was cold when it was drawn from the tap and carried in, before the door was closed, now it's rapidly absorbing the heat of the room.

While Leila wants this close space and the quietness it provides for her sleeping child, she does not feel comfortable in it. She writhes in pain; she cries out *sotto voce* into her pillow; she motions that she feels she will throw up. She needs a little relief. I press the wet cloth to her forehead, offering what little cool is available. In mere moments, I feel the heat of her skin absorbed into the damp cotton. I remove the cloth so I can spin it through the air, movement allowing some dissipation of heat; I'm conjuring cool. We get a rhythm going: cloth to forehead, relaxation; cloth removed to spin,

tension; reapplication of the cloth, relaxation again. In the heat of this tiny room, I do what I can, what I know to do. I am also not comfortable in this room. What relief can be sourced is for Leila, not for me.

What is operating here, during this over-warm encounter? While it is a moment for care provision of the ameliorative kind, McKearney cautions against the presumption of claiming care as good or appropriate in the absence of a deep exploration of the recipient's perception. I'm hesitant to say that the discomfort of the birthing room allows any opportunity to showcase techniques of care excellence. In fact, discomfort in the birthing room can be a space for refusal of care.

JUST STOP

The great thing about Beth's particular hospital is that there is a full bathroom in each labor room, and each bathroom has a full-sized bathtub. The bathroom can become space for cocooning—cordoning off from machines whirring and beeping, fluorescent lights, paperwork, and hallway banter. The bathtub can be filled with steaming water. Immersion in the hot water, in a dark and quiet room, can create a double cocoon. A cocoon is a necessary feature of what midwives call "the zone," a sort of hypnotic state where the laboring person is fully concentrating on their experience of labor, riding the waves of contraction pains, often with eyes closed, making little noise beyond moans and breath sounds. It is similar to the trance-like state achieved during long-distance running, when an athlete gives in to the visceral experience, allowing the body to do what it needs to do.

Beth, in the hospital-room bathroom, in the tub of hot water, is in the zone. It is dark, and I am crouched beside her. It is winter, and COVID-19 is prevalent, so, clad in both wool sweater and surgical mask, I'm finding it increasingly prickly and airless in the steamy room. Beth's face scrunches with pain during the contractions. I can see, despite the dim, that she is in agony every few minutes. What can help, I think, is a cool cloth. I move to prepare this familiar

COURTESY OF AUTHOR; USED WITH PERMISSION

Close quarters: the author bends into the warm birth pool to provide care.

therapy and Beth's expressive eyebrows narrow. A slight shake of the head: *No. No cloth.* I resume the crouch. Ah, I know! What can help is movement of the water in her bath, pouring over her belly in a warm, languid stream. Beth frowns. *No. No stream.* Perhaps the gentlest motion of the water, the slightest ripple, to soothe tender hips and thighs? Beth raises one finger. *No. No ripple. Stop.* I'm hot and tired and, frankly, a bit disgruntled. I resume my crouch beside her tub.

Is it compassion I am enacting? Am I virtuously motivated to act upon recognition of suffering with the desire and ability to alleviate it? I feel motivated to act and to alleviate what I perceive as Beth's suffering, but it is inaction that Beth wants. And the inaction demanded of me serves to increase my own discomfort. I am reminded that care might be less about what I do and more about something else. One study found that patients feel cared for when caregivers are "emotionally present, communicate effectively, enter into their experience, and display understanding and kindness." I am emotionally present, yes—but for birth care especially, I think physical presence is also part of the recipe. And it is one thing to be physically present when one's needs as a healthcare provider—and more specifically, as a *person* who is a healthcare provider—are addressed. But what if they are not? What if I am as sweaty and uncomfortable as my birthing patient?

(And then I ask myself, do I have to be hot and sweaty, uncomfortable? Is that part of the job? I think it is. It's right in the name, *mid wif:* with woman. I have to be there, and to be there is to experience the full effect of my environment.)

ON FIRE

We closed the windows against the screaming, choosing privacy over breeze. The closed window does not stop the July midday sun. That was over an hour ago. The contractions are now about two minutes apart, along with the screaming that accompanies each one and the double-hip-squeeze technique demanded of me as each surge of pain threatens to disintegrate Sam's tailbone. "My back is *on fire*!" she exclaims when catching her breath, between waves. I can feel sweat trickle down my own tailbone. The repeated maximum

COURTESY OF AUTHOR; USED WITH PERMISSION

Close, physical support in the heat of labor.

isometric effort is getting to me; my hands losing their grip on Sam's slippery skin. My arms, too, are *on fire*.

Humans evolved to find connection with other humans and to create spaces that facilitate and sustain that connection through intentional togetherness. On a basic level, being physically present in a care encounter forms a connectedness that can be perceived as care itself. Shared affectivity during a shared experience can also increase the perceived bond. You're on fire; I'm on fire. We did this thing together. We had a meaningful experience.

If the heat of a birthing room is uncomfortable and can make being physically or emotionally present difficult as my own body responds to the environment, being hot and sweaty alongside a birthing person also leverages that shared experience as a form of care. Whether what's needed is ameliorative therapy or the *absence* of therapy, some connection, *meaningful* connection, happens in a deeply human way through the shared discomfort.

A refusal to release myself from the discomfort—a commitment to remaining present—also allows my own vulnerability to blur the traditional line between care provider and patient. Often, that line suggests a power differential: the care provider is in charge, wielding special knowledge to which the patient is not privy, performing acts for which the patient should be grateful. Instead, vulnerability chips away at that paternalistic, patriarchal division and detachment, replacing it with relationality. My willingness to be affected and transformed by that relationality reflects Richa Nagar's radical vulnerability, Rachelle Chadwick's "sticky praxis." According to Nagar, "entering solidarity and working through discomfort can reinvent and endure the inherent power imbalances between" the care provider and the patient. And Chadwick teaches that admitting there is something important happening in the messiness of discomfort, where it hurts, rejects the notion that birth care operates outside of the participation in the birth care, the *being there.*

When I explore the potential effects birth spaces offer to me, my first instinct is that allowing, acknowledging, or accepting the importance of my physical presence is one thing—but *transformation*? To what? Of what? And then I think: *Ah! Perhaps the transformation is more like a journey, less like a destination*. Being open to this progressive, transformative vulnerability requires deliberately seeing the forces acting in the space between care provider and care recipient—forces that connect and resist, the clean threads and snarled ones interwoven, the sticky and slippery contacts. What the heat of birthing rooms has clarified for me is that birth is a process of surrendering, of letting go—for both me and the laboring person. When I strive not only to see but to internalize this entanglement; when I do the work of reaching into the uncomfortable spaces not just in the room, but in myself; when I do the work I ask of laboring people, I participate in the making of a new world—one in which I've deconstructed the idea that I know best and instead forged in fire the fact that my solutions are my patient's solutions.

