



Paperbark

THE RIGHT TREE IN THE RIGHT PLACE.

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Image: Cavern by Sandy Coomer

Mission

Paperbark Literary Magazine is an expression of the intellectual and artistic currents working to shape collective consciousness about issues of sustainability in the Information Age. Born in New England, Paperbark draws on the unique heritage and culture of the region to support and stimulate creative engagement with progressive ideas. Rooted in themes of stewardship, innovation, and possibility, Paperbark's existence is motivated by a desire to trace the connections between science, culture, and sustainability. Paperbark lives at the confluence of imagination and critical inquiry, promoting interdisciplinary thinking and intergenerational collaboration for the betterment of our world. From local action to global perspectives, Paperbark's mission is to illuminate the environmental and societal impacts of human activity while nurturing our intrinsic collective capacity to catalyze positive change.

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Letter from the Editor

Dear Readers,

Here you are at the intersection of creativity and sustainability: welcome to *Paperbark*. What is *Paperbark*? First and foremost, *Paperbark* is a literary magazine rooted in the rich creative history and contemporary holism of the sustainability movement in New England. *Paperbark* is the literature that lives inside a tree: it is medium drawn from earth, living inspiration, and rebirth from creative destruction. It is a product of and a party to the current zeitgeist that compels us to remember, redefine, and resist. Welcome to the party.

Paperbark was created by a coalition of students, staff, faculty, and community members at the University of Massachusetts, and strives

to reflect and engage the intersectional, interdisciplinary, and intergenerational community that it represents.

We are students, artists, practitioners, teachers, farmers, scholars, activists, wanderers, and more, all united by common values of determination and hope. We acknowledge our privilege as we seek to elevate under-represented voices and highlight unsustainable realities lived by our comrades in the fight for justice near and far. In this time of ecological crisis, ever-mounting inequality, and political upheaval, it is more important than ever that we cross traditional divides to find community in unexpected places. Our hope and dream for this magazine is that it will catalyze conversations and

connect you, our readers, to each other and to aspects of sustainability that perhaps you had never considered before.

The pieces in this inaugural issue deal with variations on the theme of *Emergence*. Not only does this theme take inspiration from the birth of our magazine, but it also echoes the undeniable reality of climate change and the renewed vigor of the climate justice movement in the wake of the United States' withdrawal from the landmark Paris Climate Accord last year. In "Gunpoint," Climate Change Officer for the British Virgin Islands and author of *The Irma Diaries* Angela Burnett gives us new perspective on what it means to be a climate refugee, taking us through the harrowing experience of survivors of Hurricane Irma

who emerged alive into a world completely shattered. In "The Art of Adaptation: Exploring Climate Change Through Future Foods," author and animal rights activist Leah Kirts imagines a culinary repertoire for a post-climate change era, considering the implications of a global food system facing major sustainability challenges. In "Earth Day," excerpted from her novel *Kinship of Clover*, author and poet Ellen Meeropol recounts the life-altering connection formed between a young botany major and the endangered plant species he loves so much as they begin to invade his body and psyche, drawing him into the world of climate activism.

These are among the many wonderful essays and short stories you will find in the pages of *Issue 1: Emergence*, complemented by poems elegizing the nostalgia of the human connection with nature ("The Migrating Trees" by Elmira Elvazova; "Ghost Dance" by Sara Littlecrow-Russell; "The Swim" by Robert Dow), artwork envisioning future cities or different worlds ("Esme Swimming" by Lucas

Foglia; "Sunshine Over a New Dimension" by Liz Hamm; "Meanwhile the World Goes On" by Ellen Grobman), and much more. The magazine's sections act as affinity groups, drawing on aesthetic or conceptual connections between works to encourage the reader to meditate on the feelings that they evoke in concert.

We would love to hear from you about your first encounter with *Paperbark*. Join our community on social media (@paperbarkmag) for conversations, occasional updates and more creative sustainability content. Visit our website at paperbarkmag.org to subscribe, submit your work, read our blog, and find more multimedia content updated quarterly. On behalf of the entire *Paperbark* team, thank you for your support and we hope you enjoy!

LAUREN DE LA PARRA
Editor-in-Chief

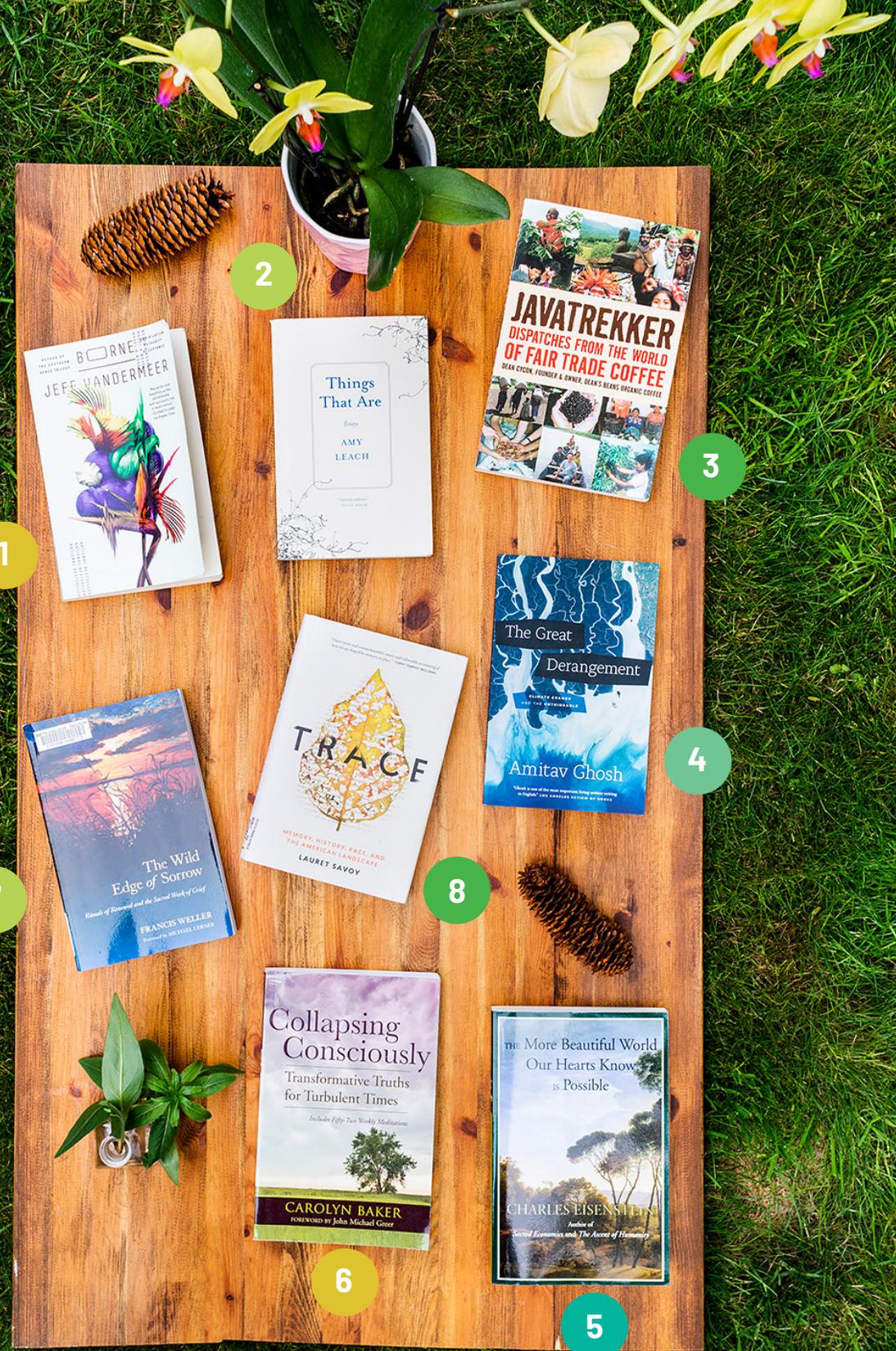
SEPTEMBER 2018



Recommended Reading

WORKS CURRENTLY INSPIRING THE PAPERBARK TEAM:

- 1 **Borne**, Jeff VanderMeer, *MCD*
"It was what my mother said sometimes—to be mindful that the universe beyond still existed, that we did not know what lived there, and it might be terrible to reconcile ourselves to knowing so little of it, but that didn't mean it stopped existing. There was something else beyond all of this, that would never know us or our struggles, never care, and that it would go on without us. My mother had found that idea comforting."
- 2 **Things That Are**, Amy Leach, *Milkweed Editions*
"In the seventeenth century, his Holiness the Pope adjudged beavers to be fish. In retrospect, that was a zoologically illogical decision; but beavers were not miffed at being changed into fish. They decided not to truckle to their new specification, not to be perfect fish, textbook fish; instead they became fanciful fish, the first to have furry babies, the first to breathe air and the first fish to build for themselves commodious conical fortresses in the water."
- 3 **Javatrekker: Dispatches from the World of Fair Trade Coffee**, Dean Cycon, *Chelsea Green*
"Javier saw the results of a warming planet clearly in the premature flowering of his coffee plants on his four-acre family farm in the slopes above Nabusimake, the capital of the Arhuaco nation. He showed me the smaller, weaker berries that dotted the stems and wondered why the outside world wanted to harm these beautiful plants. Why were we changing the world?"
- 4 **The Great Derangement**, Amitav Ghosh, *University of Chicago Press*
"Insofar as the idea of the limitlessness of human freedom is central to the arts of our time, this is also where the Anthropocene will most intransigently resist them."
- 5 **The More Beautiful World Our Hearts Know Is Possible**, Charles Eisenstein, *North Atlantic Books*
"Is it too much to ask, to live in a world where our human gifts go toward the benefit of all? Where our daily activities contribute to the healing of the biosphere and the well-being of other people?"
- 6 **Collapsing Consciously: Transformative Truths for Turbulent Times**, Carolyn Baker, *North Atlantic Books*
"One of the most important skills we can develop for collapse is the capacity to listen."
- 7 **The Wild Edge of Sorrow: Rituals of Renewal and the Sacred Work of Grief**, Francis Weller, *North Atlantic Books*
"Grief is subversive, undermining the quiet agreement to behave and be in control of our emotions. It is an act of protest that declares our refusal to live numb and small."
- 8 **Trace: Memory, History, Race, and the American Landscape**, Lauret Savoy, *Counterpoint*
"To whom and what is history responsible? What I realized at the burying grounds was that each of us is implicated in locating the past-to-present. As I might dig through earth and time to open a grave, the task is to uncover the strata of obscuring language and acts, of meaning shrouded over generations. The question had to be turned around and made personal: What then is my relationship with history, told and untold, on this land?"





ELLEN GROBMAN, *Meanwhile the World Goes On*

FIREFLIES: A REQUIEM

ERIC ODYNOCKI

When summers never died
the oak leaves and lawn

tinted in twilight blue became
the ballroom for countless flecks,

waltzing up into the obsidian
depths of the branches and down

amongst the sapphire blades
of grass, glowing languidly

through the balmy air. We ran
along the hedges and passed

the swing set, seeking the secret
candles between dark wings

blurred in haste. We peered
into the coral chamber of our

cupped hands, our gaping faces
awash in the lurid gold as if stars

spoke to us. Now when the sun
sets in mid-July the backyard

nocturnal symphony is bereft
of its bioluminescence.



IN TRANSIT: BARAJAS AIRPORT

We arrived as if resurrected
 from a wormhole dream,
 when day had yet
 to seep over the
 shrub-speckled crests
 of ivory hills and we
 were puzzled when
 the pewtered twilight
 lingered at eight o'clock,
 not understanding
 how far rays stretched
 this side of the time
 zone. And so we wandered,
 clockless, assayed identity
 through conversations
 like decrypting dead
 languages, as if searching
 for our selves in each other
 as we crossed fluorescent
 expanses, levitated on
 escalators between glass floors,
 and never felt the vanishing
 point of an avenue of oblique
 yellow pillars, spokes of
 a buried industrial sun,
 that braced the light
 wave ceiling, billowing
 as if to contain time
 and space. Unsure
 where we were. Unsure
 what was to come.
 Thirsty for dawn.

CONSERVATORY DISOBEDIENCE

While I wait for the shuttle
 in Times Square Subway Station -
 Escher's mind made manifest -
 a band thumps "Groove is in the Heart."
 Saxophone unleashed echoes off
 metallic pillars placed over
 a century ago when the woodwind's ancestor first
 dared to blare louder than the cacophony
 of its priggish brethren to give
 birth to a new
 sound that would make ankles, knees,
 and elbows twitch uncontrollably
 in an Art Deco-armored city.

