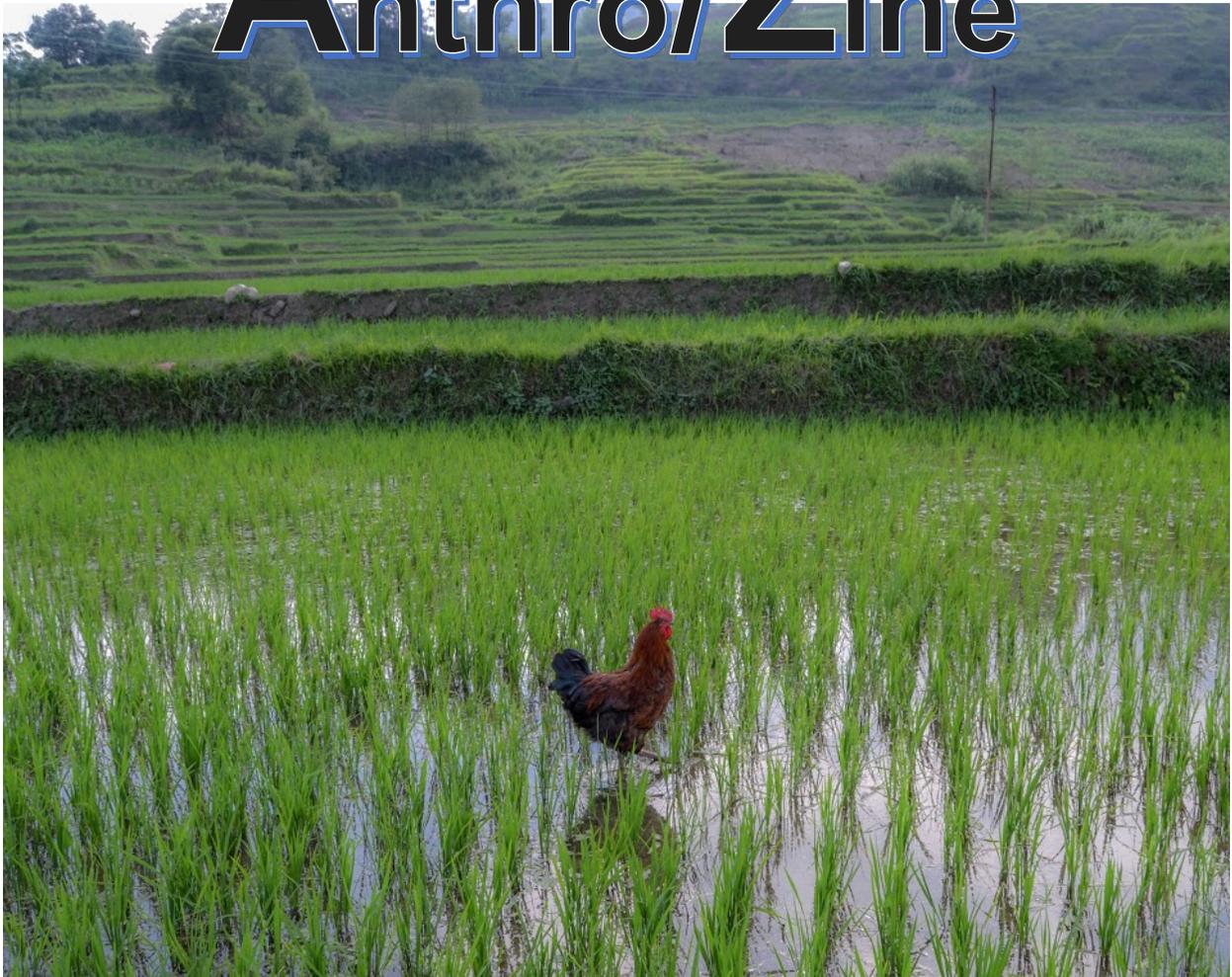


Anthro NOW
pology

Anthro/Zine



Special issue: environment & ecology

April 2016



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WELCOME TO ANTHRO/ZINE

Anthro/Zine, a venue for undergraduate work of and inspired by anthropology, is a special publication of anthronow.com. Look for us in April, September, and December, in coordination with our print publication, Anthropology Now. This is our fourth issue, year number two of our zine begins!

We welcome submissions from current and recently graduated college students of any major on topics relevant to anthropology and culture. Our April and September issues will revolve around a specific theme. **September's theme will be ethnography and method.** The December issue will be open topic. To learn more about how to submit, check our call for submissions on page 5 and visit our website <http://anthronow.com/anthrozine>.

Inside this issue: poetry, photography,
essays and short fiction

About **Anthropology Now**

Like what you see? Maybe you want to read our parent venue, Anthropology Now, a peer-reviewed journal from Routledge/Taylor & Francis that offers cutting edge research from leading scholars in illustrated articles written for a broad audience.

Check your library for the print version, or if you're rich and famous get an individual subscription for just \$55. That's less than sushi take-out! If you're a member of the American Anthropological Association's [General Anthropology Division](#) you've already got electronic access. There's also plenty of free content available at <http://anthronow.com/>.

A/Z

Anthro/Zine

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Thanks to our authors!

2016 April



CALL FOR SUBMISSIONS

Interested in seeing your work published in Anthro/Zine? We want to see what you've been up to!

We are looking for authors who can communicate their personal connection to the object of their study. How does your identity or personal history interact with your experience of anthropology? What drew you to this line inquiry? To this end we are making an open call for the following:

- **Personal reflections** on academic topics, current events
- **Reviews** of books, movies, museum installations, etc.
- **Stories** that relate personal experiences or observations
- **Poetry** and **creative writing**
- **Artwork** and **Photography**

Written works should be creative and engaging and should abstain from jargon, artistic works should be relevant to the issue theme and anthropology broadly construed. Bibliographies are not necessary unless you are including a direct quote in your piece. If so then use APA style in footnotes.