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Souk al-Shorja, Baghdad's oldest market, summer 2023.

MURTAJA LATEEF

Under the Baghdad Sun

By Juliette Duclos-Valois

During a brief visit to Iraq in the heat of summer 2023, Volker Türk, the UN High Commissioner for Human Rights, declared, "The era of global boiling has indeed begun." It was an assertion that no Baghdadi would dispute. In the Iraqi capital, summers extend over 7 months, characterized by a hot, arid climate with intense sunlight and temperatures that can exceed 50°C (122°F). The weather is not just a backdrop for the city's inhabitants. It is a fundamental aspect of their existence, a matter of concern, attention, occupation, and idleness that affects the entire organization of social life and lead to the politicization of their situation.

TROUBLES

In Baghdad, spring has almost disappeared, taking with it the characteristic sense of gentleness. The inhabitants only have a few weeks' respite between winter and the dreaded summer. Before they've really had a chance to enjoy the fine weather, the heat engulfs the town and suffering sets in. Mohammed, a friend in his 30s who has never left the capital, explains why he hates this period so much: "Everything becomes more complicated. When you go out, you quickly feel very hot; by 9 a.m., you're already sweating profusely. You can't enjoy anything. You can't take a leisurely stroll, take your time."

The discomfort felt by Mohammed is common to all inhabitants. High temperatures affect, first, the body. The organism tires to deploy thermoregulatory mechanisms to combat the aggressive heat. Bodies drip sweat, clothes soak up and stick. The mixture of perspiration, pollution, and city dust forms an unpleasant layer on the skin, making people feel permanently dirty and smelly. At the same time, they have the impression of suffocating. This sensation of lack of air is caused by the acceleration of breathing, as the organism, entirely focused on maintaining a normal body temperature, consumes more energy to carry out this vital action. When it is overwhelmed, heat-related pathologies emerge. Every year, hundreds of Baghdad residents—especially the most vulnerable such as pregnant women, the elderly, young children, and people with chronic illnesses—suffer from headaches, dizziness, malaise, swollen and painful legs, cramps, dehydration, and sunstroke, which can even lead to death.

In these conditions of physical fatigue, people have to make extra effort to carry out everyday activities. The outside turns into an inhospitable zone, as Mohammed points out, and it is difficult to move around the city during the day or have to stand in the sun. With few green spaces, dense concrete urbanization, and high levels of air pollution, Baghdad boasts dozens of heat islands. Even inside the home, heat is inescapable, as most building materials offer poor insulation.

The sleep deficit accumulated over the course of disturbed nights and the fatigue caused by the heat during the day reduce people's ability to concentrate and therefore be productive. Mustafa, another friend from the capital in his early 20s, can't stand the state he's in during the summer: "I just want to lie down and do nothing. Like everyone else, I'm exhausted even before starting the day." As he emphasizes, the heat imposes a slower pace, which is perceived by many inhabitants as a waste of time. Their daily lives are already saturated with social obligations, and the Iraqi context forces them to multiply activities in order to survive or open up prospects for the future. To keep going through the summer, they have to redouble courage.

Social relations are also affected. Everyone lacks patience. You need to get straight to the point and not get lost in endless dithering. Mohammed, who prefers to laugh about it, describes with amusement the atmosphere in the city during the summer: "Communication becomes very difficult. Everyone's stressed, and arguments can start in an instant. Especially on the road, you see drivers shouting at each other over nothing." The expression *harra ouffny* (literally "leave me alone, it's too hot") perfectly sums up the mood of the population.

Every year, hundreds of Baghdad residents—especially the most vulnerable such as pregnant women, the elderly, young children, and people with chronic illnesses which can even lead to death.

MAKESHIFT SOLUTIONS

The dissolution of the seasonal cycle disturbs the organism and the rhythms of life, but Baghdadians will tell you that they have gotten used to a summer of suffering. Everyone has found ways to remedy the weather-related problems that affect them. Through a variety of makeshift solutions, they have learned to live with the heat, in order to reestablish at least some continuity in their everyday activities.

Cooling systems are becoming an essential household accessory. Just a few years ago, ceiling fans and simple air coolers (*moubarridah*) were sufficient to make rooms comfortable, but today, high temperatures render them ineffective, as the former just blows hot air and the latter just replaces cool air with warm vapor. As Mohammed indicates, "Now, families will do everything to install split air conditioners [*siplette*]." These air-to-air heat pumps are more energy-efficient than water cooling systems. A thriving market has developed, offering entry-level units for around US$150, but the price remains too high for most modest households. Without access to this new device, people stick to air coolers and must endure associated inconveniences: after months of inactivity, the device emits a moldy smell and a burst of humidity "that sticks you to the chair," as Mohammed remembers.

The refrigerator is another essential element of domestic life. Exposed to heat, everything degrades rapidly. Therefore, people place food, medicines, creams, makeup, and cigarettes inside it. But perhaps most importantly, the appliance ensures access to cold water. During hot periods, everyone remains vigilant about staying hydrated. Air-conditioning and refrigerators make the heat bearable, making them both literal and symbolic representations of comfort—so much so that future fathers-in-law make a point of ensuring their presence in the home of a future son-in-law.