On this eve of everything
 we teeter on a temporal precipice
 whose fathomless clutches would
 lasso us back when
 thought was unidirectional,
 plurality was tone-deaf,
 and heroism was monochromatic.
 There are those who would resurrect these demons,
 gnaw at their shackles,
 to let them loose on a culture swiftly shedding
 its straight-jacket to reveal
 an effigy more kaleidoscopic
 than previously acknowledged.



Between gaps in the music,
 onlookers' laughter taking the upbeat,
 the singer spits in the face of this relapse,
 a thunderclap from the still beating heart
 of a metropolis sitting sneer-held-high on its island
 while the crowd dappled in more
 shades than the mosaics glittering on subway walls
 hears the music and shoulders
 bounce and hips sway in objection to public
 sanctity as a throbbing epicenter
 in dissonant counterpoint.

PLUS ULTRA

1

Latin for "farther beyond."
Más allá. The motto
 of rey Carlos V - also
 an outsider but inheritor
 of this culture. He dared
 flip the inscription on the Pillars
 when a world on the horizon
 became known and fell under
 his will. Two words to ignite
 perseverance. Two words for
 the worlds that crashed
 under their weight. It is a
 blood-soaked phrase but
 one that was your swaddling clothes.

2

Your *babcia* broke
 the Talmud when she eloped
 with a Ukrainian and raised
 her family in Poland. Your father
 cursed the Berlin Wall and grew
 roots by Wall Street. Your mother
 took his hand and with eyes locked
 with his, stepped over the border
 into *Gringolandia* 'til death do they
 part. The third generation would
 take the yarn and spin it beyond
 the Atlantic and back again.

3

On the last night in Sevilla,
in the Plaza del Triunfo- vacant
but for the golden glow of streetlamps
and the inspecting eyes
of the mudejar bell tower- I stand
at the end of a dream's seed sprouted
from a fingertip on a globe sitting
on a shelf in a childhood bedroom.
My cheeks are laced with
paths of tears strained by
concluding embraces. At my side
rests a suitcase packed with the mirrors
I plucked while rummaging through
each successive layer of my semester-long
mise en abyme. *La Giralda* sings
the next unknown epoch. I take
the first step and with it,
all the beams of light
to pass along.

It Will Be Midnight When We Land

AMY K. BELL

As soon as I boarded
the jet I could
see I'd chosen
the wrong time
for this cross-country flight.
These passengers were young
professionals, fast travelers
with compact carry-ons, singles
unconcerned about pouring into
San Francisco after midnight on
a Sunday.

I squeezed down the aisle
with my girl strapped in a
carrier on my chest. I knew her
floppy bare feet were swinging
at the heads of the passengers.
They leaned away from us
without making eye contact. I
too acted like I didn't know she
was doing it.

Of course my girl found the
only other baby on board within
seconds. She wriggled with
happiness and pointed at him.

"Baby," she said as we passed. I
saw some smiles.

Plopping heavily into my
window seat, I extricated her
from the carrier and took a
breath. Heavy, I felt so heavy.
Again I considered getting into
shape. We gazed out of the port-
hole for a moment to see the
setting sun's brilliant crimson.

"Wow," my girl said, her
forehead on the glass.

"Yeah," I said.

"Yeah," she repeated slowly,
with the tone of someone older,
sarcastic almost.

I gave her a broken piece of
pretzel to stop her squirming.
She crunched it with her teeth,
then offered the crumbling end
to the young woman settling
into the seat next to us. To
my girl's offer, this woman
graciously extended her palm
and fingers, which were adorned

She'll be here, on
this planet, after you
die.

with many delicate silver rings.

My girl rescinded quickly,
of course, wanting the pretzel
for herself. She smiled impishly
at the woman, who laughed.

"She's great," the young
woman said.

"Thank you," I said. "I think
so."

"Looks just like you, too.
Do you hear that a lot?"

"Yeah," I said.

"Is it strange?" The woman
leaned over to stroke her ringed
finger lightly along my girl's leg.

"Strange that she looks like
me?"

"That, and everything else."

"What's everything else?" I

smiled, inviting her to continue. Being new to the role, I was still hungry to talk about motherhood with anyone who would listen.

“That she’ll be here, on this planet, after you die.”

I chuckled automatically.

“No,” she said, “Really. Isn’t that what we love, fundamentally, about our children? That they will keep going after us?”

It was an aloof statement to which I responded, “I’m not sure that’s all we love.”

She seemed to consider this.

“Do you have any children?” I asked.

“No.”

“Do you want any?”

She sighed. “I’m torn. I know my boyfriend is ready. I’m thirty-one. That’s time, right?”

I shrugged. “Up to you. You have time.”

She complained about logistical things that would make it difficult, her work and travel schedule.

“It can all be overcome,” I said. “If you really want it.” As soon as those words of reassurance left my mouth, I heard a grinding beneath them. Little somnolent twitches of doubt. Did I not think immediately

of all my compromises when I encountered someone like her?

“You’re right,” she agreed. “I’m just not convinced it’s responsible.”

“Mm,” I said, my surprise making me unable to commit a response. Is this how people talk on planes now?

“I love children. I have three nieces and I adore them. But overpopulation is real. You know? Seventy-five million new people annually. Think of the resources they’ll need. The carbon dioxide they’ll generate in a lifetime.”

My little one was slapping my thigh, demanding more pretzels. The young woman watched this calmly.

“Oh my god,” she said, lowering her head. “Did I just compare your child to pollution? I’m sorry. That’s awful. That’s a horror.” She turned to me with a sad look in her eyes and waited for me to respond.

“May I ask what it is you do?”

“I’m a climate scientist at Berkeley. I study the ocean.”

“Ah,” I said.

She described traveling the world, tracking oceanic dead zones, “which are rapidly

expanding, by the way,” on the Eastern seaboard, the Gulf Coast (“it’s bad, oh it’s bad”), and the East China Sea. She explained how fertilizer runoff from agriculture causes algae to bloom, die, and fall to the deep ocean, where microbes feast, multiply, and “breathe up” all the dissolved oxygen in the living water. She’d just returned from a conference in Virginia, where she’d sat on a panel with four male colleagues.

“Do you know what anoxic events are?”

I shook my head. She spoke of seas that couldn’t breathe, in scales of time defined by Periods and Eras.

I felt the rough patches of eczema on my little one’s calves and listened to her. She was passionate and focused and I liked her very much. I related to her concerns. She observed my hands moving across my little girl’s temple, soothing her to sleep. As if it were her own face, the young woman’s eyelids drooped and she rested her head on her hand.

“It’s this idea of abundance,” she said confidentially. “Or overabundance. I’m caught in it. It’s a compulsion. You know I once cleared the entire apartment

Did I just compare your child to pollution?

of all my inessentials? I gave so much away. Not just junk, too. All of the jewelry I bought when I went abroad. Everything decorative. Anything without a practical purpose, whatever that meant at the time. I thought I was liberating myself. Purging myself of my guilt. This lasted what, eight months? And then I went to the DeYoung with my girlfriend. They had an exhibit, an abstract painter. Oh, no. I forgot his name. Russian painter? Kandinsky! Yes.” She gestured with her hands on an imaginary canvas. “Just super busy and lush. Lines and shadows and color all converging. Not my favorite, normally. But I started crying. I was bawling, right there in the gallery. My girlfriend was terrified. But I was desperate. I had been starving, literally, for that beauty and intricacy. All those intersecting marks, suggesting something. The very next day I bought this huge gold frame mirror at an antique shop.

Shaped like a sunburst. I still have it.”

“Wow,” I said. I understood about crumbling before a work of art. Not that I could recall a specific instance to share with her.

We sat in silence. I thought of her standing in her bare apartment, her mattress on the floor, the mirror on the wall.

“You have to be careful, though,” she said. “Everything must pass your test.” She touched my arm. “I don’t intend anything personally. I think you’ve made a beautiful person. She is so lovely. I just can’t square a child with my principles. No matter how good it might make me feel. It’s like conserving water in California. You know it’s not you alone draining the aquifers, it’s the system, it’s industry and agriculture, but you still feel bad about drawing a big bath for yourself. How do you separate the personal from the political? It’s not possible.”

I sat back and felt the weight of my girl, now limp, in my lap. I nodded. I wanted to respond carefully. I wanted to craft an argument that would push her to think again. I had

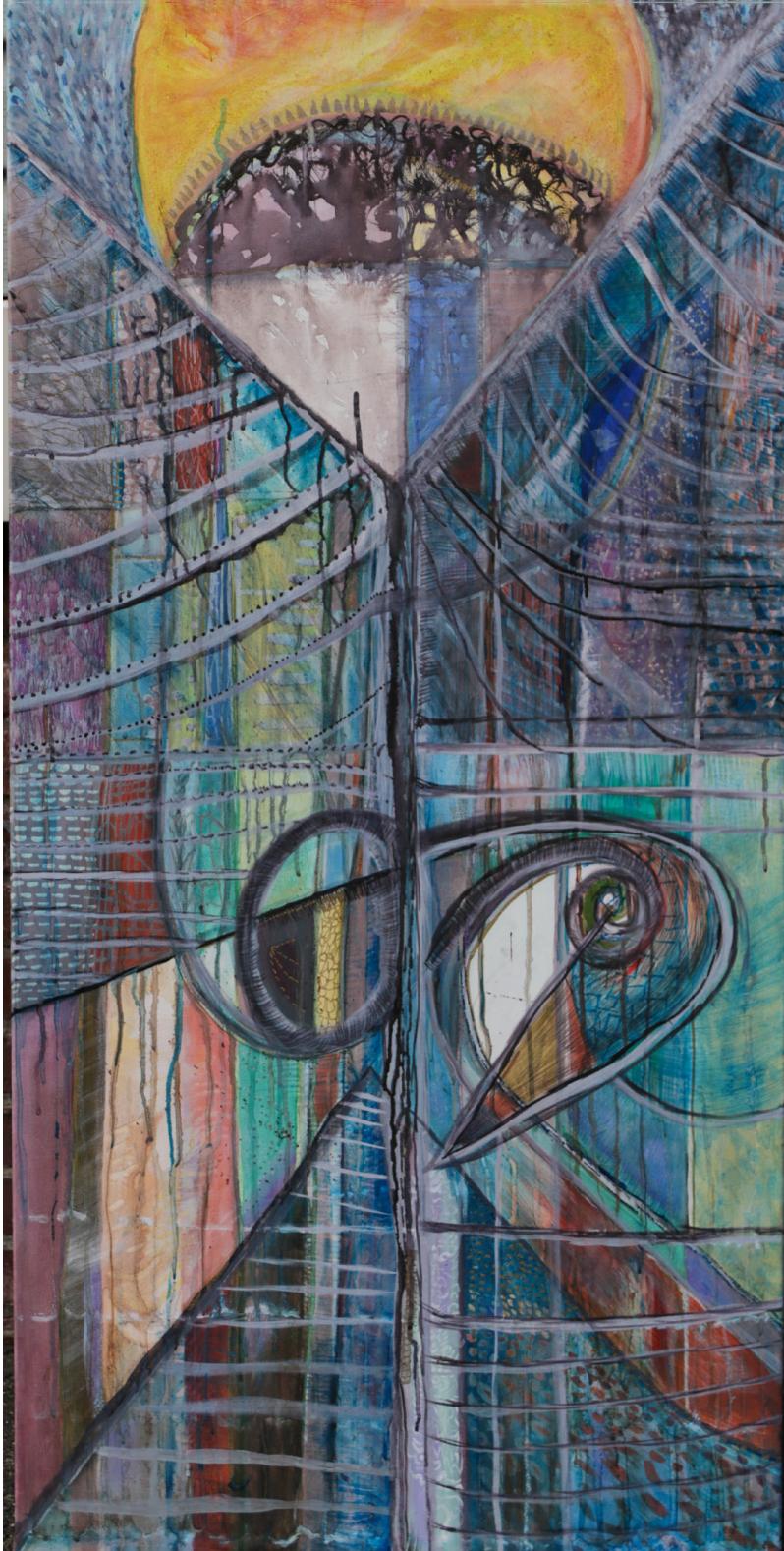
nothing. I was being too present, again. The plane shuddered with turbulence, lightly at first, then harder, in waves like that. The woman and I gripped our armrests. I thought, if the plane goes down now, at least I’ll have my little one in my arms. Then I thought, if it goes down now, I’ll lose everything, my life and hers. My heart began to pound.