Generally we are looking to publish shorter works, including some that are very brief. If you have a longer piece consider trimming it down before submitting it. Suggested lengths: "Letters" – about 200 to 600 words; "Articles" – about 800 to 1500 words; "Features" – about 2000 to 2500 words.

PUBLICATION SCHEDULE

We publish three issues a year: April, September, and December. We are currently collecting submissions for our September issue which is a special issue organized around the themes of the Ethnography and Method with a deadline of August 15, 2015.

The September issue will be open topic with submissions due November 15, 2016.

SUBMISSION CHECKLIST

1. Feel free to direct questions to mthompson@marinersmuseum.org before you submit.
2. For written works use single spacing, no formatting, and save the piece as a .doc file. Embedded hyperlinks are okay, but we are not doing multimedia yet.
 - a. Name your file LastNameFirstname.doc.
 - b. Visual works should be in a .jpg file, or if already uploaded to a streaming service then sharing the URL link without an attachment is fine.
 - c. Do not submit a .doc with embedded images, send the image files separately. Do not submit .pdf files.
3. Send the file(s) as an email attachment to mthompson@marinersmuseum.org.
 - a. In the subject line use some of the genre terms in bold from the call for submissions to describe the type of submission you are making. Here just say what it is, not what it is about.
 - b. For written works follow this with a number representing the word count, for visual works write “visual” after the genre term.
4. In the body of the email include:
 - a. Your name, school, class year, and major.
 - b. Write a 1-3 sentence bio about yourself in the third person, include something about your future plans. Then state briefly what the submission is about.
 - c. You do not need to submit a resume.
5. Please submit early. You are welcome to submit multiple works. Submissions will be acknowledged within three weeks.
 - a. If you receive revisions you will be expected to make them promptly.

Anthro/Zine

April 2016

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Anthropology of the Mason Jar

Andria D. Timmer

On any given day, there are at least three mason jars on my desk: one for coffee, one for water, and one for lunch. This obsession with Mason jars began a few years ago after our first successful gardening season. I read up on preserving and canning and jarred a few jams and salsas. My husband and I have since been able to expand our garden and our canning capabilities to include pickled peppers, jam, spices, relishes, salsas, and all varieties of tomatoes. Once the jarred goods have been consumed, the Mason jar utility far outweighs any other kitchen container and so it has become our go to for drinking and storing.



My use of the Mason jar is neither innovative nor unique and the ubiquitous jar has been increasing in popularity across demographics. A quick google search will turn up pages of uses for the jars. You can use them to build fancy salads. They can be turned into lovely lanterns. If you are boring, you can just use them to store buttons and sundries. You can also purchase Mason jar accessories like travel mug lids, shaker lids, and cozies. How did this 150 year-old piece of glass come to be such a beloved object by hipsters and pinterest fanatics alike?

Revolutions in canned food began in the early 19th century. The original purpose for canned food was to feed the army. As Napoleon supposedly said, “An army marches on its stomach.” By the mid-1800s preserving perishables in tins and glassware was becoming a strong industry. The Mason jar was created by John Mason in 1858. This jar helped to refine the heat-based canning technique, and, unlike with tins, the clear glass allowed consumers to see what they were eating. The Mason jar declined in use as mass produced tins became more acceptable, but experienced revitalizations in popularity during the WWII Victory Garden campaign and the “Hippie movement” of the 1960s and 1970s. Now the Mason jar is linked with crafters, environmentalists, and naturalists alike.

The current revival is tied to a nostalgic trend in society, which, among other things encourages us to “eat like our ancestors” (Paleo diet) or “eat like our grandmother” (Michael Pollan). The Mason jar is an innocuous object but for many it represents a rejection of the overly commercial, overly processed society within which we live. Unlike most consumer products, Mason jars have many uses and are almost infinitely reusable. Glass is safer, easier to recycle, and better for the planet than plastic. The Mason jar is symbolic of a growing anti-capitalist environmental movement. But, as any symbol, it can be easily coopted. I don’t think 7-Eleven was thinking environmentalism when they designed the plastic slurpee “mason” jars complete with mustachioed straw.

Goddamn starlings

Matt Thompson

Ever since humans set bipedal foot on this Earth we have gone about transforming our environment. This seems to be a species typical behavior for us and it is a key to our success in conquering the globe. Not only can we alter our behaviors in order to adapt to rapidly changing situations, thereby giving us an edge over other species which must rely on slower moving genetic change, but we can coerce an inhospitable environment into changing for us.

The classic example of this is, of course, domestication. Our clever ancestors knew that desirable traits could be conserved and undesirable traits eliminated through directed breeding. When Charles Darwin composed his theory of evolution by natural selection he was profoundly influenced by careful observations he made in rural England about how ranchers tended their flocks. Essentially he would go on to argue for a similar mechanism without human intervention, a natural selection where competition for scarce resources was the driving force behind change.

However, reality is even stranger than this! One of the most profound ways we effect our environment is through unintentional behaviors. That is to say, “unconscious selection.” I will share a brief anecdote that conveys this behavior.

It is spring here in Virginia and the birds are coming home, but one returning resident never receives a welcome: starlings. Members of this invasive species, categorized as a “nuisance” by the Virginia Invasive Species Counsel, descend upon the land in swarms. By force of their sheer number they displace many native species, hogging resources.

Also those f*ck*rs eat all the suet out of my birdfeeder. And they're not even that pretty.



