

SPRING 2017

# SAGE

A PUBLICATION of the YALE SCHOOL of FORESTRY & ENVIRONMENTAL STUDIES

## JUSTICE OUT OF PLACE



Stepping into communities  
on the frontlines of environmental conflict

# SAGE

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Photograph by  
**CHEMA DOMENECH**

Glacier National Park.



# A PART OF THE MAIN

Realizing justice is about reaffirming love for place.

**W**HEN I NEED GUIDANCE on how to act as an environmentalist, I don't usually turn to the models and projections. I turn to stories. At Sage, we believe that the best stories show us a way into the world. That they are a tool for social engagement and communication across difference. In today's world where division seems part and parcel of even everyday conversation, we need storytellers to share their love for place more than ever.

Accounts of communities on the frontlines of environmental conflict are becoming more and more common. For these communities dealing with the devaluation and destruction of the places they love, story is often a last line of defense. For those of us who find ourselves on the outside looking in, we carry the responsibility to make sure those stories do not remain isolated but are a part of the main body of thought and consideration we carry with us every day. To celebrate their stories and the meaning that communities find in place is to support their struggle.

The contributors to this edition of Sage are using story as a way to act and inspire action in an unsettled time. Meredith Brown asks how we can step into an environmental crisis and come to awareness of our privilege as outsiders. Mikael Cejtin's narrative and Chema Domenech's photographs take us into the heart of the activist camp at Standing Rock. With Sarah Sax, we step into the fight over Palm Oil in Peru. Yanin Kramsky gives children in Los Angeles the tools to redesign meaning into their landscapes.

Other writers and artists question how we define value and our role to relate meaning in place. Autumn Von Plinsky's illustrations shed new light on Flint. Amber Collett describes beauty emerging from the most discounted places. Abby and Michael Snyder document how mountain traditions enrich lives in central Appalachia. Matthew Van Asselt drops the corporate world on the natural. Andrea Ibarra shows how fine the line is between a wasteland and a work of art.

Sage seeks to expand environmentalism through provocative conversation and the arts. These works ask us to step into the world from a perspective where it's not easy to turn away and to find connections that translate into our own lives. I hope you will share the stories you find between these pages. 🌱

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## Outlook

VOICES UNDERWATER:

# FLINT, STILL IN SEARCH OF SOLUTIONS

“We need more engineers thinking about the human dimension.”  
—Dr. Marc Edwards • By MEREDITH BROWN

**M**ORE THAN 300 men and women, hailing mostly from industry and state regulatory agencies await the keynote speaker at the Water Infrastructure Conference in Flint, Michigan. Governor Rick Snyder has not addressed the City of Flint for over a year. Outside, a small group of protestors picket at the entrance way to the conference center. And then there I am, a graduate student studying the Flint water crisis in the middle of it all.

In his opening remarks, Snyder enthusiastically refers to the conference as a “platform for changes and economic opportunity.” Flint Mayor Karen Weaver follows with a heartfelt welcome and a message of advice and hope: We must first recognize the problem and acknowledge that people made mistakes and then, and only then, can we together begin to work toward solutions. This conference, she emphasizes, is a step toward “economic equity.” Snyder did not hear these words. He had immediately left the building after his speech surrounded by body guards. Mayor Weaver stayed for

the remainder of the conference. Her message of hope lingered in the air.

I couldn’t help but wonder if the Flint community felt any hope. When I first arrived in Flint, as I entered the city limits, I saw a large white cardboard sign stuck in someone’s yard that read, “Flint, a place to make great.” I drove through what seemed like empty streets, where similar signs sat outside beautiful old houses with boarded up windows and chipping paint. It was a community that felt distant from the twinkling white lights of the “Flint, The Vehicle City” archway that welcomes you downtown and the fancy bars, restaurants, bookshops and cafes that fill its store fronts.

In the hotel that first night, I hesitated to brush my teeth with water from the faucet. Just that day, community members had told us their stories. They told us that they are still using bottled water in their homes. That they have lost teeth. That their children’s hair has fallen out. That they no longer trust the water nor the pipes that bring it into their homes.

I looked in the bathroom mirror and felt conflicted not only about the water but also about coming to this city. Only two nights in a hotel and I was second-guessing everything. The tap water.



The shower. The hotel pool. The water pitcher at breakfast. The reason why I had come here. Wasn't I here to create a space for dialogue and try to support the community? Despite the reassurances of state and local authorities and the encouragement of my classmates, everything seemed to make me nervous and uncertain.

I would only be here for three days. The people of Flint have been living with this reality for two and a half years. While I worried, they waited for new pipes. They waited for the state to show up and collaborate with them for solutions. They waited for recognition. They waited for safe water.

The voice of Nayyirah Shariff, the Director of Flint Rising, stood out above the others on the last day of the conference as one of the few members of the Flint community invited to join.

"There is still a lot of uncertainty," she said. "There is still a lot of trauma and pain that has to be dealt with. It has to be unpacked in an authentic way. I'm not sure if this

is the space but there needs to be a space for that to happen."

She asked the crowd, "How can this conference be a 'platform for changes,' when those who are affected by the crisis are not part of the conversation?"

Driving back to the airport, after co-leading our breakout group discussion, I passed through downtown under the Vehicle City archway and back down the empty streets. More than ever, I found myself searching for my place in all this. Should I continue to attend conferences like this where so many voices have been left unheard? Or should I take my place in line with the community protestors outside?

It became clear to me that I don't need to make a decision one way or the other. Today, my place was inside. Tomorrow, I may stand with the protestors. The deep complexity of fighting for environmental justice will always necessitate adaptability and strength. The people of Flint have shown us how to achieve both in the face of uncertainty. 🌱



**Rowhouses & Lots:** The view (clockwise from top left) from an inner block park to the adjacent street wall through vacant lots. What causes these spaces in the first place? And who participates in, and benefits from, outside intervention?

**Owned/Abandoned:** The drastic difference between an owned and a vacant property. Imagine what could be if more houses were revitalized and made into homes.

**Playground:** Leftover concrete sewer pipes were repurposed as playground equipment during the 1960's installation of inner block parks in West Baltimore.

**Failing House:** Rowhouses are meant to support each other. When one is demolished, it threatens the structural integrity of those around it. In this case, a neighboring house was demolished, the new external wall was left unreinforced, and a homeowner was left unsupported.

## RECLAIM HARLEM PARK

Baltimore residents cultivate community power in place. • By AMBER COLLETT

● **SAD. BROKEN. BEAUTIFUL.** Becoming. These are words used by residents of Baltimore's Harlem Park community to describe their neighborhood.

When homes are crumbling and 'playgrounds' are concrete sewer pipes painted to look like trains, you understand: This is planned obsolescence at the neighborhood scale.

In the wake of decades of objectification and

abandonment, residents are striving to create lives that are not diminished of opportunity. The box of flowers on the front step of an abandoned house. The unauthorized and thriving garden in a vacant lot. The meticulously cared for home surrounded by abandoned buildings. These actions of healing and reclamation call forth dignity despite overwhelming institutional obstacles.

As demolitions and renewal programs expand, we're confronted with a question: what conditions are necessary to expand an ethic of care beyond one's self? If dignity and wellbeing for all were the goal, we would talk not about what is technically wrong with a neighborhood, but about what can be done to subvert the systems of power and control. We would all be called

upon to cultivate love; those subversive acts of human kindness that become direct, substantiated, and revolutionary acts. The street art and gardens in Harlem Park are just such acts; they represent a calling for us to witness and to care. When allowed to flourish, these loving acts are what truly disrupt systems of corruption and create more resilient communities. 🌱





# THE MOUNTAIN TRADITIONS PROJECT

Through the lens of a camera, a sister/brother duo on the quest to highlight the natural beauty and cultural traditions of Central Appalachia. • By **ABBY SNYDER** and **MICHEAL O. SNYDER**



**M**OST CONCEPTIONS OF Appalachian are formed far from the hills and hollers that form its landscapes. Those who have never been there are often kept at arm's length from its folklore and traditions. Folklore and traditions that continue to create a culture in place and define a way of life that often goes unseen. The Mountain Traditions

Project follows area residents of West Virginia and Western Maryland who are keeping those mountain traditions alive.