But the plane wasn’t going down. The shuddering stopped, and miraculously didn’t return, while the engines reasserted their comforting hum.

I wanted to say something like, She helps me hear myself again. She makes me want to invest in the world again. That makes the world better. Right?

But it seemed silly, in light of the woman’s work. She who was holding, was clarifying the massive bodies which surround us. What would make the world better, probably, is if this woman continued her mission uninterrupted. If she could focus at this job of diving, again and again, against the dead zones.

“I chose to breathe,” I whispered. “I breathed.”



LIZ HAMM, *Sunshine Over a New Dimension*

atlas

K. ELTINAE

Let us not speak of waterfalls tonight.
Of bodies lost in rivers, unaccounted for.

Only having said that is already too much.
Enough to turn off the television,
and call a friend to meet for a drink.
Enough to count yourself blessed
to have someone who sees you as 'enough'
because you mirror that and call it love.

'Well then tell me, how can we help those people?'
I'm asked as my clothes catch fire.

My pride begs to answer 'Go, help yourself first,
but isn't that how we ended up, divided by
light/rich/here || dark/poor/there,
myths about skin and privilege?

All my dreams are about people being freed.
From the violence of water slapping rock
from the burden of living on a land,
knowing different, but not believing out-loud.



Gunpoint

(excerpt from *The Irma Diaries*)

ANGELA BURNETT

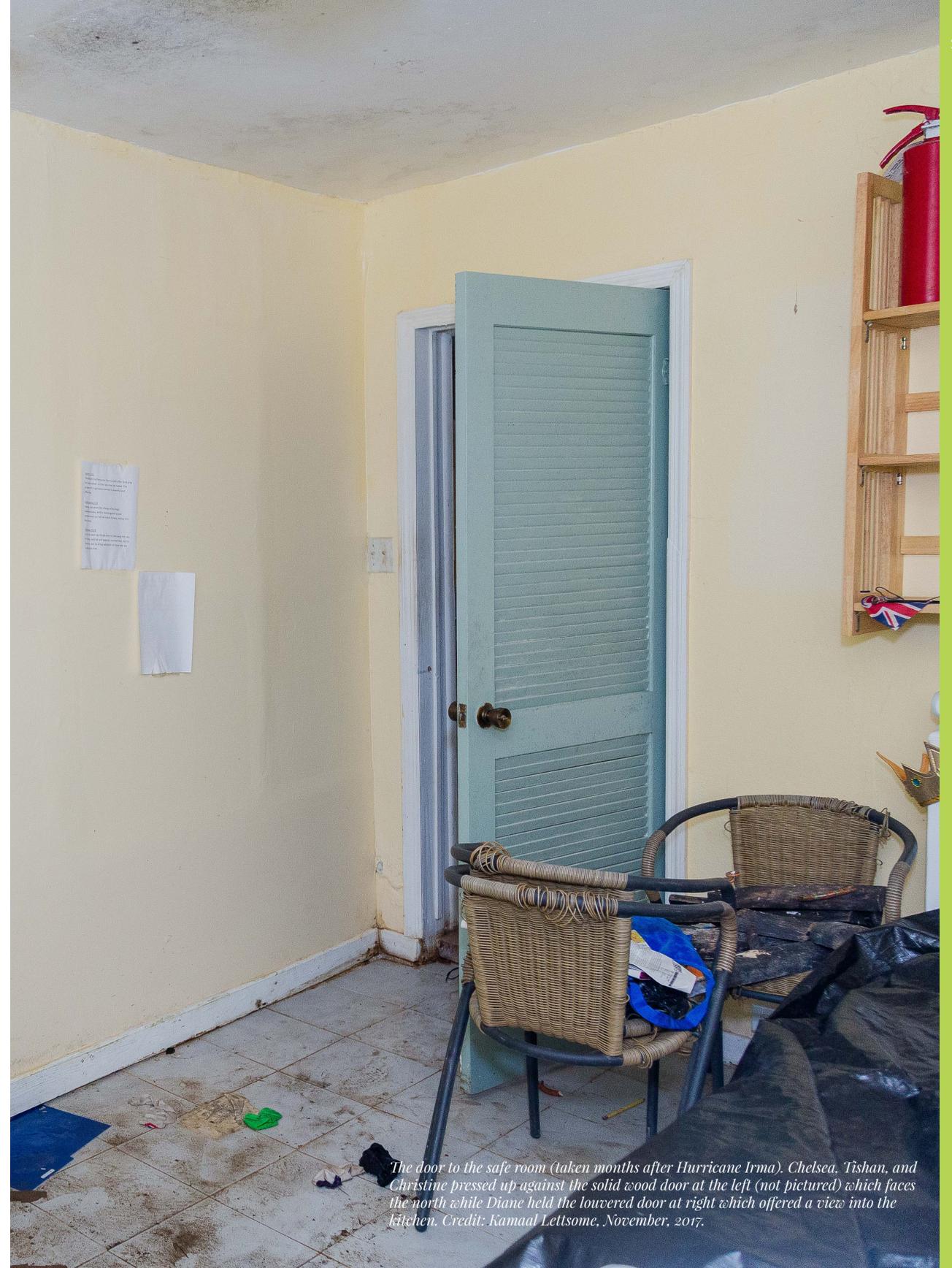
Diane Drayton is a strong mother of two and a grandmother. She spent Hurricane Irma in the family home her father originally built and she later expanded to house her own family at Todman Estate, Tortola. Diane's mother, Mrs Adeline Leonard, a darling 87-year-old, still resided at the home under Diane's attentive care. Both in their late twenties now, her daughters Tishan and Chelsea, along with Chelsea's adorable 3-year-old son, Micah, had moved to their own places. However, the family came together at the familiar family home to ride out Irma. They were joined by a good family friend, Christine, who would have otherwise spent Irma alone.

As the Press Officer for the Royal Virgin Islands Police Force, I was well-informed about Irma and had been tracking the storm closely. Leaning on the side of caution, I was preparing for a direct hit, despite the chance of it going slightly north. While the situation and threat were serious, it all seemed manageable up until that weekend when it was still in the region of a reasonable storm, a Category 3. The house had withstood several Category 3 and 4 hurricanes without any serious damage. I remember hearing on Monday or Tuesday that Irma had strengthened to a Category 5 with sustained winds of 175 miles per hour and then 185 miles per hour. Disbelief was the feeling. "Something must be wrong," I thought. "That's unreal, unheard of! Those numbers

"Those numbers just can't be right; something must be wrong."

just can't be right; something must be wrong," I kept telling myself. "Nothing can withstand that kind of wind force!" The situation was unnerving.

Sitting at the crest of a hill, fully exposed to the north side of the island, I knew that geographically the house was in a vulnerable spot. But you can't pick up your house and move it; you can only do everything in your power to prepare, and prepare we did. We had made all the plans to ensure that by Tuesday, the day before the storm, the house was squared away. I didn't cut any corners.



The door to the safe room (taken months after Hurricane Irma). Chelsea, Tishan, and Christine pressed up against the solid wood door at the left (not pictured) which faces the north while Diane held the louvered door at right which offered a view into the kitchen. Credit: Kamaal Lettsome, November, 2017.





Unknown to us at the time, those were our last moments in that room.

Our trusty handyman, Hugh, ensured that all the hurricane shutters, both in the vacant upstairs unit and in the downstairs unit where Mum and I lived, were securely in place. Apart from the fact that we lived in the downstairs unit, we had made a conscious decision to ride out the storm in that space. With our hurricane shutters in place, solid walls around us and partly sitting under a concrete roof in the back half of the unit, though naturally nervous, we felt reasonably safe. In my wildest dreams, I would never have predicted the reality that unfolded.

Tuesday night found us all at Todman Estate. We secured the cars and did some last-minute preparations around the house. Already, every now and then, you could hear a howling gust sweep up and over the hill, forewarning of Irma's arrival. I remember viewing a video

sent through WhatsApp of Irma pounding one of the other islands on its way to us. Irma was blowing trees across the landmass there as if they were cotton balls on toothpicks. I thought, "God has to intervene here!" Anticipating downed lines by sometime early in the morning, we used the last hours of communication to reach out to friends in the outside world and request prayers.

We woke up to no electricity the following morning. With the winds already picking up, we decided to quickly cook some breakfast and shut off the gas lines while it was still safe enough to go outside. As the morning wore on and the storm really set in, the family settled into the living room. We conversed and sang together. Unknown to us at the time, those were our last moments in that room.

The small, rectangular glass strip across the top of the wooden living room entrance door allowed us to witness the first strike. It started when the big mango tree that towered over the outside deck gave way, collapsing in front of the

entrance door. Shortly after this, we heard a relentless banging coming from upstairs. Peeping out, Tishan realized that a hurricane shutter on one of the windows had come loose and decided that she could fix it. She braved the storm and went upstairs. Taking longer than expected, Chelsea went to help. Thankfully, they both made it back unscathed.

With that fire under control, it was only moments before another caught on and the fire intensified. It was now the hurricane shutter in my bedroom that had come loose and started to slam against the closed glass window. We shut the bedroom door that led to the living room to isolate it. Behind the closed door, we listened as the shutter beat the window without mercy, each blow sounding worse than the one before. Then there was quiet. The banging had suddenly stopped as the winds finally took the shutter away. In Chelsea's words, "Outside was stark white. It was as if someone had hung a white sheet over the windows." Relief and worry hit us at the same time. While safe from a shattering window for the moment, one by one, our

hurricane shutters seemed to be peeling off under the unnaturally intense force of Irma's winds.

It was then that we decided it was time to take Mother into the safe room that I had prepared. Strong at heart but her body now frail, walking about for her is slow. The room was at the very back of the house, tucked into the hillside, and was originally used by my older daughter. In preparation, I had cleared it of any unnecessary stuff and stocked it with our hurricane essentials. We made her comfortable on the bed and went back out between the kitchen and hallway to the safe room to keep tabs on things. Intense noises filled every space. We continued to pray.

Water started pouring through under the kitchen door, as if a firehose had been turned on outside. Instinctively, I attempted to keep pace mopping but before long realized that it was pointless. Pacing the hall, Chelsea watched as the dark shadow beneath the closed door to the bedroom disappeared and was replaced by light. She instantly understood the meaning of this silent warning.

"Oh my God!" Chelsea's scream shattered the air above Irma's roars. With an animal-like protective instinct Tishan yelled, "Put Micah in the room!" She immediately snatched him up and tossed him down the hall into the safe room. Thankfully, he landed on the bed and nestled next to his great-granny. Christine and I scrambled behind Chelsea and Tishan into the safe room with only enough time to slam the door behind us before we heard what sounded like a massive explosion. In one fell swoop, everything north of that safe room, including the two

bedrooms and the living room, was no longer standing and the daylight previously shut out by hurricane shutters, walls and a roof poured in. The house was an open sepulchre.

There was no time to take in what was happening around us, only time to save our lives. We put Mum and Micah as far back in the room as possible and immediately threw ourselves up against the doors. I held one door, while Chelsea, Tishan and Christine all pressed against the other door which faced the north. With the rooms beyond it gone, that door was taking the



The disappeared north rooms that left the house an open sepulchre (taken months after Hurricane Irma and clean-up). Credit: Kamaal Lettsome, November 2017.





View of Diane's family home from the road above in the immediate aftermath of Hurricane Irma. Credit: Angela Burnett, September, 2017



full force of Irma's winds. Peeping through the louvered door into the kitchen, I watched as the wind and rain joined forces to completely trash our home. Nothing remained in its place; even heavy bookshelves were hurled around like matchboxes.

Not satisfied with the havoc she wreaked in every other room in the house, Irma wrestled ruthlessly to get into our safe room. I could feel the interior sheetrock wall of the room vibrating violently. I remember standing in fear that the wall would fall in and crush us. I looked across at Chelsea and she was shaking like a leaf. Somehow, she said I managed to appear calm. I think she described best how we all felt in that moment: "That level of fear is equivalent to being held at gunpoint!"

Completely helpless and fearful for our lives, we did the only thing that we could. We each prayed out loud, crying out to God for mercy and help. For as long as Irma raged on, we kept our prayers up and we worshipped without ceasing. Then, in answer to prayer, the eye came. The winds died down

and we relaxed our hold on the doors. We were in ankle-deep water and knew we had to get out. We simply couldn't stay there for round two, and we didn't know how much time we had.