The other day I'm out running errands. On a major road divided by grassy median city workers have just mowed the grass. And who should I spy but the ubiquitous starling, a flock of them making their birdy little way through the greenery. What do you suppose they were doing? Probably eating bugs, now made more accessible to predation by the helpful humans who had conveniently just removed several inches of their camouflage.

So the humans, simply going about their business doing typical human things like mowing the lawn, shape the environment into one that makes it more accommodating to pests including invasive species. So it goes with weeds. Rats. Roaches. Mosquitoes. We could go on all day like this. Our pests follow us everywhere because we shape the environment to be more to their liking as we make it more to our liking too.

Pests and invasive species are the changelings of domestication, produced by the same process, they are the evil twin of the beneficial species with whom we share a mutualistic relationship. And like children everywhere they take after their parents, in this case holding a mirror up to our most unbecoming habits.



My Experience of Sexual Assault Advocacy

Lori Reibach

In the fall of 2011 I was a freshman in college. After moving to campus, I quickly became comfortable with my new environment around me. I was considered a social butterfly on campus, someone you could easily talk to, but in December I was violated in my own dorm room. Someone I knew only by association of other peers aggressively raped me. For months I did not sleep and when I did I had nightmares. My anxiety got so severe that I had frequent attacks that left me unable to breathe. I was constantly in and out of the hospital all that year. My mental health had gotten so out of hand that I was forgetting what actually happened to me. I was in denial that I was a victim of rape.

As the year passed and I was entering my sophomore year I slowly worked on trying to become myself again. This was not an overnight process. Friends knew

something was off about me and one friend in particular picked up on my behaviors. She knew I had been raped. She reached out to Rosemary Tribble, a founder of a non-profit organization that specializes in helping sexual assault victims heal. Shortly after, Rosemary reached out to me. She was the first person I told, and as I sat there in her living room telling her my story in detail, we cried together and just prayed for recovery. Today marks five years since my brutal attack. If there is one thing I learned through this unfortunate experience, it is not to be afraid to ask for help. Find someone to lean on, tell your story, and start your healing process. I've learned from this experience and it can no longer harm me. Crushed and bruised I came out stronger. Now I have love, laughter, and joy.

Part of my healing process involves helping other victims of sexual assault. As I continue my healing process, I find it useful to help others heal. Junior year I started volunteering at a non-profit organization Fear2Freedom (www.fear2freedom.org). This organization was developed to help redeem and restore those victims that were wounded by sexual assault. Fear2Freedom does this by bringing hope, joy, and healing back into the victim's life. Five days out of the week I assembled rape kits in the stock room that would then be sent to hospitals all over Virginia.

|

Now I am working on forgiveness.

|

Along with my volunteering, I was also a proud member of Where Is The Line. This is a college campus organization that works together to fight against sexual assault and domestic violence. This organization's purpose is to educate college communities and raise awareness to the social problem of sexual assault. As a member of this organization I made it apparent to club members and eventually the outside community that I was available as a resource. Slowly, but surely women and men came forward to discuss their story or how to handle a friend that was just

As graduation passed on December 11, 2015 I am determined to continue my path of helping victims of sexual assault become survivors. As the undergraduate phase of my life quickly comes to an end, my path will continue at Barry University where I will work towards my masters in counseling with a specialization in marriage, family, and couple counseling. As

assaulted. One of my greatest memories in helping a victim of sexual assault was when I went to an academic trial with victim. I sat with this victim for approximately nine hours to help support her decision. After the trial had concluded, they chose to convict her perpetrator and expel him from school. Volunteering for organizations and advocating for victims of sexual assault is not only a difficult job to do as a survivor, but it is a rewarding one. Although much of my time is spent on advocating for these victims and reaching out to different organizations, I also make it a priority to integrate this topic in my studies.

As a sociology major during my undergraduate years, I focused my research on the topic of sexual assault. During my last year as an undergraduate I developed my research topic and wrote a proposal. What are some recovery strategies for sexual assault victims on college campuses? In order to understand new policies that have been enforced by the government on college campuses, I also asked a sub-question. How has the new Title IX policy assisted victims of sexual assault? The importance of this sub-question is to offer a viewpoint of what this policy does for the victims that are recovering from their sexual assault. After a whole semester of doing research on sexual assault recovery strategies, interviewing victims, and taking jottings in observations, I managed to finish my forty-page research proposal for sexual assault victims on college campuses.

I continue studying for my counseling Masters in school, I hope to find an organization that focuses on advocating for sexual assault victims. I anticipate working for an organization that will allow me to not only be an advocate for these victims, but also help serve social justice in the Miami community. Once I receive my Masters, my goal is to work with a diverse population of children, young adults, and

families. I will further specialize in helping sexual assault victims overcome the challenges that are thrown at them. When I look back on this experience I do not see it as a sad moment in my life. Instead, I see it as a moment where I needed hope, and eventually gained strength to help others. Now I am working on forgiveness.

Lori Reibach 23 years of age and was raised in Richmond, Virginia. She completed her Bachelors of Arts degree in Sociology with a minor in philosophy and religious studies. As a recent December graduate from Christopher Newport University, Lori will be attending Barry University, located in Miami Florida for graduate school. Lori will be working towards her Masters in counseling with a specialization in marriage, family, and couple counseling. In her free time, Lori enjoys working with disadvantaged communities, painting, writing, singing, baking, and being outdoors.



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Image was available through Fear 2 Freedom's Website at [\(http://www.fear2freedom.org/donate/\)](http://www.fear2freedom.org/donate/).