More information on The Mountain Traditions Project can be found at [www.michaelosnyder.com](http://www.michaelosnyder.com). 🌿

## ◀ APPALACHIAN HOMESTEADING

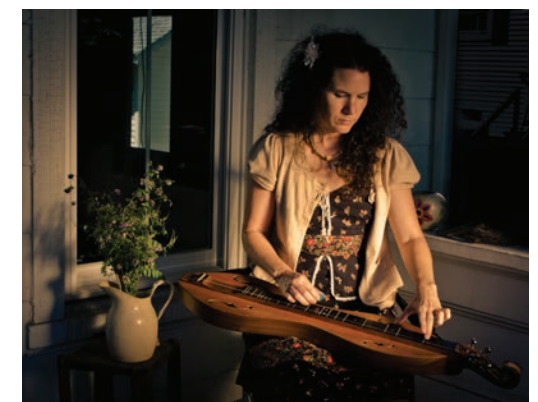
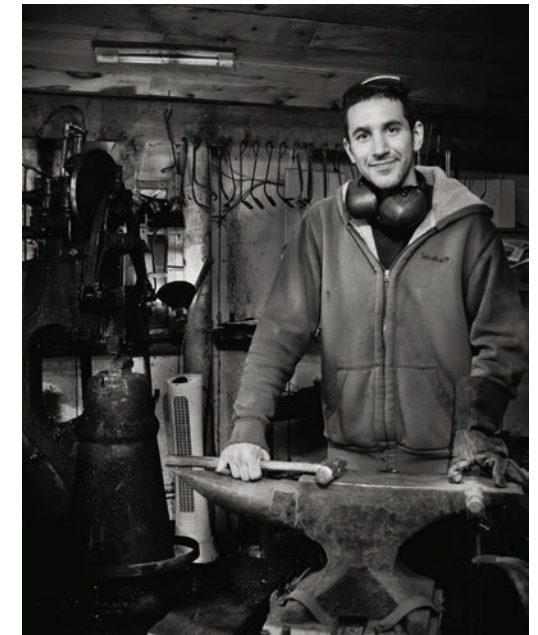
"Our goal is not just to provide food for ourselves and for our community, but to give back to the land that has given us so much by way of nourishment." Gabe, one of the three western Maryland homesteaders pictured above, is committed to a lifestyle of self-sufficiency and sustainability by carving out a home that is in closer connection to the land and Appalachian tradition. Together they grow a variety of organic crops, raise chickens, make homemade sassafras root beer, and are taking "one step closer to be truly alive and free."

## METAL WORKING ▶

"The tools out here are from the Appalachian area and are still doing the work that they were originally intended to do." Mike Edelman specializes in contemporary blacksmithing, a creative spin on a longstanding Appalachian tradition. Mike works to make an old tradition new again by sourcing local materials to create unique, high quality metalwork by hand.

## MOUNTAIN DULCIMER ▶

"I always remember there being music and that was the way of passing stories down. I want to do all I can to preserve it and pass it along." Amy Lough Fabbri is pictured playing the mountain dulcimer, a folk instrument born out of Appalachian and traditionally played on the lap while plucking the strings with the right hand and fretting with the left.





# THE CENTER OF THE WORLD

*The protests against the DAKOTA ACCESS PIPELINE brought the attention of the world crashing down on the banks of the Missouri River. If justice must exist in place, what does it look like?*

By MIKAEL RUSSELL CEJTIN

Photographs by CHEMA DOMENECH



The youth of Sacred Stone actively participate in council meetings and often stand on the frontlines as the first line of peaceful defense against the militarized forces of DAPL.



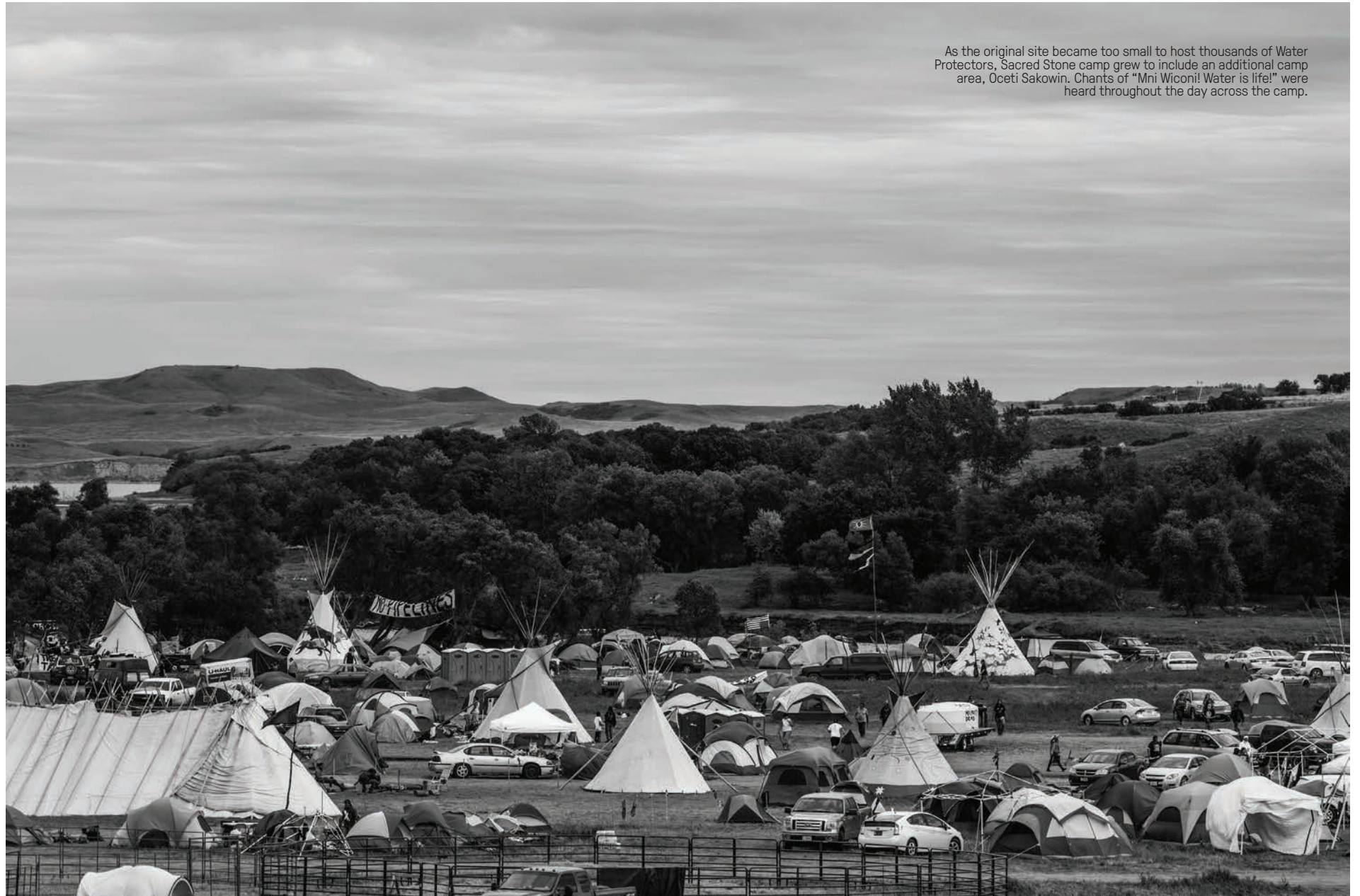
# THE SUN WAS DOWN BEHIND THE HILLS

when we got to Standing Rock. We had hoped to pitch our tents before dark, but the sky was losing color fast.

“We should be here” I said, peering down at the map, then back out the windows of our rental van. “We didn’t pass it, did we?” I was talking to myself as much as to my three road-tripping companions.

“I don’t think so. Guys, look!”