The girls rushed ahead to scope out an escape plan while Christine and I figured out how to get Mum out safely. We climbed over mounds of rubble that represented our lives and out the front. The vehicles could offer no help; they were pinned in by a section of roof. Tishan suggested we try to find a neighbor on the street who might just be out checking on others while it was safe to do so. We each had a small bag packed with important documents, and that's all we took. Again, Chelsea expressed it well: "In that moment you realize you only have two hands and so you can only take two things. It's a reality check. You are forced to ask, 'What are the two most important things to me?'" She took her son and her purse with her travel documents.

Having survived the first round without a hard punch and out looking for those who might

have suffered a knockout like we did, our neighbour Earl found us before we could even start the journey down. He cleared the way as we lifted my mother over poles, galvanize and transformers, down the hill to his fortress. Looking around and seeing the other houses at least standing, I remember thinking, "Is it just me?" Unfortunately, I know now that it certainly wasn't.

We made it inside in the nick of time. Earl had a spare room on the bottom floor of his two-storey building where he made us comfortable. The second round was mild in comparison. Completely exhausted from the ordeal and still in a state of shock, we quietly sat through the second half of the storm. At the same time, I was conscious of and worried about the condition of my elderly aunt who lived close by. I monitored the winds carefully, waiting for the earliest opportunity to steal out and check on her. We set out as night was starting to shut in.

Those were tense, long minutes. We could see that the roof was gone and all the windows blown out. We circled the house several times calling

out for minutes. No answer came back. As fear was on the verge of panic, a faint voice finally echoed back. "We are here." It was her traumatised granddaughter's voice, travelling from the tub in the back of the house where they were hunkered down.

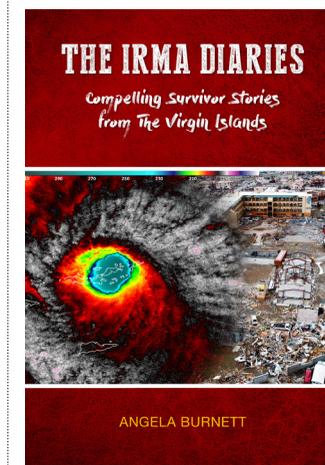
We took them back with us. Earl's home became our refuge. From the time of the eye until now, we've lived there in that spare room on open welcome. If I could find any humor in the events of September 6th and 7th, it would be the sight of all seven of us women smartly dressed up in Earl's very manly shorts, shirts and shoes, which were the only options for dry clothing.

My expression for Irma is "life-altering." From now on, the reference for time will be pre-Irma and post-Irma. It will take a long time to really process what has happened to us. For the first time in my life, I felt like I didn't know what to do next. The forced decisions post-Irma have been agonizing. Homeless and not even able to find a habitable apartment to rent on island, our entire family

has no option but to migrate. Our cats, true members of the family, have been given up for adoption overseas.

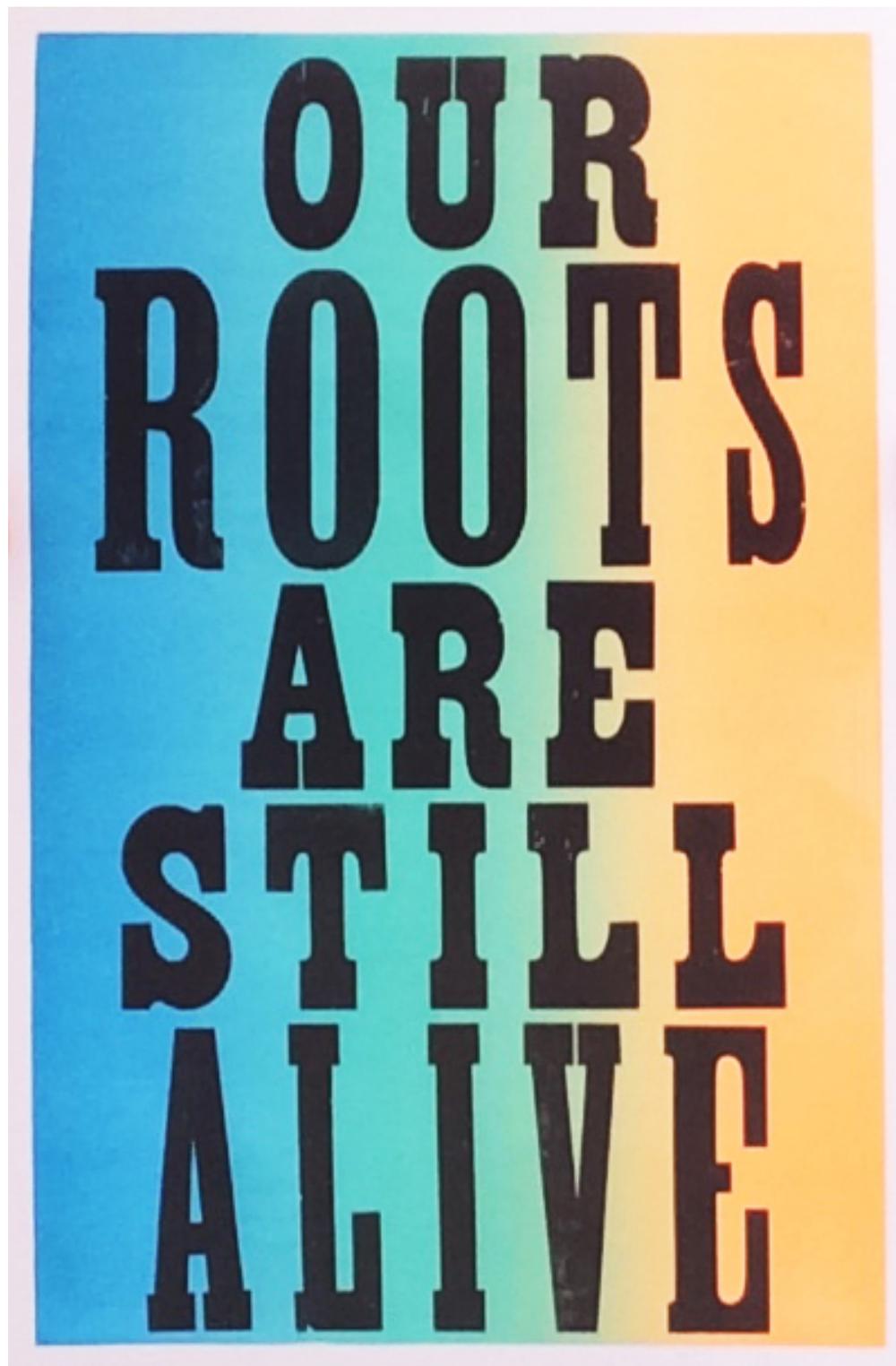
Valuable lessons, however, were learned in this experience, two of which I can recount right now. Firstly, your shelter, your home, your refuge should never be taken for granted. Secondly, you shouldn't fill it with clutter. I now live as lightly as I can. We definitely had too much stuff. We all do. Irma came to say, "Live a little lighter on the planet." As I rebuild my life, I will be very wary of the stuff I acquire along the way.

Interviewed October 26th, 2017



www.TheIrmaDiaries.com





JES HUGHES, *Roots* (left), *Floral II* (above)





The Migrating Trees

ELMIRA ELVAZOVA

Mara says, *Most days we need only stand where we are to be blessed.*

A good way of thinking about anything is not as an end in itself, but a beginning.

In June the cottonwood trees begin their long migration.

Outside your window someone is whistling the tune to a famous sonata.

The middle of the day strikes soundlessly.

You watch the blue sky become fractured with gray.

Into the glass half-full wind spills light before a rain.

From the bridge where you see them passing

the cottonwood seeds float on the water

where the wind has brought them to sail.

In the interim, you think how extraordinary it would be if you could fold a year down the middle

and send it in a letter to a friend

although you know you'd spend too long deliberating

upon whom to bestow the letter

and you'd find yourself again

in the middle of a year

in the middle of the night

sitting on the porch with someone dear to you

your faces looking up at the moonlight

falling down through the trees.

And so, after the light's spilled and the rain has passed

(before it occurs to you that every parting

every great migration

is soundless, wordless, there are no

peal of bells

only the echoless greeting of yellow light

scattering itself anew over the peaks at dawn)

you go for a walk around town

where you see him again

as every other day this summer

the flower mechanic

holding a cigar in his mouth

tending to the roses in his garden.

When you see him you can't help but marvel

at the strange loveliness of other people

lost in their heavy contemplation. Then you ask yourself

who has seen this same expression on my face and have they

thought

How she is blessed, standing wherever she is.





TRAVERSE ROBINETTE, *Untitled*



Ghost Dance

SARA LITTLECROW-RUSSELL

Two hundred seventy
Ghost Dancers died dreaming
That humanity would drown
In a flood of its sins.

Then the renewed earth
Would reclaim city and town,
Leaving only Ghost Dancers
And those who lived by nature's laws.

History books say the threat is gone.
The Ghost Dance died with the ancestors—
Wovoka and his sacred dream
Were destroyed.

Each time it rains,
I go out to the sidewalk,
Where the tree roots
Have broken the concrete
Listening to the water's whispering:

“It is coming soon.”

Χορός των Πνευμάτων

TRANSLATED BY SARAH THILYKOU

Διακόσιοι εβδομήντα
Χορευτές των Πνευμάτων πέθαναν με το όνειρο
Πως η ανθρωπότητα θα πνιγόταν
Σε έναν κατακλυσμό Λευκών αμαρτημάτων.

Έπειτα η αναγεννημένη γη
Θα ανακτούσε την πόλη και το κράτος
Αφήνοντας μόνο τους Χορευτές των Πνευμάτων
Και όσους έζησαν σύμφωνα με τους νόμους της φύσης.

Τα βιβλία της ιστορίας λένε πως ο κίνδυνος πέρασε.
Ο Χορός των Πνευμάτων πέθανε μαζί με τους προγόνους—
Ο Γουοβόκα και το ιερό του όνειρο
Είχαν καταστραφεί.

Κάθε φορά όταν βρέχει,
Βγαίνω έξω στο πεζοδρόμιο,
Όπου οι ρίζες των δέντρων
Έχουν σπάσει το τσιμέντο
Ακούγοντας το σφύριγμα του νερού:

“Έρχεται γρήγορα”

*Water Is Life. Water Protectors everywhere remind us
that through water we are all connected, and together
we must protect our source.
To find out more and get involved,
visit <https://www.stopline3.org/>*

Góstdamhsa

TRANSLATED BY GABRIEL ROSENSTOCK

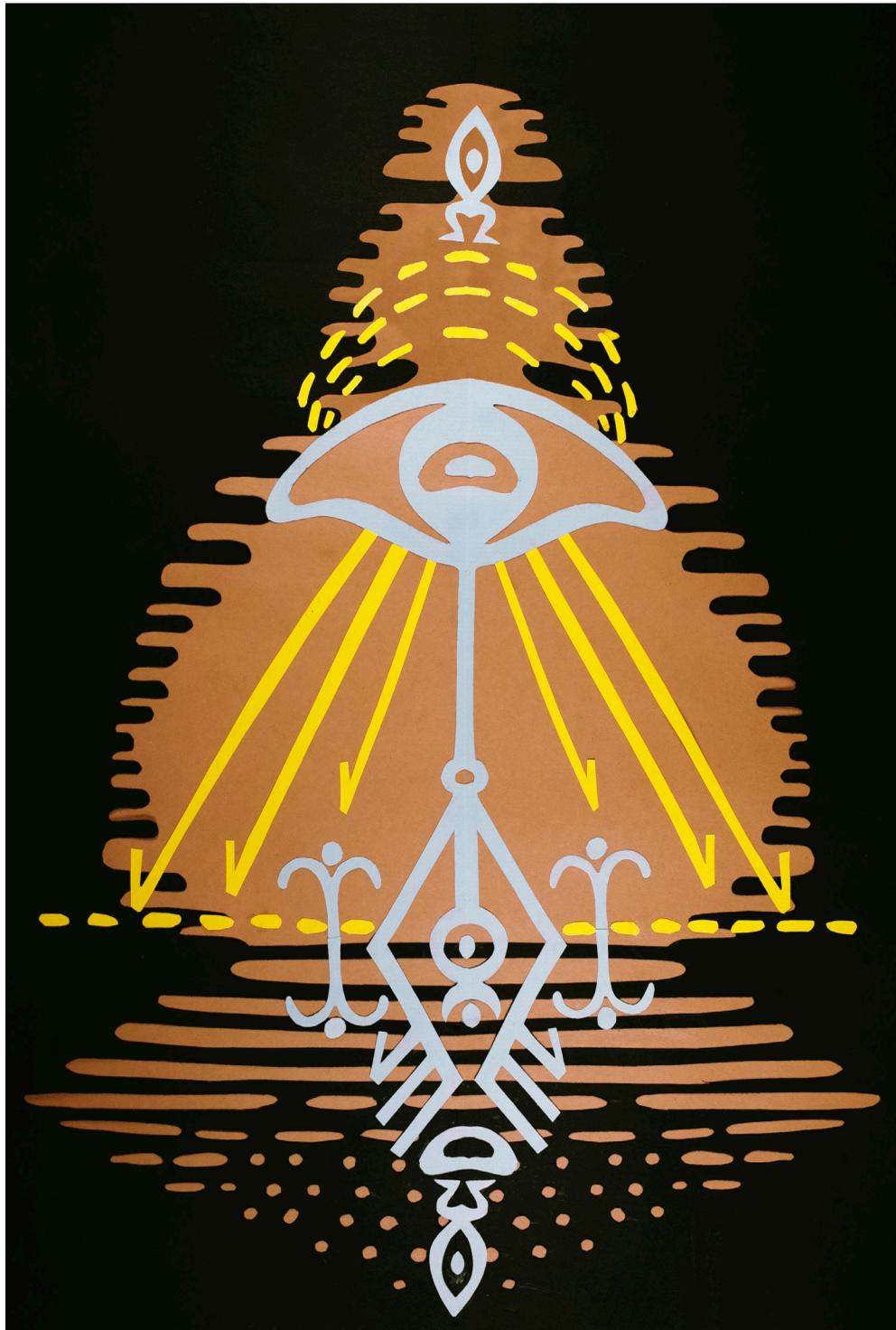
Cailleadh dhá chéad seachtó
Góstdamhsóir agus iad á shamhlú
Go mbáfaí an cine daonna
Faoi thuile peacaí Geala.