I am Cymraeg

Connor Murphy



Some of my favorite childhood memories come from my family's travels to Wales. We'd go more or less every other year from the time of my birth until I turned 10. Funnily enough, we'd always do the same things: see family, visit a castle or two (they're literally everywhere over there), and collect sea glass off of the beach. Basically, we did all the touristy stuff, even though we "were from there." This was mainly due to us being young kids, all five and under during most of our adventures. I have many vivid memories of our trips. From the peacocks that would roam Cardiff Castle, to the pebble beach at Penarth, how the cities and the valleys coexist in such a harmonious way, Wales really is a beautiful place. And of course, the sheep, you can't talk about Wales without talking about sheep. But the physical and natural surroundings are not the only environmental aspects that are important to the anthropology of Welsh identity. Even though I'm most passionate about paleoanthropology and archeology, I'm in a linguistic anthropology class this semester. I was given the opportunity to do an essay on

my linguistic identity, which is something I've thought a lot about in recent years.

I apparently have an accent. I mean, we all do, but mine is unique. Depending on who you ask, I might come from different places. In some cases I get, "So you're from Jersey?" and other times I've been asked, "So how long have you lived in America?" Weird right? My father is from Wales and thus has a Welsh accent. I've never lived in Wales, but I guess I learned it from him? In the past, I've struggled to figure out where I come from. What's my identity? Is it based on where I was born? Where I grew up? What state I live in? What country I live in? Or is it where people think I'm from? After many years I finally discovered myself. I am, a Welsh-American from New Jersey.

Most people assume I'm American, and while this is technically true I feel like I'm lying if I'm not proclaiming my Welsh identity. I'm very proud to be Welsh, but no one sees me as Welsh unless they actually know me, mainly just family and friends. Even then I've had fights over my own

identity. There have actually been times where I've had to find my British passport just to prove that I am, in fact, a British citizen. You'd think I'd know my identity better than others, but no. Apparently since I have lived in America my whole life I'm not allowed claim my British identity? Since when did someone else get to tell me my own identity? People, mainly immigrants, take pride in the fact that they come from somewhere else while at the same time, are proud to be American. To linguistic anthropologists, and to me, language is about identity more than anything. The eco-linguistic factors that shape us are what give us our own personal culture.

I grew up speaking English, with a Welsh phrase or two thrown in occasionally. In my family, we say *iechyd da* instead of “cheers” when toasting. *Ych a fi* was used instead of “yuck,” although other times it means “not for you,” but that's usually used with our dogs. As I got older I became more interested in the Welsh language and tried to get Welsh Rosetta Stone. I asked for it for every birthday and every Christmas, but besides the cost, my father said, “Learning Welsh is useless.” So, my dreams had to be put on hold.

I ended up waiting until January 2016 when Duolingo finally came out with a course for Welsh. I can finally learn the language from “the land of my fathers” as the Welsh national anthem says. To this day, I can still recite my father's version of “The Story of Gelert” by heart. We celebrated Saint David's Day in March and Independence Day, in July. When I talk I use a mix of slang from both New Jersey and Wales. I learned from my parents, who coming from different places had different names for the same thing. I've always had an interest in learning Welsh but never had much of an opportunity since my dad isn't fluent and there weren't many

options for young learners. Then again, I'm not really sure why I'd want to subject myself to that “torture,” though.

My proudest moment was when after trying to learn for 5 years, I self-taught myself “Llanfairpwllgwyngyllgogerychwyrndrobwl llantysiliogogoch”-pronounced in the International Phonetic Alphabet:

([ˌlan.vair.pɔɫ,ɡwɨ̃n.ɡɨ̃l.ɡɔ,ɡer.ə,χwɨ̃rn,drɔ.b
uɫ,lan.tə,sɨ̃l.jɔ,ɡɔ.ɡɔ'ɡo:χ])

My friends still think that I'm making it up when I show them. That was the extent of Welsh that I learned in addition to the few phrases we had growing up, and learning the basic greetings/numbers from my father. But now I'm slowly learning more thanks to a dedicated team of Welsh speakers who put out the Duolingo course.

Learning Welsh is no easy task, and it's very time-consuming. The language itself is beautiful but it's full of sounds not common in the English language, such as the voiceless alveolar lateral fricative, voiceless nasal stops, and voiceless rhotic. It also has a few extra letters, which add to the complexity of learning. But from my experience, it's also really fun to learn. In the past, I've tried to teach my friends random words since they get a kick out of it. I've taught them slang terms like *popty ping* which means “microwave” since *popty* means “oven” and it pings when it's done. Another favorite word is *bochdew* which is “hamster”, but its literal translation is “fat cheeks”. Another example, Cymraeg is Welsh for the Welsh language, Cymru means Wales, and Cymro means Welshman. They all start with “cymr” but it isn't a root word, it's actually its own word, it's Welsh for chameleon. I've always felt like a chameleon. I change my personality based on where I am. In America I present as a Welsh-American, while back in Wales I'm just

American. It's nice that I'm able to share this with them since I end up killing two stones with one bird: I get to work on my pronunciations/practice my Welsh and they get to have a laugh.

Welsh and English have a few similarities, but more often than not, they are different. Despite the fact that England and Wales share a border the two languages come from

the Welsh language because he grew up there. In the past he's expressed his views that Welsh is a dying language, therefore, it'd be useless to learn. It was interesting to hear how his views changed now that Duolingo has put out a Welsh course for English learners. I also got to learn a little more about not only my father but also Wales during his childhood. It was really nice to learn more about his experiences with Welsh since



different branches of the Indo-European language tree. English has Germanic origins, while Welsh has roots in Celtic, specifically, the Brythonic branch. I think it's rather interesting how there can be such diverse languages in such a consolidated part of the world. All the Celtic languages have some similarities, then there's English. And considering what we know about the English, and the fact that they "colonized" a third of the world, it's great that Welsh is still an active language. This coming after a millennium of being "ruled" by the English.