Ahead of us the road curved sharply around a prominent, symmetrically-sided hill. At the very top of the hill, a solitary Native rider stood perfectly silhouetted against the fading sunset. The sight was so surreally iconic I momentarily convinced myself it was fake, a statue or something. But then the rider wheeled his horse and was gone down the other side, vanishing like some mystical apparition. We rounded the slope below the now riderless summit and suddenly there was the camp, a disorderly slew of flags tents tipis and yurts sprawled out across the flood plain, Lake Oahe visible in the distance and tan hills dotting the horizon. Big floodlights strung along the hilltops marked the progress of the Dakota Access Pipeline. It was almost at the water.



As the original site became too small to host thousands of Water Protectors, Sacred Stone camp grew to include an additional camp area, Oceti Sakowin. Chants of “Mni Wiconi! Water is life!” were heard throughout the day across the camp.

“Well, I guess we’re here.”

Going to Standing Rock was a half-baked proposition I made to my partner Ash over dinner one night late in October. We were already going to Chicago to visit my family. North Dakota wasn’t far from Chicago, and besides, what did we honestly have better to do? We hadn’t started work yet, so nothing was stopping us except our own hesitation. We were accustomed to challenging the system and its injustice in the way of the educated middle class, which in our case meant respective careers in women’s health and the environment and bringing reusable bags to the grocery store. But a Wall St. backed oil company and para-military police

force yet again spitting on the basic human rights and dignity of the original, Native Americans went against everything we stood for. If we didn’t go do something, who the hell else would?

Things snowballed quickly once we made the decision. My buddy Sto in Chicago was already going with his class but would ride with us. Ash was in touch with other midwives and herbalists working at the medic tent who gave us a list of supplies to deliver. From the thousand bucks we crowdfunded, we used a little for the medic supplies and planned to get the rest to tribal leaders by hand-delivering a check. We also went around to local department stores asking if they’d donate gift cards to Standing

Rock. At the last minute my cousin Paolo hopped on for the ride. He had just graduated college—restless, bored and pissed off about where things were headed. That made four of us.

Trump won the election three days before we planned to leave. Bitter, demoralized, and reeling from the blow, going to Standing Rock felt that much more necessary and significant. It was the first act of resistance, an alternative to bemoaning America’s stupidity on social media, a real and positive action to counter all the negative feelings threatening to take hold. A pilgrimage, of sorts. With what felt like the whole world crumbling around us, Standing Rock was where we would ral-



ly and hold, “the moral center of the universe,” Bill McKibben had rightly said.

My first impression of Oceti Sakowan camp was a flowing scene of colorful, earthy people and material pulsing with a kind of free-form, decidedly non-commercial energy. It was a good vibe. There was a rare feeling of possibility, of loose electrons in the air. We set up camp in the dark by the river, a bit bewildered by the total lack of direction from anyone, then walked across the bridge to the main camp, to the big fire where everybody else seemed to be going. After hot tea, live music, and dancing in big happy circles of warm, friendly faces, we went back the way we’d come to our tents. It was cold and clear and still on our side of the river, but across the way the camp was still wide awake celebrating. Smoke rose from the campfires and tipis while dogs barked and starlight shimmered on the obsidian surface of the water. The beating drums and singing went deep into the night, and my last thoughts before drifting off to sleep were that we had arrived somewhere very different and very special.

**From left:** As the original site became too small to host thousands of Water Protectors, Sacred Stone camp grew to include an additional camp area, Oceti Sakowin. Chants of “Mni Wiconi! Water is life!” were heard throughout the day across the camp; North Dakota stands at the crossroads of resource extraction and life sustaining water.

## PART II

# WE AWOKE EARLY THE NEXT MORNING

and experienced the renewed excitement of seeing everything dreamlike from last night now fresh and sharp in the light of day. The sky was bright, blue and crisp enough to see our breath. Still wide eyed taking it all in, we fell into line with the other bundled bodies shuffling their way towards breakfast. We passed morning campfires coming to life, nodding hello and good morning to the puffy-eyed faces emerging from trailers and tents until we reached the camp

kitchen- an old green canvas army tent with long tables of food, shelves of kitchen utensils, and a couple oldschool green colemans burning away.

After eating we did dishes, initially looking for guidance from someone in charge but quickly realizing the organic, non-order of operations. It was simple- help out where you see help is needed. Camp kitchens ran not on orders handed down from the top, but on the diffuse efforts of individuals taking their own responsibility and initiative. We soon came to learn this was one of the camp’s main organizing principles. Everyone was their own master, implicitly expected to find their own ways to help out by diving into both specific tasks suited to them as well as common chores like dishwashing. Such a free form system meant some folks naturally worked harder than others, but its hard to stay a freeloader for long when you notice everyone working around you, and that they notice you. In this way the camps managed to do something most communities can’t or won’t, keeping the thousands of inhabitants warm and well fed despite many arriving totally unprepared to do so themselves.

Entering the main camp after breakfast we came upon a flurry of excitement and activity at the gate, where idling cars and clusters of people were forming up. A few Native guys were standing there giving in-

structions. “Alright, everyone who wants to be in the action find a car.” We asked people next to us what was happening. They said there was going to be a prayer walk and ceremony at one of the pipeline construction sites in Mandan. The police were expected to be there in force. Anyone who went was risking arrest. Just as we started to feel caught in the hubbub and wondering what we should do, an elder in a long, beaded blue shirt motioned us over. He asked if we wanted to join the action and we told him we’d arrived only yesterday and were thinking we should go to orientation first. People the night before had said it was important. We didn’t tell him about the promises we’d made to each other and to our families to not get hurt or arrested. The man pointed us towards a huge geodesic dome not far from the center of the camp, where we’d danced the night before around the sacred fire that was always kept burning. A little reluctantly, we headed that way, the opposite direction from the crowd mobilizing for the day’s action.

We got to the geodesic entrance, a big horse trailer, generator and cistern in front, and made our way inside. The space inside was huge, big enough to fit at least a hundred people and filled with almost as many, some standing against the dome’s PVC frame but most seated on the ground and filling in towards the center. We were some of the last to arrive, planting ourselves cross legged near the center just as opening prayer began.

“Hello everyone, we’re going to start now.” The room quickly quieted as everyone’s attention turned to the speaker, a tall, lean man with a salt and pepper ponytail and gravelly voice. “Welcome to the Oceti Sakowan prayer camp. How many of you just got here yesterday?” Two dozen or so hands went up and there were a few murmurs. “And what about the last three days?” Most of the hands in the room went up, followed by more murmuring. “Wow, its great to have so many newcomers and welcome again to all of you. With so many new folks coming in every day, it’s important we all get together to understand a few things about what’s going on here. This is a prayer camp. What does that mean? It means that each and every one of us are here in prayer. That’s the mentality we want to cultivate. Everything you do should be done in prayer. That means for everything you do you should remember... ‘We’re here to...., We thank the earth and the water for...’”

Prayer ended and we walked straight from the dome to a neighboring (by now ubiquitous) green canvas army tent for orientation. Filled again with everyone standing, even people outside listening through doors and windows. A short-haired, androgynous woman named Daren talked about why we’re here and importance of leaving preconceptions at the door. From whatever reasons we came, we were here now for prayerful ceremony and defeating the black snake through nonviolent





direct action. We needed to be conscious of indigenous-centered space and its difference from white-centered space. Conscious of what we say and do and how to address and act towards others, especially elders. We needed to respect the always ongoing ceremonies around tipis and campfires. Already someone unknowingly tried to throw someone's ashes onto a sacred fire. No pictures at all unless registered at media tent, out of respect but also to avoid creating evidence which could be used in court. This was not the place for Instagram.

"Another thing," Daren continued, "in groups we want to hear first from people of color and women. It's not that we don't care what you think white men, it's just that for a long time your voices have been the only ones speaking."

I felt a momentary rise of indignation, before the recognition took hold. I turned to Sto, who shrugged, then leaned over and whispered "We just gotta eat it dude." Dude was exactly right.