In addition to this equipment, people will take multiple showers to temporarily lower their body temperature and get rid of the layer of sweat and dust that forms on the skin each time they go out. But in a country where the public water supply system regularly malfunctions, even this ordinary practice is troubled by high temperatures. To cope with intermittent supplies, people store water in rooftop tanks. Under the blazing sun, these tanks turn into natural kettles, pouring out scalding water. Showers are therefore only possible when the network distributes cold water. Or, depending on the layout of the home, the water from the tank can be mixed with the water from the boiler, which remains cool since it never needs to be switched on at this time.

Outside, it's harder to protect yourself from the heat. Shopkeepers are the first to be affected. In stores, some have installed water coolers, while others use fans,

MURTAJA LATEEF

Al-Sinak Street, summer 2023.

sometimes cleverly fitted with wet cloth. Sidewalk and roadside vendors, meanwhile, have set up umbrellas, and in the busiest streets, and it's not uncommon to see makeshift misting systems.

At the sun's zenith, it is almost unbearable to move around. Inhabitants have little room for adaptation: they change the time of activities that can be moved and/or opt for less-tiring means of transport. Each trip is subject to a valuation between the distance to be covered and the importance of the journey to optimize outings and keep energy costs to a minimum. For example, shopping trips or visits to loved ones tend to be made early in the morning or at the end of the day. The same applies to all those who carry out physical work outdoors, such as construction workers who operate at night. Walking is exhausting. In the hottest hours, some sidewalks are deserted. Those who used to get around on foot have to make do with the few bus routes, tuk-tuk or cabs, even if this puts a strain on the budgets of the more modest families.

The car remains the preferred means of transport for the majority of the population. Air-conditioning, an option that everyone pursues, makes journeys more bearable, but only if people opt for recent models. Otherwise, as the hours pass in traffic jams, the air conditioner, with a mocking gesture, starts blowing hot air, reminding drivers that any respite is only short-lived. At the same time, everyone must be careful not to park their cars in direct sunlight without protection. If they do, the cabin turns into an oven, the steering wheel and seats into a brazier, and the integrated touch screens are prone to malfunction.

All these adjustments are sometimes not enough to make the heat tolerable every day. In many cases, people unwillingly choose to restrict their movements to those that are necessary, especially for work. High temperatures force people to stay at home, withdrawing them from the city and generally limiting interaction. Mustafa deplores the fact that, at this time of year, he sees fewer of his friends and plays less soccer. The state itself seems overwhelmed by the problem and chooses to immobilize the inhabitants. When temperatures rise above 50°C, the government grants public holidays.

Lastly, to limit disturbances, people's daily lives are punctuated by gestures to preserve, maintain, or repair anything that the heat might affect. Maintaining a form of continuity also calls for anticipation and preparation. Before summer arrives, many people carry out maintenance on air conditioners and cars; they check that their various accessories—fans, protective covers, anything that can provide shade—are ready or otherwise purchase new ones. At the end of every season, damaged things are repaired for the following year, such as the tar joints on the roofs, which regularly melt under the sun's rays.

INFRASTRUCTURES

As Mohammed explains to me, commenting on the day's weather often serves as an introduction to conversations. But, very quickly, complaining about the heat leads to criticism of the government and the political class. Even if the population manages to put up with the long summer months by dint of bricolage, they consider these solutions unsatisfactory and not sustainable in the long term. They give an extension to the troubles they encounter. Residents link the city's habitability to the American occupation, the war that accompanied it, and the destruction it wrought. They also associate it with the inability of successive governments to reestablish

continuity of services, blaming state corruption, the control of certain sectors by militia organizations, and Iranian interference. For them, global warming and how it affects them points to a political problem of governance and management.

Summer reveals the fragility of infrastructure. During this time, the failure of the water, electricity, and traffic networks is even more acute for Baghdad residents. While waiting for the overall situation to improve, outsourced intermediate solutions have developed. All year, electricity is distributed intermittently. But in the summer, when consumption rises sharply with the use of air-conditioning, the electricity network is even less able to cover the demand of the city's nearly 8 million inhabitants. In addition, the network's poor condition leads to numerous short-circuits and fires, which take several days to repair.

So, to restore continuous access, a parallel electrical generator supply business has emerged. Neighborhoods are now equipped with dozens of them, and all homes are connected to them, as a combination of the public network and private generators is the only solution available. But this collective response to the intermittency problem represents a significant cost in household budgets. Generator owners obtain fuel from the state at a preferential rate, but still charge users an exorbitant amount for electricity—up to $15 per ampere in the summer, when most families need at least five amperes per month to operate an air conditioner and other electronic devices. So monthly bills can reach $100, which means that the most modest people have to find other places to cut their household expenses, such as with care or food costs. Unfortunately, there is no way to negotiate lower electricity prices. As Mustafa explains to me, the electricity trade is not exempt from the control of the militias, who often seek to take advantage of the failure of the state to impose their pretensions of neighborhood administration and make money. Moreover, they make a point of preserving their monopoly by prohibiting all forms of competition. For example, one of Mustafa's friends had to give up the idea of setting up in the market after one of them threatened to blow up his house.

MUSTAFA

Dashboard of Mustafa's car (55°C/131°F), summer 2023.

While waiting for better alternatives and genuine government initiatives, residents of Baghdad have no choice but to continue relying on their modest makeshift solutions.

Numerous studies by academics, local and international nongovernmental organizations, and UN agencies are proposing wide-ranging projects to rehabilitate the city, reduce the heat, and make daily life more livable for its inhabitants, but they face various implementation problems. Only a few compensatory initiatives manage to be carried out. For example, several Iraqi NGOs run tree-planting programs in the city in order to provide a little relief from the heat. However, as the relevant authorities do not set up any monitoring system for these actions in public spaces, particularly for watering the plants, the initiatives remain confined to specific areas, usually schools or collectively managed sites. The new government has also tried to address heat issues with new public infrastructure. For example, not long ago, numerous checkpoints, concrete walls, and barriers were removed and several roads reopened and rebuilt in an attempt to ease traffic flow. But these limited efforts do not address the "real" problems facing most Iraqis. Mohammed perfectly sums up the feeling shared by many: "They've put up streetlamps and electric festoons everywhere in the posh districts! That's great, but will the outages stop where I live? Hell, no!"