I was lucky enough to interview my father and get his take on being binational. I figured he'd have a different take on being Welsh and

we've never had a full on discussion about this topic.

My father was born in Cardiff, the capital of Wales, in the late '40s. Cardiff is situated in the south of Wales, so they already speak less Welsh than their northern counterparts. This is in part to the south being more industrialized, while the north is more farmland. He did however still learn Welsh in school from the age 8 until he was 16, and by choice I might add. Most people stopped after the required first four years. My father chose to continue since he had a strong sense of national pride. He got up to an intermediate level, meaning he could write it, read it, and speak it at a conversational level. Sadly now

all he knows are the basics. When I told him about Duolingo he said, “Anything that helps promote a language that someone is interested in is a positive” and that it could help keep the language alive. Considering all the technology we have today, having a mobile platform might actually appeal to the younger generation.

My dad gets asked where he’s from, more than I do, but then he actually lived in Wales, and his accent is apparently more of a general British accent. I’ve never heard it, for whatever reason. Maybe since I live with him so I’m used to it, or because he has adopted more of an American accent over the past four decades or so living here. My friends all hear it, though, as does my mother who’s known him for nearly 30 years now. I think it’s rather interesting that we’ve both had experiences with accents too. For me, I assume I tried to mimic what I heard as a baby? I was defiantly around British accents during the years of language learning. I had visited Wales four times by the time I had turned five.

Our experiences have some overlaps with being binational and semi-bilingual, but our experiences are, at the same time, on opposite sides of the spectrum. Since we grew up in different countries we had different access to the Welsh language. He, growing up in Wales was able to learn Welsh in school. I, on the other hand, grew up in the States, so my only resource is my father. Which I’m sad to say isn’t a good resource to start with. I’m glad that there’s been a resurgence in the use of Welsh. Almost all road signs are now bilingual.

Who am I? Where do I come from? I am American, but I am also Welsh. I get asked where I come from all the time. Because of this I’ve struggled to figure out where I fit in. To some I am from New Jersey, to others I’m

a foreigner in my homeland. It all depends on which accent is more pronounced. I see myself as having two homes. I take pride in both my nationalities. My heritage is who I am. Why I am who I am. I am American, and despite the fact that I speak English, I am *Cymraeg*.

Connor P. Murphy is a sophomore at Montclair State University, studying anthropology and archaeology. He has a passion for hominids and plans to go to South Africa for grad school in the next few years. He loves anything that is related to anthropology or history.

Image of Cardiff Castle via Wikimedia Commons ([link](#)). Image of Welsh flag also via Wikimedia Commons ([link](#)).



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A Well-Managed Wild Place: Reflections on a Salmon Stream Restoration Site

Isabella May Lyne

It looked like a movie set

Artificial.

But not in the neat, ordered way of the overstock secondary conifer stand

There, identical Douglas Firs crowded close catching light in tight knit needles

Leaving the ground stark bare

That was no place for herbivorous deer,

Only songbirds found solace in the lofty bows

Unknowable

But for their soft songs, hidden.

Here is soft red mulch

Ferns curl down towards velvet earth,

Here, one log, cast perfectly across the small gargling stream, with neatly cut edges asks: when will the producer arrive?

Here, the stream, its curves too perfect, its bed too smooth, its banks too steep, make the scene seem

Unnatural

The stream, dug out of history

Reconstructed,

The image of a river that once filled with spawning salmon, turning silver in the summer sun

A river, clear-cut out of existence, filled with debris, lost to the pressure of production.

The trees here are ringed; bark peeled off in thick gouges, sticky, dripping hardened sap

These rings fall trees

Predicting tree deaths not tree ages

This is a process of undoing history, of predicting new futures

100 years sooner, this forest will be ancient again

Natural

Already recoded, reconstructed, protected and promoted as state land

This is the heart,

The crowning jewel of Pacific Rim National Park Reserve

The crowning jewel of Canada, this nation of wilderness

Crown Land,

Public land,

“Governed by the government of Canada on behalf of all Canadians” land.

This is “the nation-making frontier”¹

“Wild, empty spaces are said to have inspired white men to national democracy and freedom in the United States”²

But this land had to be made empty,

George Mercer Dawson drew sketches of primitive villages

That would never accompany his geological depictions

Discarded, painted out of his final masterpiece: the national landscape.

Then the land was surveyed, a vision of colonial expansion

Now the park is surveilled, monitored closely for threats to its integrity
 For, without care, its boundaries become blurry as water flows through landfills before entering its landscape
 People too flow in and out, never staying long
 Coming for brief rendezvous with nature before returning to their human lives
 Though this forest may have been stripped of its “resourcefulness”,
 Logging banned from its interior, it is still a frontier
 “Frontiers make wildness”³
 Parks make nature
 Separate
 Here, in this movie-set clearing, this well-managed wild place, trees glow warm in cool wet air
 Here, ecological imaginations project possibilities of self-regulating futures onto closely monitored systems
 Here, old fantasies of escape are played out on a backdrop of beaches and boardwalk trails.
 Here, human hands build streams and forests while human minds catch spores that grow into visions of almighty wilderness.



Bella Lyne is a 3rd year Cultural Geography student at Quest University, British Columbia. Bella prides herself on inquisitiveness and her desire to develop a critical awareness of the world around her. Born and raised in Toronto, Ontario, she is most interested in exploring the ways in which human beings understand their relationship to place and ancestry. In this piece she takes a critical perspective on the construction of nature and its role in settler colonialism on the North West Coast of Vancouver Island.