Daren talked about the treaties of Ft. Laramie, in



**Above:** Members of visiting Native Nations danced around the campfire after sharing gifts with the Standing Rock elders. In the same ceremony a young man received his Indian name, Never Turns Back, after enduring the vicious attacks of DAPL security dogs. **Opposite:** Sacred Stone Camp transcends generations. Grandmama Emma Waters, as I came to know her, actively participated in protests along the side the youth.

which the Sioux were given rights over a swath of territory covering much of the Dakotas, Nebraska, Montana, Wyoming and Colorado. The treaty was never honored. Settlers and miners came searching for land and gold. In their wake sprouted towns and army forts to protect settlers from "hostiles." The U.S. government's treaties had expressly forbid settlement on native land, guaranteeing strong enforcement that was never meaningfully attempted. Instead the government tried to renegotiate to take more tribal land. The tribes who refused were hunted down and starved into surrender, the survivors confined to reservations where they were stripped

of the right to a traditional life. In 1980, the US Supreme Court ruled the federal government's land grab illegal and awarded the tribes \$15.5 million for the land's 1877 market value plus 103 years of interest at 5% for \$105 million more. The Sioux never accepted payment. They want their land back.

"And now," Daren went on, "we have a private energy corporation knowingly breaking federal law on federal land, using state police and private security forces to arrest the indigenous people for trespassing on ancestral land still guaranteed to them by federal treaty. I want you all to stop and think about that for a minute" She took a deep breath, sighed, and turned away, tearing up. She looked back and shook her head, smiling sadly. "It gets me every time."

The meeting ended and we walked out into the sun. Everyone seemed sobered and contemplative from the weight of what had been said. We split up, Ash going to the medical tent to see if she could put her skills to use. Sto, Paolo and I walked through camp, rehashing orientation, trying to unpack it. We walked by the woodpile, where guys were swinging axes and tossing more pieces of firewood into an already huge pile. Despite its size we already knew firewood was one of the camp's main shortages. The local area had been picked clean and it was the only way for most folks to keep warm at night. We made it over to Red Warrior Camp, where people were painting and making signs. Lunch was also being served up to any and all who wanted.

We looked up to the ridge overlooking camp from just across the main road, a high point with fluttering flags and a few small clusters of people along the fence line. We made our way through the dry tall grass and took a long look once we got to the ridgetop. It was an impressive vantage point- views of Lake Oahe, the surrounding hills and the Dakota Access Pipeline construction site. We followed the fence line to a small rise where a knot of people were cautiously peeking out at something. We walked over to see what they were looking at. The rise dropped steeply to the road below where a few hundred yards away, a dozen black, tan and green military style armored vehicles stood behind mobile barbed wire units. This was the police blockade blocking access to the Backwater Bridge. Nobody was actually visible, but presumably there were people in the vehicles. It felt like we were scouts observing the enemy's position. For a moment I wondered whether they might decide to lob a teargas canister our way. Closer to the camp from the armored vehicles was the charred steel carcasses of a burned out truck and an electronic highway sign.

Tired, our legs aching from being on our feet all day, we headed back to Rosebud for dinner- fry bread, the Native American staple, and venison-bison stew with wild rice and vegetables. I dipped the ladle into the liquid and out came a big meaty bone with mar-





row in the middle. Ash didn't think she deserved it but I told her it was hers, her lucky day. It made me remember what my friends in Mongolia had said about the marrow, how rich and nourishing it is, how they make it into a broth for children and for the sick. I also thought about the wolves I'd tracked in Wyoming. It was rare to find a bone at their kills with the marrow left inside. We walked over to a little dining tent with a few tables, though most were just sitting on the floor. When we came in some people were almost finished and insisted we share their table. They were a young, pierced and tattooed native couple from the reservation, wearing almost all black and with two small children. They watched their children eat, smiling faintly and talking to each other quietly in English. While we were eating a native elder came up to Ash and said there was going to be a woman's sweat ceremony in a little bit if she wanted to join, so long as she wasn't on her moon. Of course she did. She left me a little jealous, and the remaining three of us headed off to the youth council and candle ceremony we'd heard announced earlier that morning, which now felt ages ago.

The youth ceremony was in the far corner of the camp in a flat grassy open space encircled by seven tipis representing the seven tribes of the Great Sioux Nation. When we got there there were already at least a hundred people gathered around the flickering fire, waiting for the meeting to begin. Many of them were holding little lighted candles that set their faces aglow. As we waited, a white, bearded, twenty-something year old wearing a keepah over his long blonde hair came up behind us and asked in a whisper whether we wanted candles for the ceremony. We thanked him and each took a candle, then asked him if there was a strong Jewish contingent here. He told us a number of rabbis had come, some with their congregations. Two young guys were hovering at the edge of our conversation, and the bolder one jumped in and asked the man if that hat he was wearing was a yamakkah, and if that meant he was Jewish. Yes, he answered to both questions. The other, younger guy asked if he had pronounced it right, "yamakkah". He had. He said they hoped they weren't being rude with their questions. The bearded Jewish man smiled and told them no, it was perfectly alright to ask. It was a funny, good-hearted exchange. It was also revealing. The Jewish man's demeanor was calm and humoring. He seemed like a good teacher who understood the unique opportunities for insight and intersectionality the camp created. The two young questioners- suburban give-aways from their nice clothes and innocent sincerity- seemed genuinely interested and excited to be meeting a Jewish person. They probably never had.

The youth council started the ceremony with a prayer followed by drumming and song- a high pitched, trance-like chant, beautiful and haunting.



RAISING AWARENESS

## STANDING AGAINST THE DAKOTA ACCESS PIPELINE

Sacred Stone Camp in North Dakota has been at the center of an expanding awareness of environmental and social justice. Members of the Standing Rock Lakota Nation and ally Lakota, Nakota, and Dakota

citizens established the camp to serve as the temporary home of the Water Protectors as they peacefully fight the Dakota Access Pipeline (DAPL). The coalition of Water Protectors has quickly grown to include members of more than 150 native tribes and thousands of people from around the globe. The pipeline has already desecrated the ancient burial grounds of the Lakota nation and now threatens the water supply of the Standing Rock Sioux and millions down river in the Missouri watershed. While the future of the pipeline seems bleak, the Water Protectors have succeeded in reminding us of our sacred responsibility to protect Mother Earth and each other.

**Above:** Millions of bison that once roamed the Great Plains are replaced by barrels of oil flowing to feed America.

Afterward they introduced themselves, two boys and two girls. The main youth leader, drum in hand, spoke about who he was and where he came from. He spoke about the elders, his grandfathers and grandmothers, thanking them for teaching him about the old ways. He spoke about being two-spirited- the Native American term for LGBTQ, individuals recognized and respected in Native American societies for being specially endowed with unique power stemming from having both masculine and feminine energies. The man said how in his community he had always felt accepted and honored for who he was, and that it was the same for all the other two-spirited people he knew. "We say to all our two-spirit brothers and sisters out there, all the individuals that identify as LGBTQ, even though in your community you may feel lonely, isolated, or outcast, here in Oceti Sakowan camp you are our welcome and honored guest. Here we accept you and respect you for who you are."

The youth leader went on to talk about why we were gathered that night. "Last week, water protectors were having a prayer ceremony at the Backwater Bridge, below a sacred hill where our ancestors are buried. We were there to pray to our ancestors, to ask forgiveness for the police who were disrespecting them with their militarized presence. When we tried to cross the river the police attacked us with tear gas and rubber bullets at point blank range. They treated us like we were not human. Many of the water protectors who were attacked and hurt that day are here with us now. Tonight we go back to pray to our ancestors, to ask them to forgive the police for their actions, and to forgive us for any harm we have done or any disrespect we have

shown to our sacred places. We go back to cleanse the site, and to cleanse ourselves of the violence and ugliness that took place there. We don't know, but it's possible the police will be there again. If so, remember brothers and sisters, to be strong, to not lose heart and to take courage from those around you. Mni Wiconi!" "Mni Wiconi" the crowd yelled back, then started moving out.

Sto and Paolo and I looked at each other quizzically. No one had said anything about this being an action, but we were already moving with the crowd in the direction of the Backwater Bridge, candles in hand. I felt a small surge of nervous excitement. Quietly, I hoped it didn't turn into a repeat of the week before. I had seen the images of the police brutalizing the water protectors at prayer. As we passed the fire I knelt, using my hand to wash smoke over myself as I saw others doing, for protection.