While waiting for better alternatives and genuine government initiatives, residents of Baghdad have no choice but to continue relying on their modest makeshift solutions. Yet their efforts to mitigate heat-related troubles often blow back on them. By solving certain temporary problems, they also contribute to maintaining them and creating new ones. Dense circulation, air-conditioning, electric generators, water pumps, and other appliances produce heat and constant noise and olfactory pollution, making the situation even more harmful for residents.

Certainly, money can buy comfort, but always through individual stopgaps, and for now, without leverage to reshape the city and collectively improve the situation. The demands for the right to a dignified life voiced by the Tishreen revolution were violently repressed and did not lead to the changes the protestors had hoped for. However, collective mobilization is not without consequences. It undeniably raises the threat of future recidivism on the political class, which can only be avoided if it succeeds in liberating the daily lives of its inhabitants from the constraints that congest them.

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Burning from the Outside In: Cancer Patients in a Hyperthermic World

By Nina Francis-Levin

CANCEROUS HEAT IN THE BODY

In the embodied experience of a person with cancer, heat plays a critical role.

Hot flashes and night sweats afflict many patients. Sudden-onset surges of intense warmth followed by profuse sweating can be triggered by chemotherapy, radiotherapy (or radiation), hormone therapy, steroid use, or surgery to the reproductive organs that prompt hormonal changes. Both men and women report hot flashes resulting from disease and treatment; in addition, young female patients may also experience hot flashes due to premature, medically induced menopause to protect ovarian reserves from iatrogenic infertility.

But the effects of heat on cancer patients aren't confined to discomfort. Neutropenic fever, a condition where body temperature rises dangerously high as patients' white blood cell counts plummet during treatment intervals, is one of the riskiest complications of cancer treatment. Neutrophils are a type of white blood cell that attack bacteria; because chemo and radiation can destroy neutrophils or bone marrow (which produces neutrophils) as a side effect, patients with cancer are often left with immune systems that lack the ammunition to fight everyday bacteria which would otherwise be harmless. Without enough white blood cells, immunosuppressed patients have deficient capacity to jump-start the inflammatory response necessary to fight infection. Therefore, neutropenic fever in a cancer patient is an emergency and can swiftly escalate to life-threating or life-ending illness.

Certain cancers and their treatments also cause peripheral neuropathy, a nerve-damaging side effect that produces a burning sensation in the limbs, hands, and feet. Not only does peripheral neuropathy create a fiery feeling in the extremities, but it also reduces the ability to sense changes in temperature, making those affected vulnerable to burns and injuries. Another side effect known as hand-foot syndrome (palmar-plantar erythrodysesthesia) can cause redness, burning, inflammation, and blistering, resembling a sunburn, on the palms and soles of the feet.

The inability of patients with cancer to thermoregulate (control their body temperatures), the steady risk of becoming febrile, and bodily sensations of burning deeply affect both their comfort and their safety, no matter the climate in which they live. But increasing global temperatures due to the current climate crisis compound the problem, posing further risk of dehydration, heat stroke, and sunburn. Patients who travel to medical appointments and those without access to air-conditioning at home or in hospitals are especially vulnerable.

Cancer and its chemical treatments bring uncomfortable, inevitable, and even dangerous heat.

CANCEROUS HEAT IN THE WORLD

Not only do smoldering temperatures from the climate crisis worsen conditions for existing cancer patients, but malignant heat also renders well bodies more susceptible to disease. Cancer is already a major public health problem, with over 19 million incident cases and nearly 10 million deaths globally in 2020, and higher rates of cancer (especially lung, skin, and gastrointestinal) are projected to accompany extreme global temperatures.

Outdoor pollution (arising, in part, from burning fossil fuels, coal-fired power plants, oil and gas extraction, and fracking) was classified in 2015 by the International Agency for Research on Cancer as a group 1 carcinogen, meaning sufficient evidence exists to conclude that hazardous ambient air particle matter causes cancer in humans. Several other cancers, such as head and neck, oral, liver, bladder, and kidney cancers, have been shown to be associated with polluted air exposure as well. Particle matter resulting from destabilized,

ISTOCKPHOTO.COM/BARANOZDEMIR

overheated natural sources—such as dust, volcanoes, sea spray, and wildfires—also contributes to new cancer diagnoses. An estimated 410 megatons of carbon were released into the atmosphere in 2023 by Canadian wildfires alone; record-breaking wildfires sweeping boreal forests in recent years exposed those residing within 50 km of the fires to carcinogen soot, as well as contributed to greenhouse gas emissions globally.

Prolonged exposure to ultraviolet (UV) radiation from the sun's rays is also a major risk factor for melanoma (skin cancer). The depletion of the ozone layer from greenhouse gas effects intensifies the potency of ambient UV and accelerates the dangers of exposure. Furthermore, regions that have been historically limited in their sun exposure during the cold winter months have now warmed, and those living in these changing climates spend more time outside throughout the year. While many high-income countries have implemented prevention efforts against malignant melanoma, such as educational campaigns like the World Health Organization's INTERSUN program initiative, individuals living in low- and middle-income nations, especially near the equator or in higher altitudes, remain at increased risk for UV damage. These nations also usually have less medical infrastructure to detect and treat skin cancer.

Gastrointestinal cancers resulting from consuming polluted food and water are also emerging alongside warming climates. As the surface temperature of Earth rises and increased humidity causes excessive rainfall and flooding, the risk of carcinogenic pollutants passing into irrigation and agriculture systems has become a steady threat. After Hurricane Harvey hit the Gulf Coast of Texas in 2017, for example, more than 500 industrial chemical plants, oil refineries, and hazardous waste sites were flooded, and carcinogenic toxins were circulated among residential and commercial irrigation infrastructures throughout the Houston region.

Worsening air quality, broadened UV radiation exposure, and higher rates of environmental toxins are all ways in which the heat of our world is already impacting cancer rates, as well as the comfort and safety of cancer patients.

METASTATIC SUPPLY CHAINS

While scorching global temperatures produce downstream effects that cause higher rates of cancer, healthcare and treatment options for people with cancer are also structurally vulnerable to climate-related disturbances.