Ansan gheobhadh an domhan athnuaithe
An chathair is an baile ar ais,
Is ní bheadh fágtha ach na Góstdamhsóirí
Agus iad siúd a mhaireann de réir an nádúir.

Deir na leabhair staire nach baol go dtarlódh sé.
Cailleadh an Góstdamhsa i dteannta na sinsear –
Scriosadh Wovoka
Agus a aisling bheannaithe.

Aon uair a mbíonn báisteach air
Amach liom ar an gcosán,
Áit a bhfuil an choincréit briste
Ag fréamhacha na gcrann
Is mé ag éisteacht le cogarnaíl an uisce:

“Ní fada uainn anois é.”



VINCENT FRANO, *Emergence*



Lobelia cardinalis



Earth Day

(excerpt from *Kinship of Clover*)

ELLEN MEEROPOL

Jeremy rearranged his butt on the linoleum floor of the courthouse lobby and wished for more natural padding. Nothing much was happening at the moment and he was grateful for that. He had found Greenhope and Tommy and they'd draped the banner around their bodies so the message and the border of painted leaves were visible. The uniformed cops stood in straight lines against the lobby walls, helmets and shields ready. They stared at the protestors while the suits with ear buds conferred. Greenhope ignored them and watched streaming news coverage of Earth Day events around the country on her

tablet, complaining that each of them looked bigger and more exciting than their puny college sit-in.

A cop wearing a black NYPD vest stepped out of the huddle of suits and raised an electronic bullhorn to his lips. A thin squeal became static and then words.

"You are trespassing. This is your last opportunity to leave the building. In five minutes, we will begin arresting those individuals who persist in breaking the law."

Tommy got up to leave. "My wife will kill me if I get busted again," he said.

Jeremy still hadn't decided. Stay or go? Even if they won their demands and the uni-

Jeremy still hadn't decided. Stay or go?

versity agreed to divest their fossil fuel holdings, thousands more species would become extinct in the meantime.

Greenhope pulled her hat lower over her face and elbowed him. "You staying?"

He shrugged. It didn't matter, not really, but he had to decide. "What's with the hat?" he asked, more to buy time than because he wanted to know.

"It's a cloche. It was my mom's," Greenhope said. "I always wear it to demonstrations. But don't change the subject. What are you going to

do?”

Jeremy had no idea. What good would it do to get arrested? His father said that civil disobedience delivered people right into the clutches of the system. But it was also a badge of honor to the students crowded into the courthouse.

“Getting busted is not for everyone,” Greenhope said, leaning close. “I mean, maybe you’ve got a good reason to leave. Like you’re wanted for arms smuggling in Omaha or you’re the single parent of infant twins and the babysitter has to leave at five sharp.”

“Nope. Neither of those.” Did having a sort-of girlfriend back in Springfield count?

“This isn’t a game, you know. This is life and death and you’ve got to choose. Are you with us, or not? I mean, if it’s just that you’re scared, welcome to the club. Everyone in this room is scared and every one of us is worried that we’ll lose our scholarship or daddy won’t keep paying tuition or a police record

will follow us all the days of our lives and we’ll never get a good job and be able to retire in Florida.”

She paused for breath, but continued before Jeremy could respond. “You know, Brooklyn will be as warm as Florida in a few years anyway. Beachfront, even. So I’m staying right here.” She patted the floor. “You?”

He shrugged. He couldn’t decide.

“You’ve probably heard horror stories about what can happen in jail, especially if they think you’re a troublemaker. But it’s not that bad and we’ve got to take a stand. What’s more important than this, than our Earth?”

Jeremy pictured his father’s empty eyes in the visiting room and the incessant snapping of rubber bands. Greenhope didn’t know the half of it.

“Holy shit.” Greenhope pointed to her tablet.

A large photograph of Mary filled the screen, her round-collared blouse incongruous with the

handcuffs and SWAT cops flanking her. DOMESTIC TERRORIST ARRESTED IN BOMBING screamed the headline. Bombing? Mary? He tried to read the story but his eyes blurred. He pictured Mary and her elementary education clothes and her story about the elephants in Cameroon getting revenge. “An eco-terrorist,” she had said. But she had a little boy—didn’t Carl say she had a son—and what would happen to the kid? Did he have a dad?

“You okay?” Greenhope asked. “Your face is white.”

This time it was different. He recognized the foreshadowing of the green tingle, like the migraine aura his mom described. Different in another way too, because the plants were growing inside his body this time. They germinated in the muscle fibers of his forearms and grew their way through the mesh of tendons in his wrists, their insistent sprouts stiffening in his fingers, joint by joint. Stems pieced the skin at the end of each tender fingertip

“Time’s up,” the officer with the bullhorn said.

and pushed through. Leaves unfurled in quick-time, urgent with the need to find sunlight and grow. He recognized a few of the leaf patterns, like *Sterculia khasiana* and *Wikstroemia villosa*, but most of them were strangers, unknown and exotic species.

“Welcome,” he whispered to the newcomers.

“Time’s up,” the officer with the bullhorn said. The lines of uniformed cops stepped forward, toward the seated protesters.

“Jeremy?” Greenhope shook his shoulder, her voice worried. “You could probably still get out, if you want to leave. Are you sure?”

He wasn’t frightened. This felt so right. He belonged here, in this forest of green crusaders woven together with the branches growing from his hands, the green vines twisting around the protesters’

arms and legs, sprouting deep green leaves perfect against their backpacks and hooded sweatshirts.

“Save the earth,” people around him chanted. “We have no Plan B.”

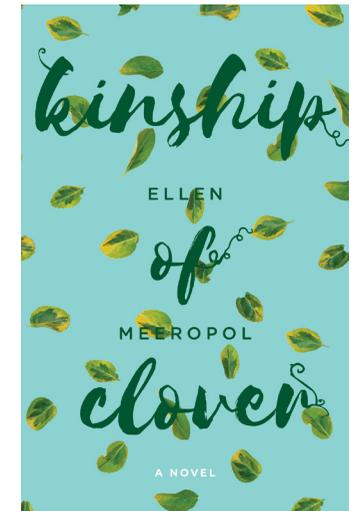
“*Melicope paniculata*,” he sang with them. “*Ochrosia nukuhivensis*.” He waved his arms high above his head, helping the resurrected plants reach for the sky. In the distance there was a loud answering boom, and he heard it as the voice of the universe joining in. “*Centaurea pseudo-leucolepis*,” he responded.

The cops began grabbing arms, dragging the protesters up from the floor, fastening plastic cuffs around their hands. He and Greenhope were tied together, by yellow plastic and the glorious tangles of vines, because by then the plants were everywhere.

Greenhope whispered in his ear. “Did you hear that explosion?”

He didn’t answer. The magnificent and heartbreaking architecture of extinct leaf

patterns filled his ears and his head and the building and the world.



Notes

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DAVID ANDERSSON, *They Voted*



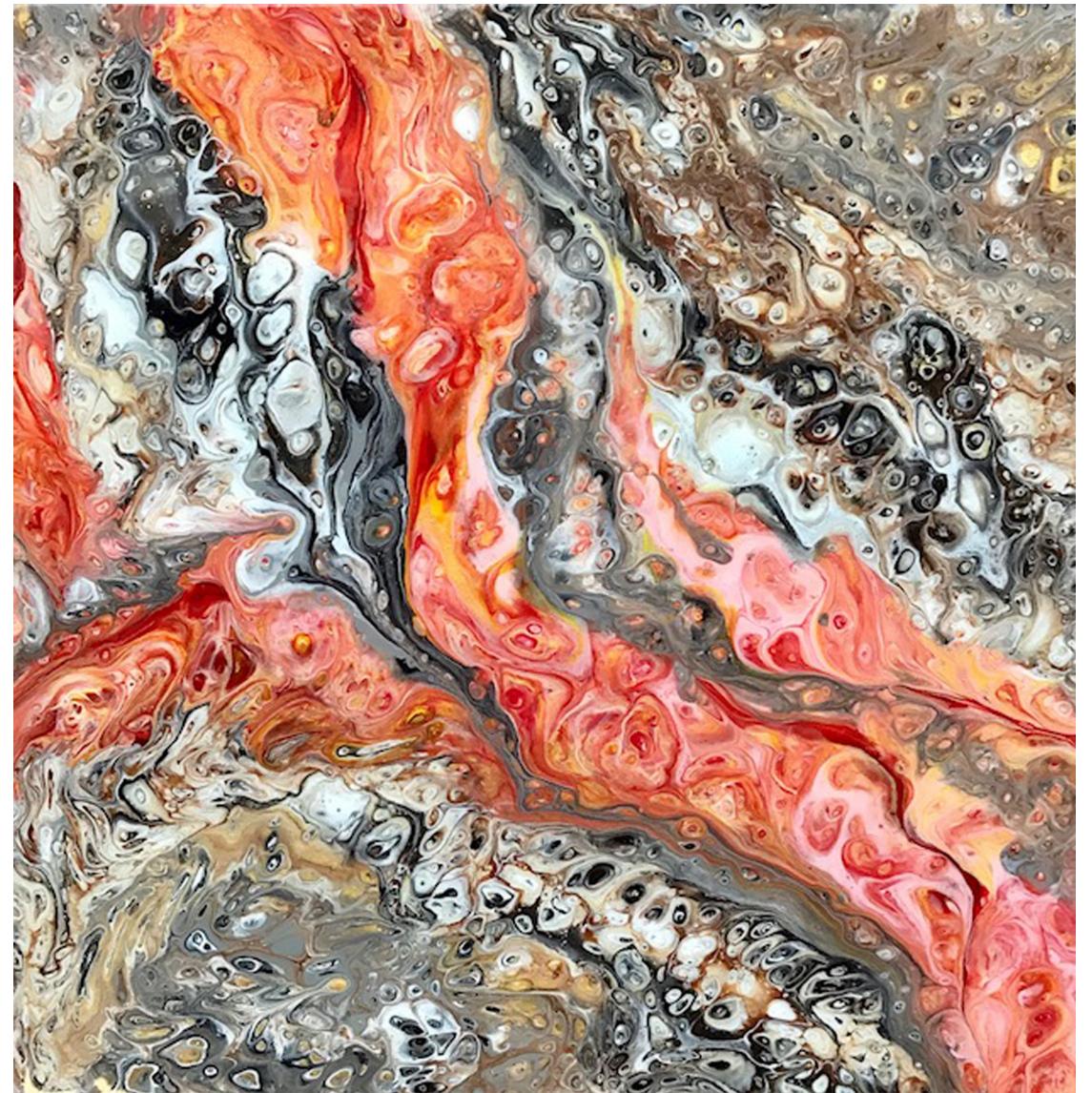
Brooke Haven

cyclic prayers for lopsided women.