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 Superscript references: Anna Tsing (2005:31) Friction: An Ethnography of Global Connection. Image of Pacific Rim National Park via Flickr user Dale Simonson, https://www.flickr.com/photos/dale_simonson/8105646036

Photo Essay: Nepal

Matthew Rogers

Last summer I was fortunate enough to intern for the editor of *The Nepali Times* in Kathmandu, where I used my anthropological lens to investigate and write about post-earthquake relief efforts, rice farming season in rural areas, and the transgender prostitution industry of Thamel. After that, I spent over a month traversing Nepal and India while visually framing some of the gems of my experience. I've found that, when used in anthropology, photography can convey the beauty of people and places in a way that can vividly bring informants to life and deepen an appreciation of our differences.

Matthew Rogers is a Cultural Anthropology student at Kansas State University. In 2015 he worked as a photojournalism intern around Kathmandu and in India conducted research while living with the Aghori Sadhus in Varanasi. He also made a point of exploring Vipassana meditation practices in Nepal, and he plans to pursue studies of consciousness in graduate school.



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Pieces of Coral

Alaine Johnson

Faridah walked with a treasure in her bag, feeling reassured every time the relic bumped against her thigh. It was her turn for show-and-tell day and she could hardly wait to share what she had. The weight in her bag was like a supernatural force, infusing her with optimism, and she was its ultimate protector. The small piece of coral was so rare, so fragile.

She turned onto Block 23 which jutted out towards the next floater. This was one of the biggest blocks along the large, artificial floating island. The school was a large rectangular building, greyish-brown in color looking more like a detention center than a place of learning. Faridah's hand wandered inside the flap of her bag and she peered down to look at the individual holes in the coral where life had once sprung from. It curved beautifully, unlike anything she had seen before. She reached in and grasped it, tracing her fingers around its edges. Hopefully her grandmother wouldn't notice that it was missing from her bedroom. Faridah would put it back as soon as she was able to hold it up in front of class for show-and-tell and say, this is my heritage. My country was beautiful and I still have this.

Climbing the stairs to her class, she could feel her heart pounding with trepidation and excitement with each step. The door was sealed shut to keep the air-conditioning from seeping out. It was only turned on for 15 minutes every hour. With difficulty, she pulled back the sealed lock and stepped in quickly, shutting it behind her. The TV was playing, showing images of a wall being heavily patrolled by drones and other machines she wasn't familiar with. There was a satellite TV for every grade 5 classroom and above, but that was all. The floaters had the bare basics of technology when it came to

luxury. TVs, fans, and some air-conditioning. Faridah had heard about places where entire cities could be controlled by the touch of a finger, where people could travel faster than the wind, where the ocean had never touched. She had heard of one island which had harnessed the power of the sea to power a platform which lifted the entire land mass up, out of the reach of the indefatigable waves which washed over the rest of the islands.

Faridah spotted her friends on the far side of the room. Miriam and Jauza were there, but not Noelle. Noelle hadn't been in class for three days, since her father had left to make a delivery of appliances on another floater and never returned.

She sauntered over to them and smiled, withholding the words threatening to burst from her mouth.

"Well, what did you bring?" exclaimed Miriam, not even stopping to greet her.

"As-salaam alaikum, Miriam!"

"Yes, wa alaikum assalaam, now show us!"

"You'll have to wait and see!"

Miriam laughed and stuck out her tongue at Faridah in mock irritation.

"Is it better than Tokoloshe's bow and arrow?" Jauza asked quietly.

"Way better than that piece of plastic rubbish. He didn't even know how to use it!"

Jauza didn't press further. She was more patient than Miriam. The three of them wore the same red and green uniform. Jauza was demure and clever, Miriam was rash and headstrong, and Faridah was caring and bubbly. Their families were always together, and their grandparents had all come from the Maldives.

The bell rang and all the students quickly took their seats. The announcer came on over the inter-com and everyone stood again to recite the Allegiance of the Small Island Nation States:

I, state your name, a citizen of the Floating Small Island Nation States, pledge my allegiance to my history and to my future as a child of the sea. I vow to uphold my heritage, assert my autonomy, and cherish my identity forever more. Together, we will weather every storm of the sea and adapt to its ways.

Faridah sat down but barely felt herself touch her chair. Makim, their professor, nodded in Faridah's direction. He was an old man, one of the oldest that Faridah knew. He still had a full head of hair and a mustache as well, but she could see his age in the deep creases on his face. Makim was beloved by all his students. He had a way of speaking to people which made one feel as if they were the only person in the world that mattered to him. Home for him was somewhere in what was Papua New Guinea, but he rarely spoke about it.

"Today we'll have Faridah sharing for show and tell," began Makim. "What have you brought to share with us?"

She paused and looked out over the classroom, noticing two boys. Toko was snickering with Maui, most likely mocking her. She hated them. They were plain bullies and she had never seen an ounce of kindness from either of them. Today, she didn't care what they thought. Faridah felt invincible.

"I've brought coral from the Maldives. My grandmother took it with her when they came here."

She held up the white and grey piece of coral, dead now for well over two generations.

The entire class gasped. Very few people had ever seen a real piece of coral, save for photos. Taking advantage of the moment of revelation, Faridah launched into her explanation for bringing it.

"The Maldives used to be protected by enormous beds of coral of all different colors – orange, green, turquoise, fiery red, blue, and yellow. My grandma told us the story about the tsunami of the early 21st century which destroyed other islands and countries like Indonesia, Thailand, and Sri Lanka. When the tsunami came to the Maldives, the coral slowed the wave. Instead of destroying Male, the water came in slowly, filling up the streets to your waist-level. It looked like someone had filled up a glass with water all the way to the brim. Everything was covered in water and threatening to spill over."

The last coral reefs had bleached and slowly crumbled long before Faridah was born. The seas which were once host to such an array of life had since become toxic and unwelcoming.