Extreme weather events cause power outages that threaten or derail clinic and laboratory operations, medical equipment use and production, and communication systems—not to mention patient transportation—which negatively impact the availability and effectiveness of the infrastructure patients depend on for diagnosis and treatment. Major weather events and the subsequently destabilized or depressed economies in the areas they affect may drive specialized healthcare personnel away, while the residents left behind are already vulnerable and sometimes unable to travel for treatment. Patients with fast-growing cancers are especially disadvantaged, since adherence to a scheduled treatment regimen can mean the difference between life and death, and delayed therapy can devastate prognostic outcomes. A growing body of evidence suggests epidemiological trends toward poorer survival outcomes among populations living in or receiving certain types of therapies (e.g., lung cancer treatment) near regions prone to hurricanes.

At times, it isn't just nature's heat that affects treatment "supply chains"; heated geopolitical struggle can have a devastating effect on the ongoing delivery of healthcare, too. One example is the recent Israeli airstrikes in Gaza, which damaged facilities and depleted fuel supply at Gaza's only cancer hospital, Turkish-Palestinian Friendship Hospital, forcing its closure. Combustible conflict arising from natural resource shortages and land wars is prone to impact healthcare infrastructure as well.

The supply chains that constitute the global medical-industrial complex are highly vulnerable to climate-related disruptions. As such, our healthcare supply chain can be viewed as a human body. Some portions closer to the primary site (where the cancer, or the problem, first occurs) get overwhelmed by the "tumor burden" (the measure of the problem within the system), as when a hurricane causes power outages to a hospital that delivers chemotherapy to patients, while others suffer delayed, downstream effects of "metastasis" (the spread of the problem), as when patients suffer because specialized healthcare personnel no longer live where they are most needed.

CANCER AS POLLUTION

Cancer treatment itself contributes to increasing global temperatures. The US healthcare system is the second-most energy-intensive industry in the United States. The pharmaceutical industry has been found to be significantly more carbon-intensive than the automotive industry, through manufacturing, packaging, transport, and disposal of cytotoxic agents as well as prolific waste from single-use products. Hospitals are consumptive infrastructures, with cancer care relying on some of the most energy-intensive medical procedures, including radiology services, daily fractionated radiotherapy with associated patient travel, radiologic tools and radiotherapy machines, and surgical suites that include greenhouse-gas-producing anesthetic agents. (Not to mention swelling rates of burnout among healthcare personnel, which diminishes the oncology workforce). To date, no known studies have estimated the total carbon footprint of the global cancer-industrial complex. However, given that the rates of cancer are expected to rise along with global temperatures, it's vital that we move toward more energy-efficient treatment options.

BODIES AS POLLUTED WORLDS

Like the human body, Earth overheats in response to both external factors (like chemical pollutants) and in response to internal-systems failures. Both the human body and the planet body are organic entities, pillaged and poisoned and boiling over. While toxification of natural resources caused by humans means there is a tenable link between pollution and disease, there is also a less literal, more transcendent metaphor to be drawn: the cancerous body is an allegory for a planet with advanced-stage hyperthermia.

To tell the story of global warming in the language of cancer is to speak of the body as a mirror for the world, with "embodiment" as a framework for understanding the manifestation of disease. Embodiment is a broad concept, and it carries different meanings in different academic disciplines. In anthropology, embodiment is a way of "describing porous, visceral, felt, enlivened bodily experience, in and with inhabited worlds." In essence, the "world" and the "body" are intersubjective entities. The world acts upon the body, and vice versa.

This is not a new concept; playwright and activist V (formerly Eve Ensler) tackled the notion of cancer as the bypass between the human body and "the body of the world" in her 2010 memoir *In the Body of the World: A Memoir of Cancer and Connection*. V authored the subversive feminist play *The Vagina Monologues* in 1994 and was diagnosed with uterine cancer in 2010. She stated bluntly in *In the Body of the World* that after having become famous for undercutting stigma around women's sexuality, "the idea of dying from cancer in my vagina was just too [f––] ironic and weird." The memoir encapsulates V's constant meditation on concentric bodies, from her own "cut and lumpy" cancer-ridden body to the planet at large, which she describes as burning down in the face of "a monstrous vision of global disassociation and greed . . . in pursuit of minerals and wealth." V's use of metaphor for concentrically situated bodies is so deft that there are passages where scale disappears completely and her discourse on bodies collapses into one—"body and world as mutual metaphor." Whether she is discussing the planet or her own organs becomes difficult to decipher—and this is her point. As V underwent resection to treat her cancerous fistula, she became obsessed by holes. Her body materialized the singed state of the world; became the blistered, perforated ozone. Life and death, reproduction and waste collided through her broken lower organs, mirroring the state of the polluted world around her. In V's words, she "somatize[d]" the state of world into her flesh.

To think of the inflamed body as a "somatized" response to a burning planet

is to grapple with the boundaries and entanglements. In the article "What Gets Inside," published in *Cultural Anthropology*, Elizabeth F. S. Roberts argued that, in a chronically polluted environment, outside and inside are relational fields, and that "maintaining an inside and managing what enters it constitutes a crucial survival response within the continued violent capitalist interpenetration of all the earth's biota." Bodily-environmental entanglements in Robert's case show the way that "insides and outsides" co-occur across different lifeworlds (scales and domains of experience)—whether the cancerous body within or the toxified world around.

To be clear, many Indigenous worldviews uphold the Earth as a spiritually embodied entity. Therefore, the current call to envision our individual bodies as organic refractions of the planet body—with cancer for both at stake—is a distinctly Western revelation. To frame cancer as a direct consequence of the climate crisis is to understand that the cancerous body and the body of the world are both burning from the outside in. To see our flesh in porous relation with the planet enables a conceptual shift toward the intersubjectivity of our anthropogenic actions and reactions, making global warming fundamentally a health emergency. Cancer-affected bodies, already an autoclave of noxious chemicals, are vulnerable subjects in a hyperthermic world around them, around us. The path forward toward survivorship where cooler bodies may prevail demands an integrative view of the climate crisis as a cancer crisis—both literal and metaphorical.