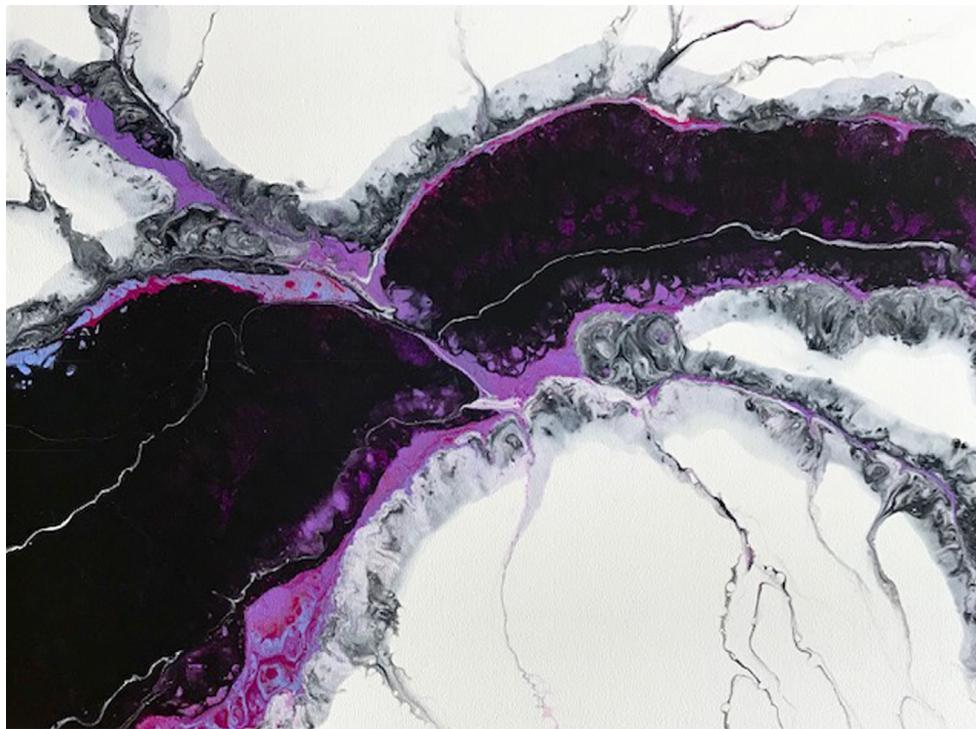
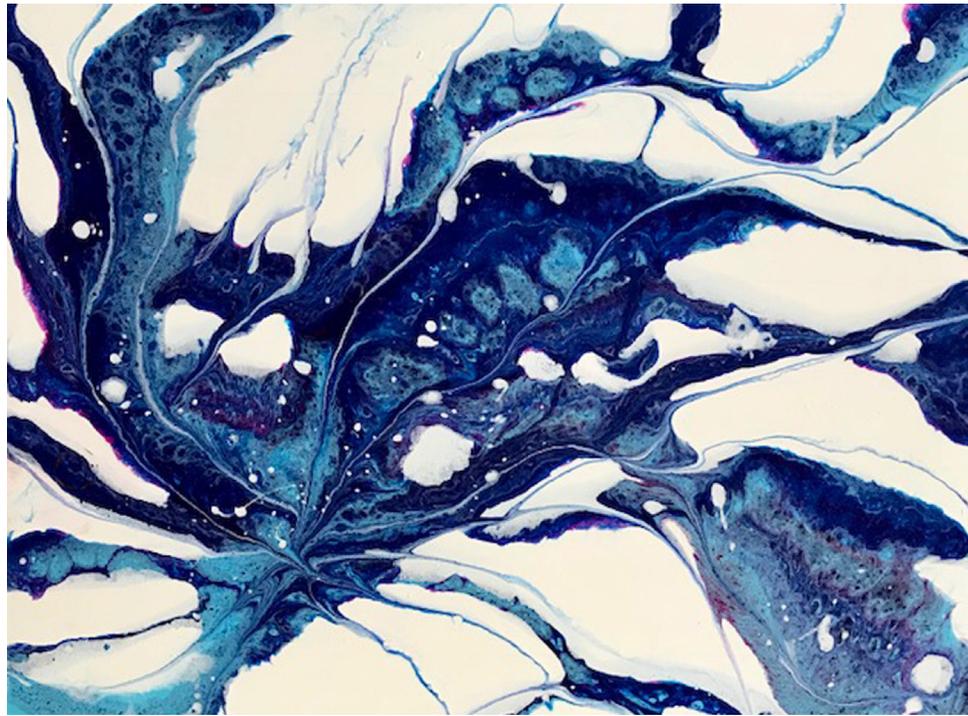
SANNA WANI

oil and dirt like a reminder that
pores are open and skin is bent
crisp towards a red sun there in
the sky the size of a bluebell is
hugging the water twice you
need to start hugging the water
twice stop asking the water to
hug you. don't wait for the tide
to come don't wait for the wave
to open or for the sky to call just:
collapse two roads. melt them in-
side a pot and bury it upside down
underneath your house. whisper
anything into the tar that is
molasses but butter
foreground but no light.

shrunk to.
just a moonrise.
no, not The Moon,
something more like
Charon and Cerberus,
two horses wandered too
far from the stream, left
half-latched to the night.
like an echo. left
uncarved
and swollen.



SANDY COOMER, *Lava Field*



Lake Effect Snow (top), *Blackberry Winter* (bottom)

The Swim

ROBERT DOW

Out of the black clay of the clam beds
 he scooped me up and made me ride him.
 He strode, long legged, thick-thighed into the surf,
 my boy body saddled to him, my heels spurs
 in his ribs. Against his legs, those great flanks,
 the string of waves crashed and broke into pearls
 thrown into the sun. I was on board the island
 of his back, my arms around his neck anchored me
 to him like a lifesaver. We swam out beyond the breakers,
 beyond the bells and nuns, beyond Boston Light and
 the dark wrecked ship. His arms were our oars stroking.
 We swam out to where shadows shifted strangely beneath us.
 I could not see to shore to find my pail and shovel,
 or Mother in the surf looking out into the distance.
 We were distant. We were in the distance
 out where the green sea rolled into the sky,
 out where the ships with their dark hulls shifting in light sailed,
 their anchors hung like hooks in an eye.
 We drifted in the current and he pulled me
 from his back and held me in his palm, held me
 by my feet, at arm's length, nothing but sea around us
 and cast me out into the water. I foundered.
 Broke through into air, snorting sea and crawled back to shore.
 He crawled there beside me, me, an island newly formed from clay.

The Art of Adaptation: Exploring Climate Change Through Future Foods

LEAH KIRTS

We transform the world, but we don't remember it.

We adjust our baseline to the new level, and we don't recall what was there," observes Daniel Pauly, a French marine biologist who studies the long-term effects of the fishing industry on the world's oceans. In 1995, Pauly developed the concept of 'shifting baselines' based on the work of landscape architect Ian McHarg. Pauly took the concept and applied it underwater to explain why fisheries scientists fail to accurately evaluate fisheries whose population and size have steadily declined from relentless human exploitation. According to Pauly, there is little context for how much biodiversity has

been lost in fish communities over the course of human civilization because fisheries scientists determine the state of fisheries based on research from past decades and do not consider the harmful effect that thousands of years of fishing has had on sea life around the world. From bone harpoons sharpened over ninety-thousand years ago to the rise of steam trawlers during the Industrial Revolution to modern commercial fleets hunting in waters deeper than ever before, humans continue to repeat a reckless pattern of "exterminating the population upon which they originally relied, then moving on to other species," Pauly explains.

Overfishing has pushed many underwater communities to the brink of extinction and

There is little context for how much biodiversity has been lost in fish communities

caused irreversible damage to their ecosystems, yet there is no sense of urgency to reduce consumption of sea life commensurate with the destruction that the human diet has caused. The problems continue to worsen as climate change, sea level rise and ocean acidification decimate the small percentage of remaining underwater species—in addition to the intensifying floods, wildfires, cyclones, droughts and extinction of large mammals and wildlife happening on land. Although



humans are beginning to recognize their culpability, it is difficult to grasp the true scale of the degradation they have caused because each new generation's baseline of what is 'natural' continues to drift further from reality. The flawed perception of ecological loss skews humans' ability to measure change. Their interactions with nature, which are constantly being reformulated, create new expectations of what the world is supposed to look like that are passed down to the next generation.

"I was talking to my grandmother, who is a hundred years old, about how she grew up," says Allie Wist, an art director and researcher based in New York City. "Her family canned meat and went to the grocery store twice a year. They had a big garden and a pump for water but no heat and no plumbing. I was thinking about that and how much has changed since then. When did we take all of this as normal?" Wist has devoted much of her research to exploring connections between shifting baselines, climate changed landscapes

and the future of the food system through the medium of photography. Last spring, Wist and her team of three female artists—photographer Heami Lee, food stylist and recipe developer C.C. Buckley, and prop stylist Rebecca Bartoshesky—produced a series of images titled *Flooded*, a collaborative project depicting a fictional dinner party set in a time after the effects of climate change have altered human (primarily North American and European) eating habits. The team created imaginative recipes and stylized images centered around food scarcity, using foraged and non-native ingredients to conceptualize how humans might adapt their diets to rising sea levels in a climate permanently changed.

As whimsical as they are eerie, the images transport viewers underneath watery hues of aqua green and ocean blue, through pools of slick seaweed floating alongside clam shells, beyond towering pillars of fungi to an overhead view of a sparse dinner table set for three. Light glistens against the smooth edges of antique glass in varying

shades of amber and turquoise that decorate the table's marble canvas. Tall stems filled halfway with Grenache and Chardonnay sit closely to ribbed tumblers offering freshly desalinated water. Heavy metal utensils glinting under refracted light lie askew as if the diners abruptly left before taking their first bite. Speckled ceramic plates the pale color of a robin's egg are plated with small servings of foraged and fished dishes: sunchoke chips scattered next to burdock and dandelion root hummus; a pair of thick brown mushrooms with curling gills. Oysters on the half-shell with slippers attached nestle on a bed of ice surrounded by clusters of bright green sea vegetables; milky ceramic bowls flecked with mint green hold mollusks and mustard greens submerged in a clear broth; a tangled mound of jellyfish and seaweed lies in an elongated ochre glass bowl; royal blue dessert plates hold gelatinous discs of carob and agar agar pudding, promising a bittersweet finish to the meal's end.

"Part of our task in making



these photos and creating this narrative is to push beyond what we think of as what is possible. To create a larger spectrum of imagination and more opportunity to participate in positive change," says

C.C. Buckley. Buckley explains to me via email the intention behind the dishes and their ingredients, which she sourced from local farmers' markets, nearby Manhattan Chinatown and Koreatown vendors,

and foraged in Brooklyn's sprawling Prospect Park. The decision to use sea vegetables like kelp, wakame, dulse, nori and irish moss—accentuated by mostly bivalves and fungi—is one hypothetical answer to the project's underlying question: how does a food system altered by climate change adapt to use the remaining natural resources responsibly? *Flooded* swaps inefficient processes for more thoughtful methods of crafting nutrient-dense dishes centered around plant foods. Agar made from red algae replaces gelatin made from the skin and bones of factory farmed animals. Carob is used instead of chocolate to acknowledge that regions where the cocoa plant is grown will soon become inhospitably hot due to global warming.

The futuristic recipes—which are part metaphor and part literal application—presume a theoretical shift wherein humans relate to non-human animals and edible plants as allies with common interests instead of viewing them as objects. "Facilitating a mutually beneficial rela-



tionship between humans and plants is not only crucial to our individual health but also our collective health as humans and the health of the planet and all its organisms,” Buckley explains.

In the past year, *Flooded* has been shown as an exhibit in different parts of the world. “Depending on where you go, people have different responses to it,” Wist tells me over the phone. “In Finland, the concept of foraging is not radical at all. In Hawai’i, we never had to explain why climate change is an issue, and they already have a huge seaweed eating culture called limu that regards sea vegetables as beautiful, not strange or terrifying.” In Iowa, however, the exhibit drew some dissenting opinions about global warming. The sobering reality of climate change and the leading role our food system plays in its acceleration is undeniable, yet the topic is still met with skepticism in parts of the US where animal agriculture provides the main source of employment and food. It is no coincidence that Iowa, the leading producer of

corn, soy, factory farmed hogs and egg-laying hens in the US, was the one place where *Flooded* provoked a defensive response from locals regarding the effects of climate change.