We walked in a long column down a rutted dirt road through the dark, the moon lighting our way. Riders occasionally raced back and forth along the flanks of the column, whooping as they went and sending waves of energy through the crowd, triggering cheers, shouts, more whoops and cries of, "Mni Wiconi!" Then all would be silent again except for the sound of marching feet. Headlights shone from trucks driving along the dirt roads crisscrossing the floodplain, and from parked cars in the fields ahead. I wasn't sure who's vehicles they were, ours or the police. After marching for what seemed a long time and a slow release of adrenaline, we reached the backwater- a muddy bank beside a muddy creek overshadowed by a steep dark hill and the full moon above.

A huge bonfire was going when we got there, and



everyone gathered around it. No police. No teargas. No battle after all. People chatted pleasantly. Sleeping babies were slung tight on a few parent's chests, others awake sitting on shoulders. Older kids holding their parent's hands. I was surprised by how many kids and older folks were there. It made me even more relieved the police weren't.

A group of warriors- young men on horseback, most of them Crow- also stood in the crowd, youthful male pride and confidence showing in their faces and swagger. The Crow had apparently brought many horses, and their riding abilities were legendary. The young warriors whooped loudly and called out jokes, enjoying the presumably rare opportunity of being the center of attention and entertainment for a big crowd of mostly white folks, a group they seemed to regard rather legitimately with some haughtiness. At one point the cockiest among the Crow riders, wearing a headlight and with a girl seated behind him holding tight around his waist, lost control of his horse, which got spooked by the crowd or the fire and nearly knocked the closest in the crowd with its flying hooves. There was panic in the warning voice of the girl riding behind him, but the rider regained control and no one was hurt. Soon after some of the native youth in charge of the show started to sing and drum, forming people into a circle that began to slowly move clockwise around the fire, neighbors holding hands and stepping along to the beat of the drum. "No DAPL girl," the singer playfully sang, "she was so beautiful, that no DAPL girl." We smiled. It was one of the same songs we'd heard at the sacred fire the night we first arrived.

Before we left we walked to the edge of the backwater's muddy bank, rendered a sloppy mess by many tromping feet. This was the exact scene of the other day's violence. In Facebook videos, I'd watched the police spraying pepper spray directly into the faces of water protectors and elders who were standing in the water or kneeling on shore, hands held and arms linked for strength, continuing to pray, telling the police it was for them they were praying. Now, tonight, people stood on the same shore below, individually and in small groups, some staring somberly into the water or up at the moon, others with eyes shut tight, as if trying to squeeze out the images and scenes playing behind them. People prayed aloud and in whispers, crying, hugging, and holding each other. I looked into the moonlit muddy waters and meditated on why this was happening. I wondered how, in this day and age, it could possibly be allowed to happen. I thought about the incredible darkness of it all, and I remembered Daren's words from earlier. I remembered that this and so much worse had already happened, for the same awful reasons, so many times before. After a long sigh, I turned to look for my comrades and saw Sto close by on the bank. He was standing

alone too, looking into the backwater and up at the moon, brushing tears from his face.

As we walked back to our tents that night, the North Dakota sky was pitch dark but for an eerie, unnatural white glow over the not-so-distant hills on the horizon. That ominous light was the DAPL drill pad, lit by massive floodlights that burned through the night, waiting to gouge through the soil underneath the Missouri river and right above the life-giving Ogallala aquifer- water source for America's breadbasket- to pump the black, oozing, compressed carbon energy of long-dead plants and animals from their ancient resting places in the ground through thousands of miles of steel pipe all the way to my home state of Illinois, then on down the Mississippi to refineries and then to somewhere, or many wheres in the world, to be burned, to keep the wheels and factories and turbines going, to keep the engines of industry and the mouths of millions fed, with oil and gas and grain and soy grown in vast, uniform fields by more gas guzzling machines, all as the one great big mess of a machine runs reckless headlong and blind into the fast-approaching future. My eyes open and I am awake in my tent. It is dawn on our last day at Standing Rock, November 14, 2017, my 28th birthday. I slip a shirt on and unzip the tent door to greet the day, only to find everything obscured behind deep, impenetrable fog. I can hear the morning prayers coming from Oceti Sakowan camp across the river- slow-spoken, healing words that fill and calm my soul. I savor the moment and the feeling, knowing I will miss waking up this way.

### PART III

## IT IS STILL DARK OUT

as Ash and I break camp, the ground under our boots crunching from last night's frost. We greet the guard at the gate and quickly cross the bridge over the Cannonball, the rising sun peeking through the trees and hills now starting to burn up the fog, painting fire across the sky and the still mirror of the water. Tipi poles and sun rays break through the dissipating vapor as the camp comes into view, a smoky haze still hanging over it. Whatever else it is or is not, the Oceti-Sakowan camp is awfully beautiful.

We hustle through the camp, past the dome up towards the sacred fire, to catch the end of prayer. We get there just in time, as an elder invites up any males who want to participate in the men's pipe ceremony. Of course I do. There are fifteen or so of us in the circle-



the lead elder wearing a ceremonial shirt of red, yellow and blue, an old native Army vet wearing his uniform, one very old native man, and several younger ones. Inevitably, there are also some white dudes like me- mostly bearded, long-haired, and of the "hippy" variety but a few with nice, suspiciously clean-looking boots and coats. They look like they've been here even shorter than me. There is also the one-armed Vietnam vet from the action meeting, a Jewish-American Palestinian-rights activist, a Tibetan monk in saffron robes, and a black guy with dreads. Quite the crew.

The elder lays out his materials beside the sacred fire and offers some tobacco, praying in the four directions of the wind. He takes his time preparing the channupa for smoking, telling us how important it is to go slow, to treat the process with respect. Everyone does it a little differently, he tells us, but this is how he was taught. The little differences are not that important. Once the pipe is packed and ready to smoke, the elder has the army vet to his left light it. The first two matches break. The elder smiles and chuckles a bit. The pipe lights on the third match, but accidentally gets passed counter-clockwise- the wrong way. The elder says "man, we're off to a rough start" and laughs along with the rest of us. He tells the native youth who passed the wrong way that it's okay, we're all still learning. Plus, he says, we should never take anything too seriously.

Now the elder carries the pipe clockwise around the circle, handing it from one man to the next. When it is my turn I take two puffs and hold the smoke in my mouth like the others, not letting it down into my lungs. I let the smoke out slow, using my hand to wash it over my head. I bring the chan-

Joy Anna delivered an impassioned speech about the history of international treaties. Natives argue that the pipeline's path cuts through Standing Rock Sioux territory and violates the 1868 Treaty of Fort Larime, which established the boundaries of Indian land in the western plains.

nupah across my heart, from one shoulder to the next as we were instructed, before carefully returning it to the hands of the watching elder, who nods approvingly before walking on.

As we smoke, the fog remains thick around us, still slow to clear but beginning to break up in the sun. Suddenly a police spotter plane roars through the fog, buzzing between a gap in the clouds just a few hundred feet over our heads, close enough to see the plane's details and feel like we're being strafed. Some in the circle shake their heads, or comment on the pilot's disrespect. "Don't be angry at them," says the elder says, "pity them. For they have no soul." His forceful words are more sad than bitter. "All they understand is money. They have lost their connection to what's real, and forgotten who they are. They know something is missing but not what. Someday they'll realize."

**DAYS BEFORE I FINISHED** these words, the last holdouts at Standing Rock are evicted, by armored vehicles and soldiers in fatigues advancing through the mud, holding assault rifles and slashing open tipis as others burn nearby, set alight by water protectors who destroyed them rather than let them be ransacked by soldiers and police. Doug Burgum, the Governor of North Dakota, disregarded pleas to allow more time for an orderly evacuation of the camps noting the the garbage left behind. It could cause pollution that would threaten the health of the Missouri River, he said. 🌳



The North Dakota Veterans Cemetery, just 30 miles north of Standing Rock and on the banks of the Missouri River is on equally sacred ground but afforded different protections by the U.S. government.