Nina Francis-Levin, PhD, MSW (she/her) is a National Institutes of Health T32 postdoctoral fellow in the Division of Metabolism, Endocrinology & Diabetes at the University of Michigan School of Medicine (T32-DK-007245). As an interdisciplinary cancer scientist with training in anthropology and social work, her research centers adolescent and young adult cancer patients' experiences of embodiment, kinship, and cancer-related in/fertility (i.e., oncofertility). Francis-Levin thanks her interlocutors whose treatment experiences prompted the idea for this article.

A Tale of Two Internships

Hi, we are this year's members of the AAA's Louise Lamphere Internship Program, Yue and Jasmin. We are writing this piece to tell about our experiences from this past summer. The Louise Lamphere internship allows interns to experience two different internships at the same time. For six weeks, we spent 40 percent of our time at the American Anthropological Association (AAA) office and 60 percent of our time at partner institutions: the Smithsonian Center for Folklife and Cultural Heritage (CFCH) and the Naval History and Heritage Command (NHHC).

Yue interned at the CFCH and spearheaded a team of interns to design, administer, and analyze 400+ surveys and 25 interviews during the annual Smithsonian Folklife Festival. At AAA, her major responsibility was revamping the "Major in Anthropology" poster.

Jasmin interned at the NHHC's Underwater Archaeology Branch (UAB) and assisted in updating the UAB's public outreach on the Navy Yard by creating posters to highlight ongoing and recent projects, specifically on the shipwreck sites of the Revolutionary War gunboat *USS Spitfire* and War of 1812 commodore Joshua Barney's flagship *Scorpion*. She also spent time at the NHHC's UAB documenting artifacts from their considerable historical collection in their laboratory. At the AAA office, Jasmin updated a AAA report on completed bachelor's degrees in anthropology from the years 2017 to 2021 by creating visualizations using recent numbers from public data.

HIGHLIGHTS

Jasmin: The Potluck

A highlight from my internship was the ability to meet and learn from so many wonderful anthropologists and like-minded professionals. One of the most memorable events was the retirement party for AAA's then executive director, Ed Liebow. Only a couple weeks into the internship, Yue and I were invited to join

A highlight from my internship was the ability to meet and learn from so many wonderful anthropologists and like-minded professionals.

the staff and their families at this event in Virginia. After a week or so of testing the Earl Gray cookie recipe Yue had suggested for the potluck in our apartment's small toaster oven, we perfected the technique. Yue and I were looking forward to meeting everyone we hadn't had the chance to meet in-office, in addition to chatting casually with those we had met. After taking the metro rail to meet with our designated chauffeur and my intern mentor, Meagan, we realized there was a difference between the "Pentagon" and "Pentagon City" metro stops. Luckily, they're only one stop apart.

We met up with Meagan and her husband, Max, and after discussing the internship as well as the Bible Museum, we made it to the park, where some had already gathered and begun getting the grills ready. As more people arrived and brought their dishes, we realized that no one had mentioned bringing utensils. Thankfully, after many introductions and conversations surrounding our internship projects and backgrounds, we learned that Erin, Ed's wife, had spare forks that we could use while waiting for the delivery of utensils. I was able to hear many extraordinary stories from Erin and Nabina, Ed and Erin's daughter, and Erin and I were able to bond over what museum-collection aspirations I am looking to pursue and Erin's professional past in those positions.

This internship introduced me to so many interesting people and career paths, but I truly enjoyed speaking to everyone and getting to know everyone more at this event. I think I can speak for both of us in saying that Yue and I appreciated how welcomed we were into the AAA and how we hope these connections last us into the future!

Yue: Beyond Surveys at the Folklife Festival

The highlight of my internship was the annual Folklife Festival hosted by the CFCH. At the festival, my main responsibility was to evaluate visitors' experience through surveys and interviews. Over nine days, I conducted over a hundred surveys and about ten interviews. I particularly enjoyed the public-facing nature of my work, which allowed me to interact and talk with people of all ages and walks of life. Additionally, as a surveyor, I had the flexibility to walk around the festival site, partake in different activities, participate, and observe, which enabled me to stand in the visitors' shoes to understand their experiences.

Despite the daily survey target, I always enjoyed engaging in conversations beyond the survey questions and establishing personal connections with my interviewees. One particularly heartwarming episode happened when I surveyed an 80-year-old woman who was visiting the festival with her daughter. I approached her when she was sitting alone on a bench, taking a break from the heat. When I asked about her festival experience, she didn't rate it too highly because the hot weather and her health prevented her from fully enjoying the event. Despite her disappointing festival experience, we had a lively conversation, and even digressed to talk about repatriation of art pieces. The last survey question asked visitors to use one word to describe their festival experience, and the woman surprised me by saying "Fantastic." As I looked confused, she added, "because I had a wonderful time chatting with my interviewer." As we said goodbye, she looked me in the eye and said, "Thank you for talking to me. You made my day." Her heartfelt words brightened my day as well.

Although I can't recount all such encounters in this piece, similar interactions

occurred almost daily, transforming each survey into an unexpected yet pleasant encounter with a unique individual.

Interested in interning next year? We have advice for you:

If you are interested in applying, don't hesitate to do it. Jasmin didn't even think she could get the internship, but she did.

If you weren't picked the first time you applied and are still interested, go for it. Yue was picked the second time she applied.

If you want to go into the job market after completing your undergraduate degree but are not sure about what future career path to take, this is the internship for you. The Pathway to Careers series gives you the opportunity to meet and discuss careers with different association staff. Additionally, you will be able to meet with your mentor weekly to discuss what you are interested in and where you could best apply your skills following the internship or after graduation.

If you want to put your classroom training into practice, definitely apply. Yue applied and expanded on the research skills she learned in class to survey 400+ visitors and analyze the data. Jasmin used a combination of her IT skills in conjunction with quantitative research skills to organize and make the IPEDS report data interpretable.

We have learned and grown so much through the internship. A fascinating world of anthropology was opened to us, revealing numerous career possibilities. Looking forward, we are confident that we can apply the skills we gleaned in future endeavors, whether in academic or professional settings.

Yue Ma is a rising senior at Washington University in St. Louis, double majoring in anthropology and global studies.