A common response, Wist notes, has been the question of how to incorporate research reflected in the art series into daily life. But climate change adaptation is a problem she did not intend to solve, only explore. “I’ve started to call it ‘gastronomic science fiction,’” she laughs. “Because we based the project on research but never said it was a prediction.” She hopes that people are inspired to eat more vegetables and fewer animals but more importantly, Wist wants viewers to reconsider the value system that shapes their relationship with plants, nature and food, and to recognize that what appears to be normal today wasn’t always. Humans in North America are perhaps more geographically removed from where their food is grown and more ignorant of how it is produced than ever before, Wist contends, and collective knowledge of foraging, growing and

preserving food in ways that revitalizes human health and surrounding ecosystems has been outsourced to a food industry that favors cheap, often destructive means of food production.

Consider slaughterhouses and meat processing plants—the final destination of nearly all farmed animals regardless of how ‘humanely’ they are raised. These facilities outsource the true cost of managing wastewater and groundwater contamination, air pollution, greenhouse gas emissions, antibiotic resistance and disease spread (such as *E. Coli* and salmonella) to local communities, food safety advocates and public health officials. Protected from public view, these facilities operate under dangerous and exploitative working conditions where the rights of employees are violated alongside the animals.

Flooded envisions a move away from animal agriculture coupled with a resurgence of localized gardening, fermentation, pickling and canning as the new (old) norm. Underwater kelp farms and bivalve



hatcheries are imagined alternatives to the meat and dairy industries, which isn't a wholly unrealistic narrative. As sea waters rise from melting glaciers in Greenland and Antarctica, and coastal flooding continues to accelerate in the gulf and mid-Atlantic states, the U.S. may take more of its farming underwater. Unlike aquaculture—which is essentially submerged factory farming replete with unnatural confinement, pollution, sickness, antibiotic abuse and unfathomable suffering of its captives—kelp forests and oyster farms help to purify the water, rejuvenate ecosystems and mitigate some of the damage caused by fishing and land-based agriculture.

“Plentiful, healthy, and virtuous, kelp is the culinary equivalent of an electric car,” declared the *New Yorker* in 2015, reporting on the rise of kelp farms and oyster hatcheries in the US. But edible algae, affectionately called sea vegetables, have long existed outside of our dystopian future. According to the FAO, evidence for the use of sea vegetables as human food

dates back to sixth century China, and they are still commonly eaten across Asia and elsewhere in the world. Seaweed has more than 10,000 species ranging in hues of green, red, purple, and brown, and is rich in protein, B vitamins, trace minerals, iodine, amino acids and omega-3 fatty acids. Though North America has been slow to embrace seaweed as a whole food, its chemical components are staples in the food industry. Carrageenan, agar and alginate are common ingredients used to emulsify, thicken and bind processed foods. Seaweed has other uses for humans, too. It can be converted into biofuel through anaerobic fermentation, is a common ingredient in cosmetics, and is used to feed land animals and farmed fish.

But much like the electric car, seaweed is not a cure for unchecked human consumption, and comparing them produces an ironic metaphor that exposes the same flawed logic Pauly observes among fisherpeople: a pattern of behavior that assumes humans can pivot their consumption

to a new source instead of drastically reducing the amount they consume, be it of animals or energy. Much like fish communities, seaweed is also in a fragile state. “Sea grasses are among the most endangered biomes in the world,” says Troy Vettese, an environmental historian at New York University. Vettese asserts that “the sea is in worse shape than terrestrial biomes,” and while nearly all fish stocks have collapsed, plastic pollution in the oceans continues to multiply. “Carbon is acidifying the ocean, sea grasses are disappearing, coral reefs are dying and nitrogen pollution creates huge dead zones,” he tells me via email. “We probably should not look to the oceans for salvation.”

Many of the same plants featured in *Flooded* are in as much danger of being wiped out as the schools of fish seeking shelter among their fronds. According to environmental journalist Alastair Bland, kelp forests from Tasmania to France and California to Denmark are experiencing deforestation due to their waters' rapid acidifi-

cation and increased temperatures that attract hordes of incoming sea urchins. Bland reports that when sea urchins move in, they quickly transform lush kelp forests into desolate, densely-populated barrens. Even after they have consumed all vegetation and driven out other organisms, their hardiness gives them staying power. When faced with starvation, the sea urchin's jaw and teeth become calcified and its exoskeleton changes, allowing it to climb the food chain to consume different and larger prey like barnacles and abalone shells. Like a sci-fi monster whose

own starvation makes it stronger, the sea urchin becomes aggressively mobile the more scarce resources become. Natural predators who would keep sea urchin populations in check, like sea stars and rock lobsters, are in short supply due to disease and overfishing.

Kelp and other sea grasses are vital to the health of the planet. They reduce harmful nutrient and nitrogen runoff from agriculture, and produce oxygen that counteracts blooms of oxygen-depleting phytoplankton caused by pollution from sewage treatment facilities. Likewise, fish and invertebrates along

the continental shelf play an important role in the carbon cycle. “Coastal ocean ecosystems offer some of the greatest opportunities for carbon storage,” says Oswald J. Schmitz, professor of ecology at Yale University. According to Schmitz, the world's largest and most efficient carbon sinks are found on continental shelves where the rate of carbon absorption is forty times faster than in tropical forests due in large part to sea life. Bivalves and other invertebrates undergo a physiological process to prevent calcium build-up that releases carbon to the ocean floor that is “equal to the annual fossil fuel carbon emissions by such countries as Brazil, the UK, or Australia,” says Schmitz. Unfortunately, fishing has caused hundreds of years' worth of carbon stores to be released into the atmosphere and continues to reduce the potential of future carbon absorption as fish stocks decline. In short, humans cannot have their carbon sinks and eat sea life, too.

Vettese suggests that humans leave sea life off



their plates altogether. “If you want to eat a diet that is both the best adapted to climate change and has the fewest carbon emissions then eat a vegan diet,” he says. Legumes, for example, are a hardy source of protein that are easy to grow and do not require fertilizer “because they fix nitrogen from the air,” Vettese continues, adding that a diet free from animals and their byproducts also allows more land to be rewilded because “vegans only need a tenth as much space to grow enough food, about 0.1 hectare compared to 1 hectare for an omnivore. Land-use change and animal agriculture more broadly is one of the leading sources for CO₂ emissions.”

Wist and her team are aware that sea level rise is not the only issue surrounding climate change nor are underwater food sources their only imagined solution. The team is currently working on the next iteration of the series, *Drought*, which will look at the desertification of landscapes. Much like in *Flooded*, they plan to conceptualize recipes and dishes that reflect human

adaptation to a drier climate. Among the foods that will be incorporated are breadfruit—a species of flowering tree that doesn’t need fertilizer, is drought-resistant and produces a starchy, nutritious fruit—and other desert staples like cacti, agave and yucca. Buckley says she hopes the ingredients and tone of the upcoming project “evoke imagery of dried vulnerable earth.” She plans to incorporate dehydration methods for preserving foods that do not require electricity in recipes like kelp jerky. Wist hopes that *Flooded* and *Drought* will nudge people to make better food choices, demand industry regulation, increase environmental protections, and provide a way for people to connect with their surrounding landscapes or at least consider how the earth’s oceans and glaciers are going to affect their lives. “I’ll be the first to admit this research changes,” says Wist. “If we invest our energy into something, how do we know it isn’t going to cause a problem in that ecosystem that we don’t know about, when we harvest this particu-

lar thing or if we go all vegan?” But the evidence suggests that some changes, like adopting a vegan diet and eliminating the use of fossil fuels, are more likely to reduce known forms of ecological destruction than create new ones.

The inevitability of climate change and how humans will adapt to it cannot easily be answered in full only imagined in part, and artistic explorations give us something to gnaw on. But the more pressing question is not what humans will do, but what humans must do—especially for North Americans and Europeans who consume the majority of the earth’s resources. There is no doubt that humans are the earth’s most destructive species whose consumption must decrease to avoid greater loss of biodiversity and species extinction. Should human actions result in our own demise, there is consolation in the fact that the earth, along with its more resilient inhabitants, will continue to adapt and thrive without us.

How We Are Worn

CLARA TRIPPE

1.

There was a world, a globe halved and held open
in his hands like an orange split in two parts.
Sections of blue and green. There was a body,
touched along its edges and shivering. I hid
my eyes behind his arm; the glare
of the sun was warm and punishing.
The seasons were changing as we watched.
Last night's snowfall only evidenced
in the corners of his driveway,
as if it was left there by a careless visitor.

2.

All the women I know are bodies of water,
ponds of murky colors and a sheen across the surface.
There are things in them hidden by the light off the top of the water.
Hunger has become a nuisance, more than anything, tired
and so dreadfully human. I turn on the stove.
The coils burn red, as if bloodied.

3.

When the wildfires came, houses with ocean views
burned first. They were built again, on their own ashes,
when the air settled. Later, we forgot that the skyline was on fire
in front of us, as if the sunset had fallen onto the trees instead
of sinking safety below the horizon line. I reached for your hand.

4.

I put my hands to my stomach, as if apologizing.

5.

He said his dreams were full
of alien worlds and funerals.
Also one with me, where I stood
in tall grass, now just dried stalks,
without chlorophyll or purpose.
I lit a match, and he awoke.

6.

Now your face is there whenever I close my eyes. Every time the proportions
get a little more warped, until you are so condensed you fit cradled in my
hands. I am afraid everything will become small as I grow large. My shoulders
will shoot past the ceiling. My town will be lost under cloud cover. I will grow
and grow until the air is thin and I learn to breathe without oxygen, without
opening my mouth, without taking in anything at all. I will no longer be able
to balance my feet on the world, and when I fall, I will pass through thousands
of branches, but I will never reach the ground.

7.

When the silence breaks, women will pour out of their homes
like ants on a sidewalk in rain.
There will be more than you could have ever imagined.
They will turn their faces to the sun
and the red of their cheeks will scream for blood,
yours and many others. They will flood the streets.
They will be so loud all the windows will shatter
onto the sidewalk like rain.

The Virgin Beekeepers

BRIAN FITZGIBBONS AND
CAITLIN DUENNEBIER

It's winter. We are in our second year of beekeeping. During a short, opportune February inspection, joy arises when we open our hives and we witness little, golden bodies bumbling around, and feel their warmth emanating out. It's hard for us not to have comradery with these insects. We have worked so closely with the honey bees for months, trying to understand their every mysterious move and behavior. Beekeeping for us has become a type of nature-based religion, and the hive is our church.

A CRAZY IDEA

The initial idea for keeping bees was sparked after a long day of swimming and sunning at the beach. We made our long drive back home to the city, staring out on the New England

landscape with the ocean behind us. We looked out on the rural horizon and saw a studded line of white boxes, recognizing them as local beehives.

We pondered the notion of taking up the agricultural hobby. Maybe later in life, something to do in our retirement. We imagined bottling honey for friends and family, perhaps even making a little money on the side. The idea seemed so beautiful and practical. Laughing out loud about the dream we would one day see realized, we began to ask: why not now?

THE VIRGINS

While studying photography, we met at the Massachusetts College of Art and Design. It was our love of the natural world and the documentation of its eccentricities and beauties

The idea seemed so beautiful and practical

that connected us. Professionally, our skills and interests have brought us into different arenas of work. Caitlin installs new art exhibitions as an art preparator in several museums around Boston, requiring a lot of problem solving and physical labor. Brian works primarily in business management, focusing on scheduling, accounting, and project direction. Beekeeping provided a chance for us to work together on a singular project and vision, something that would enrich our creative lives while bringing a new sense of purpose to our most favorite of seasons.





GETTING STARTED

The task of starting was as simple as a Google search. Caitlin found a local, adult education network that provided beekeeping classes not far from the city. Going into the fall, we eagerly awaited our first class, knowing that the end result would be the knowledge and bravery to begin our new endeavor.

The class itself was, in short, disappointing. Throughout each class, the instructor (a local beekeeper) explained the importance of note taking, reading, and documentation. While these valuable practices were thoroughly engrained, it became more and more apparent that the real education would come

in the field. Many of the lessons themselves centered around basic principles of biology, ecology, and anatomy, but the essential aspects of husbandry and caretaking seemed to be left more toward the unknown future.

Getting the bees in hand was an experience like nothing else. The drive down the I-93 from Reading to Belmont with a box of bees in Brian's lap was a blend of excitement, fear, anxiety, and regret. But it was all made worth it to see these Californian bees released into their new home in the lush fields of Rock Meadow.