SEGUIMOS

LUCHANDO

WE WILL CONTINUE

OUR FIGHT

DEEP IN THE HEART OF THE PERUVIAN AMAZON THE ENCROACHMENT OF INTERNATIONALLY-OWNED PALM OIL PLANTATIONS ON ANCESTRAL SHIBIPO LANDS INSPIRES A VILLAGE'S RESISTANCE.

BY SARAH SAX



*“What are the roots that clutch, what branches grow  
Out of this stony rubbish? Son of man,  
You cannot say, or guess, for you know only  
A heap of broken images, where the sun beats,  
And the dead tree gives no shelter, the cricket no relief,  
And the dry stone no sound of water.”*

—T.S. ELIOT FROM “THE WASTE LAND”

## SEGUIMOS LUCHANDO

# M

MANUEL'S HANDS ARE SOFT AND WRINKLED with age, yet still strong. These are hands that can still wield a machete for hours on end, haul up fishing lines heavy with fish without snapping their tautness, and hold grandchildren high enough to pick giant yellow grapefruit from the many trees that speckle his village, Santa Clara de Uchunya.

This indigenous Shipibo village lies on the languid banks of the Aguaytia River, a three-hour car ride along dusty unpaved roads from the industrial port city of Pucallpa, on the edge of the central Peruvian Amazon. A contrast to the loud, polluted regional capital, this calm village feels like a different world.

As we look out over at the village's main road, a grassy patch of green where children play soccer in the afternoon heat, Manuel turns to me and almost apologetically begins his story.

“The Shipibo are not warriors, like the Wampi or the Arawak. We are a peaceful people, just look at our history! We do art, weaving, and medicine. We don't like to fight, we never have. We did not choose this fight; all we want to do is live in peace. But where will we live if they take away our forest? Donde vamos a vivir?”

Manuel's hands patiently coax the knots out of his fishing line as he speaks, seated on a hammock in his kitchen. His house, like many Shipibo houses, is a modern adaptation of a stilted living platform – a large wooden structure with a thick roof of woven palm fronds. At night, his family unrolls their sleeping mats and mosquito nets onto the platform. During the day, they tuck their belongings into the roof and the platform is transformed into a living area.

In Santa Clara de Uchunya, walls and doors are more decorative than functional. For the Shipibo, stealing is the greatest sin. To be a good person is to be generous and share any wealth you amass. Western concepts of private property, and cultural tendencies like hoarding and greed, are alien. This is likely part of why the encroachment of the foreign-owned oil palm plantation Plantaciones de Pucallpa onto ancestral Shipibo territory was so difficult for many in the village to comprehend.



ABOVE: MANUEL (RIGHT) AND HIS BROTHER.  
BELOW: SANTA CLARA DE UCHUNYA'S MAIN STREET.



THE CONFLICT STARTED in August 2010 when a US-financed oil palm corporation, run by Dennis Melka under the name United Oils Ltd, started buying up small landholdings in and around the ancestral territory of Santa Clara de Uchunya. Peruvian Law has long dictated that farmers who clear and work ‘unoccupied’ land for 10 years in a peaceful, productive, and transparent manner, gain land title over the area they cultivate. However, defining what land is ‘unoccupied’ is difficult in a country where private property is favored over communal, where indigenous land-titling is not financed by the government and has not been granted for over 15 years, and where ancestral territory has no proper legal definition.

In total the plantation purchased 232 properties between

2010 and 2015, although it has since been revealed that many of these documents were falsified by the regional Department of Agriculture. In 2015, analysis of LANDSAT data by the international conservation agency Amazonian Conservation showed that 90% of the land deforested between 1990 and 2015 had been primary rainforest. Much of that land was also ancestral Shipibo territory, which served an important role in fishing, hunting, construction, swidden agriculture, and the collection of medicine.

I visit the plantation later that week. A thin barbed wire fence and a sign reading “Private property – do not enter” separate the forest from the plantation. As I step out of the forest into the oppressive noontime heat Manuel's son, Vicente, points to a spot beyond the plantation where his



## SEGUIMOS LUCHANDO

chacra - swidden farm - used to be.

"I had plantain, cocoa, chonta growing there before the plantation cut off my access. Maybe they just cut it all down, who knows? The government just gave our land away, without consulting us, and now look at our home."

I follow Vicente's hand. The plantation stretches out in front of me, small palm tree heads cropping out of the ground every nine meters. As a crop, palm oil is emblematic of the agricultural-industrial complex. Wherever palm oil is grown, it leaves neat lines and rows upon a chaotic backdrop of green - the insidious footprint of capitalism on the rainforest. As a commodity, palm oil invisibly permeates most of our lives in the West. More often than we realize, it is present in the fuel that powers our cars, the pastries and condiments we consume, the cosmetics we apply, and the feed that fuels our meat industry. Our movements, bodies, and desires are fueled by the rampant destruction of the rainforest.

We leave the plantation for the shelter of the forest and start our two-hour trek back to Santa Clara de Uchunya. Under the canopy the rainforest is everywhere - birds calling from the branches, monkeys chattering, insects swarming. Ancient trees burst from the canopy, clusters of camu camu palm rise out of marshy swamps, lianas droop off the chaos of branches. The forest is, as many in the community tell me, a backdrop, a main stage, a path, a market, a backyard, an inspiration and a source of spiritual sustenance all at once. This immense forest sustains the thousands of human communities that live among its abundance, not to mention the millions more that benefit less directly from its services.

Back in the village, Manuel takes me to a nearby house where his neighbor is hosting a Minga - a work party. Land in Santa Clara de Uchunya is communally owned and distributed according to each family's needs. Families regularly host mingas when clearing and planting needs to be done, such as now for the planting of yucca tubers.

Under the shade of the hut the women are busy serving food and masato - a fermented drink made from chewed yucca - to the men who have returned. The men, who have already worked eight hours, are tired but jovial. They talk of the snake they scared while clearing land, and their predictions of the rainfall that everyone has been waiting for. Chickens run underfoot and children rock in the many surrounding hammocks. It is an idyllic scene, a brief moment of peace for the families of Santa Clara de Uchunya.

In between sips of masato, Katya recalls when she first became aware of the plantation. She remembers how, night and day, she and her neighbors heard chainsaws in the distance and saw swarms of birds rising from beyond their chacras. The men, she says, brought back fantastic stories of bulldozers plowing the forests, of animals found dead underfoot, of creeks that stopped flowing. In some ways, watching the sudden and grotesque destruction of their land, left community members temporarily paralyzed.



VILLAGE PROTEST FROM 2012.

**A**FTER VILLAGERS GOT over their initial shock at the plantation's rapid encroachment onto their territory, they mobilized. Together with the local Environmental Prosecutors office, the Shipibo confronted workers in bulldozers who were clearing the forest. They were chased off with chainsaws, machetes and shotguns. What started as a series of small confrontations grew as the village banded together with outsiders - the regional indigenous federation FECONAU, and international environmental NGO's - to lobby the national government and Roundtable for Sustainable Palm Oil (RSPO) to stop the encroachment.

It took the villagers of Santa Clara de Uchunya more than two years to get a response.

"We kept watching as they cleared the forest. From 2010 until 2013 they cleared huge amounts. The land became a desert; the burnt carcasses are all that remains of the forest. Then they started planting. Thousands of oil palms."

Carlos, one of three young men who received media training from a local NGO to document the ongoing conflict, tells me this as we head out to fish one morning. It's early, and the river is shrouded in heavy mist. The forest is still. It seems from here like the forest is sleeping. As if not to wake it up, we keep our voices low, almost to a whisper.

From Carlos' perspective, the brunt of the conflict occurred between the end of 2015 and the summer of 2016, after the national government and the RSPO issued statements to the company asking them to halt operations. The company continued regardless, the government and RSPO undertook no enforcement measures, and the ire of plantation supporters was directed at the village.