"My grandma lived on the fourth floor of a building there. When the tsunami came, she was 10, like we are now. At first, she thought that the water rushing in was the islands sinking already. But it didn't happen that quickly. That came later."

Faridah passed the coral to Makim to inspect. He was silent a moment before speaking.

"Thank you for sharing, Faridah. May I pass this around for everyone to have a look?"

"Yes of course, Professor." Faridah was shining with pride.

Every student who turned the coral over in their hands smiled in wonder, peering into every crevice. When it reached Toko and Maui, Faridah fixed her eyes on them, as if warning them. They glanced up at her, smirked, looked

at the coral, and passed it on. She rolled her eyes and waited for the coral to come back around to the front of the room.

“Be very careful with that, Faridah.” Makim was standing next to her.

Faridah stashed the coral away in her bag and the rest of the class passed without incident. When the bell rang for lunch, Miriam and Jauza went off quickly. We want to get in line early for *masbooni*, they told her. It was a Sunday, so a new shipment of the synthetic coconut and dried fish snack should have just arrived.

Faridah took her time, said goodbye to Makim, and walked out. She had barely descended the staircase when someone grabbed her hands and pulled them behind her. They pulled her back beside the stairwell and craning her head around, saw it was Maui holding her. Toko walked around in front of her, coming up so close to her face that she thought he would press his forehead to hers. She hated that he was handsome, too. His almond-shaped, light brown eyes were those of a trickster and he had a fringe of smooth, brown hair which fell across his face and caught the light, casting a shimmer. He delicately, gingerly fingered one of the oily curls which framed Faridah’s face. She couldn’t quite remember where his family was from. The Carteret Islands? The Solomon Islands? There were so many lost islands. Whereas Toko and Maui had light brown, tanned skin, Faridah was dark, scorched.

“That coral, Faridah. Stunning.”

“Let me go.” She narrowed her eyes, calling his bluff.

“Sure of course, we just wanted to look at it again.”

“No!” She swung away from him, trying to protect her bag which swung back towards Maui.

“See, Maui and I were just talking...” Toko began.

Maui whispered in her ear. “We think it would be better off with us.”

Faridah clenched her teeth. “In your dreams,” was all she could mutter.

Toko reached around behind Faridah into her bag and pulled out the coral. Faridah stood perfectly still, unresisting for a moment, and then jolted out of Maui’s grasp to snatch it back. She almost managed to grab it, and instead knocked it out of Toko’s hands. In what felt like slow-motion, Faridah watched it fall onto the hard plastic floor and break into two. Maui yanked her back by her shirt and she heard it rip. Toko knelt and picked up the two pieces, holding them up into the light.

“Well actually that’s alright, Faridah. Don’t worry that you broke it. Now it’s in two pieces – one for me, and one for Maui!”

She could never bring it back to Ma-ama like that now. Maui shoved her down and she held her face in her hands.

“You know it’s amazing that something so pure could look beautiful in the hands of a dirty Divvy*. We’ll look after it now,” Maui said to her.

“Thanks for the show-and-tell,” said Toko. And then they were gone.

Faridah dug her fingernails into her palms. She wouldn’t cry, she told herself. All she wanted was to scream and throw Toko and Maui into

* Divvy = a derogatory term for a Maldivian.

the plastic-filled ocean. They would drown and die in the sea, just like all the dead coral.

After a few minutes, she stood up and felt behind her that there was a hole in her shirt. The classroom block was deserted, luckily, because it was lunch time. There was no one she could face at that moment.

Faridah clutched her bag to her and walked straight out of the school gates and over to the hospital on the far end of the block which was adjacent to the sea. There was a secluded spot by the back exit of the hospital where she could sit and look out at the water. Sometimes she came here when she wasn't ready to go home. She sat down by the back door of the hospital. The sea stretched on endlessly, with the miniscule bits of degrading plastic reflecting the midday sun.

Faridah didn't like the sea, though. It was their limit, their unknown, their captor. It brought nothing to them but the endless plastic. It didn't bring them fish or life. No *mashoomi* like her grandparents and their parents before them had lived upon for thousands of years.

They were called the Lost. Lost at sea, lost from the world, lost from memory. They were part of the gyre which spun endlessly in the waste of the statics. They were told that at least they would have their identity. Faridah didn't know what that meant. When all the predictions the 21st century scientists made came true, the small-island nation states had little time to plan before the rapidly rising sea levels would engulf them.

Faridah knew that being Maldivian, being Tuvaluan, being Polynesian had to be important. But for her, she was from Block 4, Floater 53, West gyre. That was all. She sat on the edge of the floater, squinting her eyes until the sharp glinting of the ocean was blurred, unrecognizable, and she imagined she was seeing some remnant of the Maldives. But the

sand was too uniform in her mind, the green palm fronds too angular. Everything was right angles and straight lines, cut into precision like the floaters on the water.

Footsteps echoed on the plastic behind her. Makim sat down next to her and let out a sigh, the type of sigh that only the weary and aged have – one of relief that their bodies have a moment of respite, mixed with dissatisfaction at the slowing functions of their joints and muscles. Faridah twisted her back away from him so he wouldn't see her ripped shirt. He didn't look at her but narrowed his eyes against the glare of the sun on the plastic-filled water.

“I lost something very valuable to me too once.”

So he knew. Faridah felt a lump of shame and indignation forming in her throat. She looked away so he wouldn't see her blinking back tears. Would he tell her parents, she wondered? Why had he followed her?