Everything seemed to be going according to plan... the plan of two naive beekeepers

who had no idea of the hardships ahead of them. A simple misplacement of a small hive part led us into a season of frustration and confusion that began our real education in beehive management.

It was shortly after this initial installation that the hive exhibited strange and unpredictable behavior. No queen was seen, no eggs were laid, but the bees themselves were working hard to make their colony strong. Having a queenless hive set a huge barrier for us, requiring the infusion of another hive altogether!

After much debate, we decided to find a new local bee supplier that did extensive research on their hives and bred a Great Northern Survivor strain of honey bee, perfectly suited for our region.

Not only was the company, Best Bees, understanding and patient, they provided us with additional bees as well as some guidance on what we could do to try to save our first-born colony. By giving the bees some additional help, we were able to bring them back to life with a newborn queen! Though well into midsummer, we started off

essentially where we began, only now armed with two functioning hives.

By the end of July, it was clear that neither hive was independently capable of making it to the dreaded winter months. With a shortened and handicapped initial summer season, the bees' hard efforts seemed sadly in vain. Their numbers were small and their yields were light. We did all we could to make it to winter, hoping beyond hope that our little ladies had the strength and will to survive.

WHAT IT'S LIKE

While the initial season of beekeeping was fraught and complicated, we found much more to enjoy than just the prospect of honey. Each hive visit was greeted with complete and total joy. Being out in the beautiful Rock Meadow landscape under the high summer sun was always a welcome detour in our weekend.

Opening each hive provided the opportunity for us to explore our unique skillsets and interests. Caitlin never shied from getting her hands right in the fray of the bees, pulling out frame after

frame to inspect their progress. Brian, carefully positioned with his digital camera, would capture in high detail every aspect of the hive, giving us the chance to thoroughly review and diagnose the conditions we observed.

Working together, we frequently bounced ideas off each other, trying to determine not only what exactly we were seeing in terms of behavior and development, but also what the best course of action going forward might be. Our partnership proved to be key to what little success we managed to derive, ultimately relying on each other to be the best parents we could be to our difficult daughters.

Finding that our classroom education only modestly prepared us for the challenges that faced us, we turned out to the larger world for information on how to best take care of our hives. For every issue we came across, we devoted hours and hours of research to the cause of and solution to the problem. By the end of the season, we found ourselves more informed and educated about the biology and behavior of the honey bee than we ever anticipated. Learning time and again from mistakes

and misunderstandings, we went from complete amateurs to budding experts in the field.

While trying to become better apiarists, we learned about the agricultural impact of honey bees and pollinating insects that serve a vital function in the world at large. We gained a deep understanding of where food comes from, how it's grown, and how popular, commercial chemicals, practices, and processes can be detrimental to bee populations, which in turn comes full circle with our food production. Across the globe, commercial beekeepers are watching as their honey bee populations dwindle year after year, a symptom of the much-discussed ecological condition known as colony collapse.

Part of the challenge of research and discovery was the wide variety of opinions surrounding the practice of beekeeping. It seemed as if there were as many different ways to manage a hive as there were beekeepers willing to discuss it. Ultimately, a thorough synthesis of data from varying sources and experts led us to carve out a solution that best matched our conditions. Even then, we realized that fundamentally





everything was more up to the bees than it was to us.

LOOKING AHEAD

As of this writing, it's finally Spring, the beginning of our third season of beekeeping. An April cold snap came upon New England and resulted in the tragic death of our final hive from the previous season. We again purchased three new packages of honey bees from Best Bees, giving us new tenants to our well combed out hives and a fresh start to the season.

We finished our first year with barely more bees than when we started, a couple of bee stings between us, and the knowledge that came from

continuous trial and error. While our first colony seemed to be a sacrificial lamb on the altar of education, the lessons we gleaned were ones that provided more useful information than any time spent in a classroom.

We head into our third season with great confidence, knowing more than when we began, never forgetting that we still have a lot more to learn from these amazing little ladies.

For more information on beginning beekeeping, useful biology, and a glimpse into the world of modern, non-commercial beekeeping best practices, check out the following publications that proved helpful to us on our journey:

The Biology of the Honey Bee

by Mark L Winston

The Backyard Beekeeper

by Kim Flottum

The Bee: A Natural History

by Noah Wilson-Rich

All photos by Brian Fitzgibbons.

Broken down and bound

CALEB DEAN

It wasn't until we had broken down
on the side of the road
steaming and smoking
that we realized we had filled the tank with fear.

We had travelled so far
and the road had been smooth
yet there we were
exhausted.

I'll always remember the way you looked at me
covered in the soot of our mistakes
realization on your face
knowing what we had done.

We were halfway to nowhere
no one for miles
alone together
resolved.

We looked out at the landscape
through the haze and the heat
barren and broken
yet not fully.

A vulture circled high above a nearby ridge
floating and scanning the arid land
death scout
survivor.

You crouched down like you had broken
tears on your cheeks
a smile
was that hope?

I saw what you saw and I dropped to my knees
a tiny plant no larger than your palm
green and flowering
life.

You rose and walked further from the road
spinning slowly like a dance
floating and scanning
there were more.

You pointed to something in the distance
eyes closed and listening
babble and trickle
source.

We walked toward the water without a plan
a life lined path
no words
determined seekers of something.

The sky was dark now and the stars emerged
a light to the north
flicker and flame
fire.

I heard something loud and human
booming voices nearby
a familiar feeling crept in
unwelcome in my bones.

You saw what I felt and shook your head
grinning knowing the true source of what we had heard
like recognizing like
laughter.

You took my hand and we walked along the stream
toward laughter and light
hands extended
welcomed to community.

We slept by the fire surrounded
strangers and kin
nourished by necessity
safe.

It wasn't until we had broken down
on the side of the road
steaming and smoking
barren and broken
alone together
that we realized we had filled the tank with fear.

We woke and looked out at the landscape
colors once muted now vibrant
invisible life made visible
love.



LUCAS FOGLIA, *Esme Swimming*, Parkroyal on Pickering, Singapore 2014.

The Parkroyal on Pickering contains over 15,000 square meters of greenery, amounting to twice its land area. In Singapore, 100 percent of the population is urban. The Singapore Green Plan promotes conservation of the nation's natural resources and the use of green technology to conserve the environment. 'Wild' nature is being reincorporated into the city.

IN NO

DOUGLAS NORDFORS

time, I complete the process
of putting gas in my car, as, far

in the solar, wind-powered, electric
night, a man not just like me goes inside

to pay for charging. I miss me, and so
the legal tenderness between me and

the Shell station cashier is a shell
thrown by the same shore-powered wave, as

I pray far ahead to me upon one star
and the earth I haven't been to yet,

being not born, being born into
the earth I've poisoned almost beyond

repair. I don't miss me at all. Confused
beyond confusion, back outside now,

I wish we could cross over the sun's
trillions of edges, and start a new day.

TWO MONTHS AFTER THE PARTIAL CLEAR-CUTTING ACROSS THE ROAD FROM MY HOUSE

Our moods do not believe in each other,
according to Emerson, and I
believe him, not in yesterday's
remorse as I looked into
the mere distance, and saw
some winter fir trees.

What Emerson called
the law of eternal
procession I sacrifice
to a separate branch of myself
limited to today. To my joy,
some fir trees annexed their rings, did not die.



LINDSEY BOSS, *Roots*



CONTRIBUTORS

David Andersson is a self-taught artist based in Hudson, NY. He paints old friends and sews new friends. David's favorite artworks forge personal connections with viewers, so he tries to create objects that spark that feeling of kinship. Whether an intimate portrait of someone he knows very well, or a sewn creature that calls for inspection or a cuddle, David strives to make his art come to life.

Amy K. Bell is a writer and preschool teacher living in Oakland, California. She has published a poetry chapbook, *Book of Sibyl* (The Gorilla Press, 2013). Her fiction, poetry and critical essays have appeared in *The Margins*, *Cura*, *Midnight Breakfast*, *JERRY Magazine*, and elsewhere. She is a co-founder of Dropleaf Press, a small San Francisco-based poetry publisher.

Lindsey Boss is a collage artist based in Boston, using vintage imagery - often humans and nature - to create worlds of nostalgia and reflection. For more from Lindsey, visit lindseyboss.com.

Angela Burnett is the Climate Change Officer for the Ministry of Resource Management for the British Virgin Islands. Angela's professional focus has been to promote sustainable and progressive communities that are resilient to climate change. In the wake of Hurricane Irma, Angela authored *The Irma Diaries* to provide an avenue for the voices of small islanders who lived through this horrific event to be heard globally.

Sandy Coomer is an artist and poet. She is

the author of three poetry chapbooks, including *Rivers Within Us* (Unsolicited Press). Her art has been featured in local art shows and exhibits, and has been published in literary art journals such as *Lunch Ticket*, *Varnish*, *The Wire's Dream Magazine*, and *Inklette*, among others. She lives in Brentwood, TN.

Caleb Dean grew up on a hill in Western Massachusetts and an island in the Narragansett Bay. He studied environmental design at UMass Amherst and business at Bainbridge Graduate Institute. His writing has appeared in *Mr. Wolf Magazine*, *The Design Management Review*, and *Rotman Management Magazine*.

Robert Dow has been teaching at Commonwealth Honors College for 20 years. Publications include *Best American Poetry 1997*, *Quarterly West*, *Massachusetts Review*, *NY Times*, *The Quarterly*, *Boulevard* and *Best of 30 years of Boulevard*.

Caitlin Duennebier received her BFA in Photography from the Massachusetts College of Art and Design in 2009 and studied on scholarship at University of the Arts London. There she began OH PAPA, a platform for her illustrative work, featuring surreal narratives that focus on a cast of oddball characters. She is an avid beekeeper and mother to George the dog.

K. Eltinaé is a Sudanese poet of Nubian descent. His work has appeared in *The African American Review*, *Baphash Literary & Arts Quarterly*, *New Contrast*, and *Poetry Pages: A Collection of Voices from Around the World Volume IV*, among others. He is the editor of

"21" a Poetry Magazine. He currently resides in Granada, Spain.

Elmira Elvazova is a poet currently living in New York City. She holds an MFA in Poetry from the UMass MFA Program for Poets & Writers. Her work has appeared in *Route Nine*, *Big Lucks*, and *Big Big Wednesday*. Next year, she plans to start a PhD program in English and Creative Writing.

Brian Fitzgibbons graduated from the Massachusetts College of Art and Design and with a BFA in Photography. Brian enjoys spending time with family and friends, discovering beekeeping, drag, and costuming. Brian has a diverse professional background which includes graphic design and software development, and occasionally moonlights as a copywriter and freelance photographer.

Lucas Foglia lives in San Francisco. His photographs have been widely exhibited in the United States, Europe, and Asia. Nazraeli Press recently published his third book, *Human Nature*.

Vincent Frano is an interdisciplinary visual artist whose works examine an animistic world view and visual communication. Through his two-dimensional art, Vincent's work expresses the intersection of the spiritual and biological worlds through glyphs and symmetrical patterns. In this way, each piece communicates ideas of movement, energy, function, and relationship through simple and repeated shapes.

Ellen Grobman is an artist who has lived in the Pioneer Valley of Western Massachusetts for

35 years. She has a daily studio practice, has helped raise 6 sons and step-sons, and is a terminal political junkie. She also loves to travel, most recently and happily, to Sri Lanka and India.

Liz Hamm is a mostly visual artist from Massachusetts. She has a tattoo of a lemon rocketing through the black matter of space, because that is the type of extraterrestrial Liz is. Her work has been featured in a small number of realities. Follow Liz on Instagram @spacelemonart.

Jes Hughes is a letterpress printer currently living in Brooklyn, NY. She first learned printmaking at MassArt, and now owns her own business, Old Orchard Press, where she makes fine art, commercial work, and stationery. Jes's imagery is typically floral or rooted in nature in some way, and all of her work is printed with wood or metal type on an antique printing press.

Leah Kirts is a freelance writer based in Brooklyn. Leah's work has been published in *Jarry Mag*, *Saveur*, *Edible* and more. Her expertise is grounded in connections across food, ecofeminism, queerness and veganism. Connect with her @leahkirts or leahkirts@gmail.com

Sara Littlecrow-Russell is Chief of Staff for Student Life at UMass Amherst. She holds a J.D. and is a member of the Massachusetts Bar Association. Her work has been published dozens of journals and anthologies. She holds a bronze medal from the Independent Publishers Association,

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