Carlos points to a patch of river bank as we paddle by. "That is where the men landed who threatened us the first time. They came on a speedboat from the plantation up



CARLOS FISHING IN THE BAY OF SANTA CLARA DE UCHUNYA.

the river. Masked, and with shotguns". The villagers' response was immediate. All of the men gathered their own shotguns, usually used for hunting the prized sachavaca - tapir - from the forest, and fired shots into the air. This scared off the boat of men. After that, Carlos recalls, the village men stayed armed most of the time.

I personally witnessed the rest of the violence directed at the village. Soon after I arrived the plantation shut down road access to Santa Clara de Uchunya, and the leaders of the resistance received multiple death threats. The plantation owners financed a protest of oil palm smallholders from the nearby mestizo town of Nueva Requena. The protesters gathered outside the office of Pucallpa's Mayor, where they declared the indigenous Shipibo leaders "persona non grata" in the region. Many of the leaders were forced to flee to Lima.

Leaving the village of Santa Clara de Uchunya became dangerous, as the men had to pass through neighboring Nueva Requena. Nevertheless, the three men who were receiving media training persisted, sometimes walking six miles out of their way to reach the next nearest town of Shambo. From there they could take a rickety taxi two hours over dirt roads to Pucallpa.

Carlos' voice is proud as he relates his story. He is a fisherman, he says, like most Shipibo. He wants to fish in the bay where his grandfather fished, and for his children to be able to fish in these waters too. He is worried about the untreated sewage from the workers' camps that now flows into the bay, the plantation's overfishing to feed its workers, and the effects of continual harassment on the community's mental health. "But what can I do? This is our land" he says, "this forest is our marketplace, our pharmacy, our school, our mother. It is our home, there is nowhere else to go; seguimos luchando"

Seguimos luchando - we will continue to fight. I have

heard this tired phrase too many times to count since I arrived in Santa Clara de Uchunya. It rolls easily off the tongues of the men and women who, for the past 5 years, with little external help, have done exactly that. They have fought what they see as a goliath, in order to keep their land, their home, their identities, and their peace.

Carlos has caught two large fish, enough to feed his family for the day. Tomorrow he'll be back, taking only what he needs from the endless bounty that still surrounds the village, sharing what he has with those around him, nurturing a communal way of life shared by many indigenous groups in the Amazon.

As we turn to paddle back we are caught, for an instant, in a mystical moment. The sun burns through the mist, bringing to life the roar of the millions of birds, insects, and beasts that inhabit the surrounding forest. The noise is deafening and takes my breath away. The sheer beauty and power of the largest forest in the world waking up and stretching its millions of arms skywards in a colorful, ethereal dance of sound, light and motion is overpowering. The moment reverberates through my soul.

Carlos stops paddling and watches the birds rise up above the tree line as the sun peaks over the horizon. Out on the oxbow lake of Santa Clara de Uchunya, the image of him standing in the prow of his canoe will stay burned in my memory forever. He looks amused, and sad, at the same time.

"My home. It's beautiful, isn't it?"

He looks once more at the bay, and then turns around and leans into his paddle. We head back to shore. 🌿



# EMPOWERING

AT-RISK

# TEENS

TO SHAPE ENVIRONMENTAL CHALLENGES WITH DESIGN

By **YANIN KRAMSKY**

**REVIEWING RESEARCH TRANSCRIPTS**, I contemplated the words of a sixteen-year-old who I interviewed against the backdrop of sweltering summer heat and blanket of smog in Los Angeles. Immune to the ebb and flow of traffic noise accompanying the interview, she proclaimed: “Designing for environmental use isn’t as hard as you would think it would be . . . you could use your own perspective to help the world in a better way. It’s pretty easy.”

Caught in the complex social, political, and economic fabric that often shapes environmental decision making, I was surprised and, frankly, refreshed to find that designing environmentally equitable cities seemed rather obvious to a teenager.

This interview took place amid my research last summer, where I explored how

“design thinking” can enable at-risk teenagers to understand and propose solutions to urban water depletion in Los Angeles, California. Design thinking is a creative teaching and learning approach that involves observation, problem framing, and hands-on prototyping. When compared to more direct methods of classroom instruction, design thinking has been shown

to boost students’ comprehension of complicated problems.

Overwhelmed by standardized testing, at-risk students are falling through the cracks of an inflexible educational system that prioritizes uniform approaches to teaching and learning over student interest and creativity.

Despite this, few studies have

examined the potential of a design thinking approach to help at-risk teenagers analyze the environmental challenges disproportionately impacting their lives and neighborhoods, such as urban water depletion.

Using Los Angeles’s drought as a case study, I sought to understand what at-risk teenagers know about the city’s water supply and basic

hydrology, their values concerning urban water usage, and the thought processes driving their design decisions. Ultimately, I wanted to understand their attitudes toward design thinking as a teaching methodology and learning approach.

**I RAN THE FIRST** design thinking workshop in a narrow “Teen Terrace”



Participants document grey infrastructure along the Los Angeles River.



enclosed by concrete walls, under a sign that read “Great Futures Start Here.” Throughout the summer, I continued facilitating subsequent workshops at various youth organizations in Los Angeles County. Altogether, groups of teenagers affiliated with The Boys and Girls Club of Burbank and Greater East Valley, Hands4Hope Los Angeles, and North Valley Caring Services signed up to participate in the three-day program.

Teens who decided to participate were already concerned about the effects of the city’s drought, motivated to make a difference in their community, and valued individuality and self-reliance.

The design thinking workshop was composed of four steps: 1. Observation; 2. Brainstorming; 3. Ideation; and 4. Prototyping.

**SEEING AT-RISK** teens motivated and enthusiastic about solving difficult, real-world problems emphasized the significance of design thinking—an approach that rewards overlooked strengths, develops underutilized capabilities, and recognizes the potential these students possess. Most importantly, though, design thinking can help support at-risk teenagers in recognizing the tremendous value of their own ideas.

Creating accessible pathways to engage at-risk teenagers in solving environmental challenges is vital to the success of current and future environmental movements, which are in need of diverse voices. Given the environmental hurdles facing urban and rural areas, the untapped passion and genuine concern these students have for making a difference must be embraced should success and progress effectively take root.

A vast landscape of polluted grey streets amplified the midsummer heat wave. Yet, amid a small stretch of lush vegetation lining the LA River, the teens found the inspiration they needed to imagine a different Los Angeles. 🌱

“I WOULD JUST LOOK AT MAYBE AN AREA THAT ISN’T LIKE AS NICE OR ISN’T AS DEVELOPED. I WOULD JUST SEE, I THINK, POSSIBILITY MORE THAN ANYTHING, BECAUSE I SAW SOME OF THOSE SITES AND I SAW WHAT IT COULD BE AND I THINK JUST SOME OF THOSE AREAS COULD BE IMPROVED. AND I GUESS I’LL ALSO BE KIND OF BUMMED THAT THEY’RE NOT...”

“YESTERDAY [MY FAMILY AND I] WERE GOING TO MY BROTHER’S [SOCCER] PRACTICE AND WE WERE JUST TALKING ABOUT THE WATER AND I TOLD THEM ABOUT THE GREEN WATER, THE BLUE WATER, AND THE GREY WATER. THEY WERE LIKE INTERESTED BECAUSE YOU KNOW IT’S SOMETHING DIFFERENT THAN . . . YOU HEAR OR WE TALK ABOUT.”

1

## OBSERVATION



Observation activities took place along the Glendale Narrows, the only unpaved, soft-bottom stretch of the Los Angeles River with visible riparian vegetation. Participants noted and compared green and grey infrastructure surrounding the river.

The teens often passed by the fenced off river, but rarely found reason to explore its dry channel. Entering the densely vegetated Glendale Narrows, participants ran toward the open water, took pictures of public art framing the river’s edge, climbed barriers and trees bordering the river, and paused to observe waterfowl. Safe, nice parks didn’t exist in some teens’ immediate neighborhoods. One participant expressed, “I have to admit, this place is pretty.”

While the LA River crossed most participants’ daily commutes, many were surprised to see pools of water in an otherwise paved, arid landscape. Comparing paved and soil surfaces along the river channel helped illuminate the importance of water retention and infiltration, as well as habitat restoration. The teens recognized that the river was part of a larger ecosystem requiring diverse habitats for species to thrive. They began to question why certain areas supported vegetation and wildlife while others did not, and recognized how human-made features like culverts directed water flow.