Jasmin Reed is a rising senior at Plymouth State University, majoring in anthropology and sociology as well as pursuing a GIS certificate.

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George Allen Collier

1942–2023

George Collier, a distinguished sociocultural anthropologist who taught at Stanford University (1969–1999) and served as chair of its Department of Anthropology (1990–1994) and director of its Center for Latin American Studies (1984–1989), passed away at his home on November 14, 2023. His work on agrarian change and politics illuminated the political forces shaping Indigenous and peasant social movements in southern Mexico and western Andalusia. George was a rigorous scholar, an extraordinary mentor to his students and junior colleagues, and a self-effacing leader who left a lasting impact on his colleagues and on the department.

George had gone to study physics at Harvard, but after a freshman seminar on the Navajo with Clyde Kluckhohn, decided to major in anthropology. He joined an undergraduate fieldwork program led by Evon Vogt in Chiapas, Mexico, to study Mayan culture change. During that trip, he fell in love with Jane Fishburne, another member of the team, and they married in 1962. Their life-long partnership took them to fieldwork in Spain and Chiapas over the next few decades, in addition to serving as colleagues on the faculty at Stanford.

Collier's research in the highland Maya communities of Chiapas resulted in the book *Fields of the Tzotzil: The Ecological Bases of Tradition in Highland Chiapas* (1975). In this book, he documented Indigenous communities' participation as peasants in the Mexican agrarian reform and traced how they negotiated ethnic relations with one another and with Mexican nationals in the face of the country's Indianist policies. When the Zapatista rebellion broke out in 1994, Collier analyzed the roots of the uprising in a landmark text, *Basta! Land and the Zapatista Rebellion in Chiapas* (1994). While there was a great deal written about the Zapatista and its charismatic leader, Subcomandante Marcos, Collier's analysis showed the value of long-term fieldwork that brought a deeper understanding of the conditions that birthed the rebellion. Combining thick contextual understanding with accessible prose, this book was reprinted several times and became a staple in many classrooms.

Collier was one of a few anthropologists who did research in two completely different culture areas. Along with Jane Collier, he began research in Andalusia's western province of Huelva in 1963. Subsequent rounds of fieldwork documented how people in the village named "Los Olivos" abandoned small farming and sharecropping for urban-industrial wage work in other parts of Spain. This work led to an ethnohistorical study in which Collier reconstructed the agrarian politics of the town in *Socialists of Rural Andalusia: Unacknowledged Revolutionaries of the Second Republic* (1987). Los Olivos's socialists were more interested in reforming agrarian hiring practices than their party leaders in other parts of Spain, who focused more on land redistribution. Both causes were crushed by the Spanish Civil War and subsequent repression.

In addition to his scholarship, George Collier was an extraordinarily generous mentor and human being. He left his students and younger faculty colleagues with a very high bar for academic rigor, intellectual generosity, openness to new ideas, and professional integrity. Although by nature quite shy, he proved to be an excellent department chair in anthropology and director of the Center for Latin American Studies. I have never attended department meetings run better than those by George: organized with a previously circulated agenda, clear goals, democratic process, and a series of outcomes. In addition, he and Jane were legendary in their hospitality. They put up countless visitors in their homes in San Francisco and on campus, and George, who was a fantastic cook, fed everyone with genuine delight and generosity. Anybody who got to know George appreciated his sincerity and his willingness to put the collective first.

George Collier is survived by his partner and spouse, Jane Fishburne Collier; by his daughter, Lucy Jane Collier; and by three grandchildren from his late son, David Collier, who died tragically a few months earlier. George came from a distinguished anthropological family: he was a grandson of John Collier Sr., Commissioner of Indian Affairs during the New Deal, and a nephew of anthropologists Donald and Malcolm Collier and John Collier Jr. He will be missed tremendously by all those whose lives were graced by his presence. *(Akhil Gupta)*

Oswald Werner

1928–2023

Oswald Werner, who was with the Department of Anthropology at Northwestern University for over 30 years, died at the age of 95 in Santa Fe, New Mexico, on March 26, 2023. Known simply as "Ossy" to his family and friends, as well as to generations of colleagues and students, he was a linguistic anthropologist who specialized in Navajo semantics through an approach to the study of cultural knowledge that he called "ethnoscience."

Werner was born in 1928 in Rimavska Sobota in what was then Czechoslovakia and is now the Slovak Republic. He began gymnasium (high school) studies in Slovak; then, in November 1938, his town became part of Hungary, so he finished his first year of high school in Hungarian. He had already learned German at the age of seven when his parents sent him to Austria. Later, he also became fluent in English, functional in Spanish, and acquired an extensive knowledge of Navajo language and culture, though he was very clear that he "did not speak Navajo."

In 1951, Werner emigrated to the United States, sponsored by the Congregational Christian Service Committee, through which he got an engineering job in Philadelphia. As a recent emigree, he was given 6 months to report to the local draft board, after which he immediately found himself in the US Army. Sent to Fort Bragg, NC, to the 525 Military Intelligence Unit, he did many translations without any access to a Hungarian dictionary. He then went back to Germany, where he served in an anti-tank and -mine platoon, and by 1953 became a publicity and public information photographer. Werner was honorably discharged from the Army in 1953, and by 1954 became a naturalized US citizen.

Following his discharge from the Army, Werner enrolled at Syracuse University in 1953, working toward a master's degree in photojournalism. While running his own photography studio in Syracuse, Ossy began reading anthropology and linguistics books while developing photographic negatives. Syracuse University had no archaeologist on staff at the time, so he got a list of archeologists and wrote to the Colorado-based Mesa Verde Project, which offered him a job as a photographer for the summer of 1959. This led to his first trip to the US Southwest, where he first encountered the Diné (Navajo). He also learned of Carl Voegelin, an anthropological linguist at Indiana University, thereafter enrolling in the IU master's program in anthropology with a minor in linguistics. He spent the summer of 1960 with Voegelin and his field study group in Flagstaff, AZ. Voegelin suggested that Ossy study Navajo and then do an analysis of the "trader Navajo" spoken by Anglo trading post operators; this led to his doctoral dissertation topic and to meeting his first major Navajo collaborator, Kenneth Begishe.