The teens also investigated new water features, such as bioswales, which they did not expect to find in a nearby public park. Surrounded by mountains, they questioned why so much water was imported without optimizing the capabilities of their own watershed. They wanted to see things done differently.

2

## BRAINSTORMING



Brainstorming activities involved noting areas of heavy water consumption on post-it notes and clustering words and phrases thematically.

These activities involved collectively writing and sketching ideas on poster-size paper and helped build literacy. Once introduced to new concepts like virtual water, the teens used related terms, such as blue, green and grey water comfortably.

Some teens remembered the names of water features they saw on the field trip, such as bioswale and culvert, while others remembered words and phrases they thought were cool like cistern. The brainstorming process enabled participants to share, discuss, and ultimately apply the new terms and concepts they learned to their design projects.

“I THINK THAT ONCE YOU PICK ONE IDEA . . . YOU KIND OF THINK OF IT CRITICALLY, BECAUSE WHEN IT’S JUST FIVE IDEAS THAT YOU HAVE, YOU’RE KIND OF THINKING OF ALL OF THEM JUST IN GENERAL . . . BUT I THINK ONCE YOU REALLY PICK ONE YOU KIND OF GET ATTACHED TO THAT ONE AND YOU WANNA SEE [IT] BECOME TRUE.”

3

## IDEATION



Participants sketched a variety of ideas to address the design challenge and selected one to refine.

Building on the lessons learned from observation and brainstorming activities, the teens were given a design challenge: to develop an idea that reduces heavy water usage and replenishes groundwater at their own youth organization facility.

Returning from the river, the teens were excited to reimagine their workshop site. Walking around each site as a group, I pointed out landscape features that could direct water. However, I was excited to see how eagerly the teens chimed in with more ideas. After visiting the river and jotting down their initial thoughts, nearly every group noticed inefficiencies like downspouts that led water to asphalt instead of vegetation at their youth organization facility.

The teens recognized the benefit of having many ideas to choose from. They grew attached to their final idea, and with this sense of ownership, were committed to completing their projects.

4

## PROTOTYPING



Participants created a final poster and small-scale, cardboard “prototype” of their selected idea.

Building in 3D helped the teens envision how their idea would “work if it was put into real life.” They considered how the features of their design would interact with the existing landscape, how topography would direct water, and where water would be stored for later use or infiltration.

The teens were surprised by their own aptitude for creativity; their ideas were inspired, carefully planned and executed.

The teens designed practical solutions that could easily be implemented at their youth organization facility. One teen split and redirected a downspout to multiple areas for infiltration. Another addressed a very real challenge at her site by positioning a garden directly below a dripping AC unit. A few teens even considered onsite wastewater reuse and included smart sprinkler systems in their designs.

Others redesigned the entire site and imagined a series of pipes carrying water to vegetation, underground cisterns, aquifers and the LA River. They slanted and rounded roofs and fields to maximize water collection. Some teens went as far as making topographic changes and designed hills, culverts, and bioswales to direct water.

One teen added an educational component to her design by including signage that explains the benefits of green infrastructure to the younger kids who also use the site.



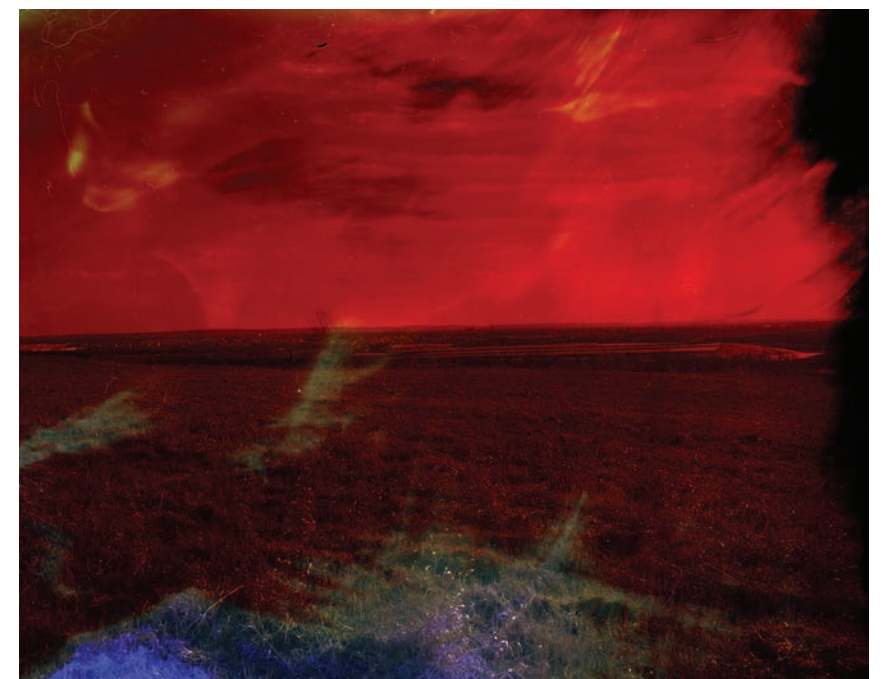
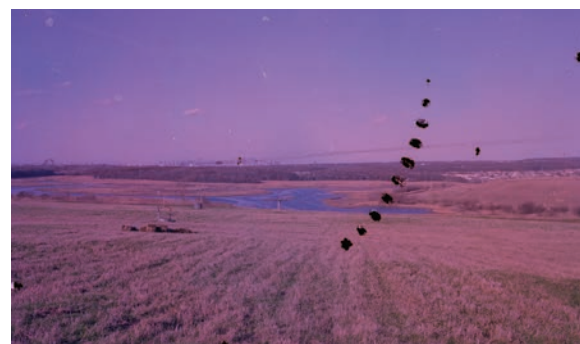
# VISION OF A WASTELAND

Elevating the view from the world's largest landfill. • By ANDREA IBARRA

UNTIL THE MID-1940S, the Freshkills area of Staten Island, New York, consisted mainly of coastal marshes and tidal creeks. In 1948, the land was opened as a landfill. Though it was originally intended only for temporary use, the facility grew until it eventually accepted all of New York City's waste. Today, the Freshkills Park land reclamation project is a tremendous effort to revitalize the landscape, improve water quality, fortify the coastline, and reclaim the space for local residents and wildlife. When visiting the landfill earlier on in its transformation period, I noticed how beautiful the landscape was, with open

space and the New York skyline along the horizon. It occurred to me, though, that this incredible and vast view was only possible because of the mounds of trash that accumulated over time. I was standing upon years of New York City's built up waste. I took a few photos to capture the quiet calm of the site, and then placed the film negatives in the trash for several weeks, letting the collective liquids and residue from the garbage alter the physical image. The negative serves as a representation of the land that has interacted with this waste over time, which leaves its mark underneath the surface. The abstract destructions of the original landscape are a commentary on the toxicity of our consumer culture, for both our land and our own human health. 🌱

**The abstract destructions of the original landscape are a commentary on the toxicity of our consumer culture.**







# NO PLACE

- ▲  
"Rooftop Garden"  
Silkscreen Print  
22"x30"
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"Last Resort"  
Silkscreen Print  
22"x30"
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"With A View"  
Silkscreen Print  
22"x30"



When natural and material paradise collide.  
• By MATTHEW VAN ASSELT

**OUR SOCIETY POSSESSES** an underlying utopian drive. It is a drive that is at odds with its outcome, and there exists a strong tension between permanence and progress, natural and constructed. I use this relationship between the natural and built environment as a way of examining cultural value systems, the quest for the ideal, and my own conflicted relationship with those ideals. My images are both satirical and earnest, a standoffish sarcasm colluding with a hopeful beauty. I create the compositions digitally, cutting and pasting together photographs I've taken. I then turn them into drawings which I silkscreen print. I print the colors one by one, so each color is its own separate drawing. 🌿



# SAGE

EXPANDING ENVIRONMENTALISM THROUGH  
PROVOCATIVE CONVERSATION AND THE ARTS.