Beginning as an assistant professor of anthropology and linguistics at Northwestern University in 1963, Werner rose to associate professor in 1969 and professor in 1971, including service as chair of the Department of Anthropology from 1978 to 1983 and again from 1987 to 1989. Werner founded and operated Northwestern's annual summer Ethnographic Field School in Cultural and Linguistic Anthropology in New Mexico and Arizona for its first 25 years. beginning in 1973, with an undergraduate focus, expanding on Voegelin's model of placing only graduate students in local communities for the purposes of ethnographic research. In 1998, Werner became professor emeritus of anthropology at Northwestern.

During his career, he was named Fulbright Professor of Linguistics at Universidad Católica, Valparaiso, Chile, in 1974 (for which he learned Spanish); Fulbright Research Professor (for fieldwork on "Hungarian Gardens and their Magic") at Janus Pannonius University, Pécs, Hungary, in 1987; visiting professor at University of Gent, Belgium, in 1993; and another stint as a visiting professor at Janus Pannonius University in 1995. Service to his professional colleagues included various roles with the Central States Anthropological Society, Linguistics Society of America, *International Journal of American Linguistics*, National Institute of Mental Health (NIMH), and the American Anthropological Association, including as an elected member of the AAA's Ethics Committee from 1969 to 1971.

Realizing the prominence of health and healing in Navajo culture, Werner focused for decades on the study of the semantics of Navajo medical knowledge. Supported by NIMH grants from 1963 to 1981, the *Navajo Ethno-Medical Dictionary* ultimately expanded to the *Navajo Ethno-Medical Encyclopedia*, initially with Kenneth Y. Begishe as his primary Navajo collaborator. Martha A. Austin succeeded Begishe in the mid-1970s. At a National Library of Medicine conference held in El Paso in 1985, Ossy described this work as globally significant for being potentially the most complete compilation of a system of "folk medicine." Martha A. Austin (now emerita faculty at Diné College) has continued to seek funding to continue the project, recently being awarded a Henry Luce Foundation "Indigenous Knowledge" fellowship to resume progress toward completion of the *Navajo Ethno-Medical Encyclopedia* after a hiatus of 40 years. Oswald Werner considered this work the most important component of his legacy. *(Edward R. Garrison, Debbie Werner Flannery, Derek Werner, and Rickard Werner)*

Edwin Wilmsen

1932–2023

Edwin Wilmsen died on June 6, 2023, in Berlin, where he lived with his wife Anne Griffiths, a professor of law. Born in Texas in 1932 to parents who had immigrated from Germany, Ed was a man of many talents, ranging from scholarship based on extensive field, documentary, and archival research to poetry and reflexivity. Originally trained as an architect, he was drawn to archaeology and sociocultural anthropology through wide reading and encounters with well-known figures in anthropology, such as Evon Vogt. His considerable contributions to archaeology are described by James Denbow in *The SAA Archaeological Record*. He held research and teaching positions at numerous institutions, including the University of Arizona, University of Texas, University of California, Boston University, and University of Witwatersrand.

In the mid-1970s, Ed began his most notable work, in the Kalahari Desert, where he carried out field research for more than four decades. In 1989, he published his groundbreaking book *Land Filled with Flies: A Political Anthropology of the Kalahari*, which won the Herskovits Prize from the African Studies Association and the Graham Prize from the School of Oriental and African Studies in London. The book is a sustained challenge to views of San (Bushman) groups as living exemplars of "Stone Age" people, showing through detailed archaeological and sociocultural investigation, along with considerable historical and archival research, that San groups had not been isolated for millennia but had been in variable contact with traders and others over long periods of history in southern Africa. Rather than constituting a "window

into the Pleistocene" or "on the threshold of the Neolithic," San groups had shifted over time between hunting and gathering and cattle-keeping, depending on their contacts with incoming traders, Bantu settlers, and, later, European settlers, and had complex social relations over land and water sources and intricate relations with other San groups based on kinship, friendship, neighborhood, place, and exchange.

Rejecting the placement of San within a deterministic "ecological model," Wilmsen read their history through the concept of "unequal incorporation" into state formation, an inequality seen still today in southern Africa. The book marked "a sea change in Kalahari scholarship . . . covering archaeological, archival, ethnographic, linguistic, and biological evidence," and revealed Wilmsen to be "the last of the generalists in anthropology competent to synthesize these fields," according to a 1990 review by Robert Gordon in *Southern African Review of Books*. Ed's passionate concern to situate contemporary research in longer-term processes of politics, power, and (in)equality produced many publications on questions of ethnicity, identity, and inequality, including class (e.g., *The Politics of Difference: Ethnic Premises in a World of Power*, which he coedited with Patrick McAllister).

A decade after the publication of *Land Filled with Flies*, and while a furious debate was raging over its critical thesis, Ed published *Journeys with Flies* in 1999. Dedicated to "those who are in it," the book offers a sustained epistemological challenge to any ethnographic work that forgets "to ask them what they think of us, what they might perceive for themselves." Weaving together poems, personal reflections, and fragmented depictions of his shared experiences with interlocutors in the "remote" Kalahari region, Ed argued that "Our understanding of other peoples lies not in themselves or in anything that they do but in our experience of them." The book explores in fragmented and lyrical ways such experience "that is lived partly in the world and partly in a shell of our world that we wear when we meet them." Ed offers in this book a courageous and sophisticated experiment that seeks to portray the realities of people's lives and how anthropologists' deep personal experience intertwines with theirs. Overall, the published research of Edwin Wilmsen reveals a master of fieldwork, rigorous scientific methodology, and reflexive, experimental engagement with fundamental questions of anthropological research.

Ed is survived by five children (twins Rick and Dave, Nancy, Carl and Lisa) by his first wife, Susan (also deceased); twelve grandchildren; nine great grandchildren; his younger brother, Billy; and Anne, his wife since 1994. They, as well as many colleagues and friends, all greatly miss Ed's lively mind, wit, and humor. *(Pauline Peters, Pnina Motzafi-Haller).*

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