“In the Trobriand islands, we had this custom of giving gifts. It was called the *kula* ring. Every year, certain pieces of jewelry, called *vaygu'a*, would be gifted from one island to another, moving in a circuit through the archipelago. It would take a year for the same *vaygu'a* to come back to you. There was one *vaygu'a* which I remember better than any other. I first saw it when I was maybe 6, or 7 years old. I remember this specific bracelet because the islanders which came for *kula* from the next island brought a little girl who was around my age. She took the *vaygu'a* to my chief, placed it on his wrist, and ran away giggling. I didn't speak to her then, but I never forgot her. For as long as we had the *vaygu'a* on our island, I felt there was a piece of her with me.”

“Every year continued like this, until we grew into young adults. She had seen me watching her every time we held festivities during *kula*, and finally one year she walked straight up to me and introduced herself. I married her. I had

that piece of *vaygu'a* with me when it was stolen during a raid shortly before relocation. My wife died in that same raid. Not only did I lose the love of my life, but the object which brought us together.”

Makim fixed his gaze on her, as if probing into Faridah's inner mind to see the world as she did. He could not. His memories were resplendent with festivals, mountains, sandy beaches, and the annual celebrations of the *kula* ring – all were merely words to Faridah. The world left to her was not one of immense discovery and fascination, like the jungles of the Trobriands had been for him. The hard, unyielding plastic beneath him was a reminder of this. It wasn't even the lack of preservation, the lack of effort, or the lack of culture which saddened him so. It was this angular, uniform world they were left to conform to which corroded his spirit. It was the utter ignorance in Faridah's dark eyes when she listened to him speak of things she would never know which made him want to reach out to her mind and pull her into his thoughts so she could see, so she could understand that this was not how we were meant to live.

“But Faridah, these things we lost are only artifacts now. We cannot hate those who are clinging to past ways of life.”

Faridah reached over to him and held his hand.

“I know, Professor. I don't want us to lose anything more.”

Makim smiled heartily at her response. “Then we have to create, Faridah! You're good at that, aren't you?” He squeezed her hand and stood up to go. “Check on Noelle, will you?”

“Yes, Professor. I'll go there now.”

All of her rage and injustice had left her. She felt driven, determined, although she knew not by what. Faridah got up to go visit Noelle. They

could play with Legos and she would tell her what she had missed in class the last few days.

Noelle's grandparents were from Tuvalu, and as far as Faridah knew, they were the only Tuvaluans on this floater. Another floater in the East gyre was almost exclusively Tuvaluan, but Noelle's parents had either left or been exiled.

Faridah knocked on the grey plastic door, and Noelle answered almost immediately. There was no look of surprise on her face. There was hardly any expression at all.

“I'm glad to see you,” Noelle said.

“I can't tell,” jibed Faridah.

Noelle smiled with some effort and fell upon Faridah with a hug. “I'm sorry. Come in.”

“Let's play, I want to build something.” What Faridah did with Legos was beyond play. She created, she envisioned, she saw what was not in her world, and built it anyways.

Without a moment's hesitation, Faridah walked over to the brown and blue castle they had built the previous week and began tearing down the towers, picking apart the fortified walls. Faridah and Noelle had based their model off of a picture in their history textbook. It was a picture of a grey, medieval English castle atop a grassy hill. They were learning about European history, about crusades and round tables and stories of knights like Lancelot and King Arthur.

Noelle stood there, shocked while Faridah knocked down hours of tedious work. It had not been easy, figuring out the design to a building which they had only seen one photo of.

Without looking up, Faridah could feel Noelle's outrage and confusion.

“Don’t get mad. We’re gonna build something way better.”

“We didn’t even get to show this to anyone though!” she protested.

“Why would we? It’s from someone else’s world, someone else’s history.”

Noelle paused, processing Faridah’s unusual cynicism. Faridah continued rearranging the individual Lego blocks, now sorting them by color. She turned away from Noelle so she wouldn’t see her face. She felt a warm hand on the small of her back. Noelle tugged at the ripped pieces of her shirt.

“What happened to you?”

“I was trying to hold on.”

“Hold onto what? You have a gaping hole in your shirt. Who grabbed you?”

“No, it wasn’t like that. Tokoloshe and Maui gave me trouble.” Recalling the morning’s events made hot tears begin to gather again. She took a deep breath and told Noelle flatly what had happened.

“I brought my grandma’s coral for show and tell.”

Noelle gasped. “You know you’re not supposed to touch it! Coral is so fragile!”

“Yes, I know. Toko and Maui cornered me after class and took it from me. They said it was so beautiful that...”

“That what?”

“That... how did it still look so pure in the hands of a dirty Divvy?”

Neither of them said anything. A heavy silence hung between the two girls.

“I’m sorry, Fari.”

“Never mind. I’ve got an idea. I want to build us a new home.”

“What do you mean, a new home? A new floater?”

“Exactly. A floater which is beautiful and natural.”

Noelle frowned. “Trees are natural. And animals. You mean like that?”

“Something along those lines. We’ll figure it out.”

They spent the next two hours working nonstop with the Legos. Under Faridah’s instructions, they constructed a geodesic dome structure which would be able to contain every biome from the natural world and support life. The Legos didn’t quite do it justice, but Faridah’s idea was crystal clear. She had a plan for sustainability and self-sufficiency. They wouldn’t have to be doomed to live upon plastic forever.

Little did Faridah and Noelle know that they had just closely replicated one of the original designs suggested for the floaters from two generations ago. Lautoka, a famous I-Kiribati environmental engineer had submitted the blueprint to be used as the model not only for his country’s floaters, but all floaters. It was called the Lilypad, a floating ecopolis for climate refugees and a prototype for an auto-sufficient amphibious city. It was rejected on the basis of extremely high costs. He applied for Canadian citizenship instead of going to live on the floaters and successfully innovated new energy capture systems which transformed methane trapped in the Canadian tundra into liquid fuels. Lautoka read in the news that the last island of Kiribati had been

submerged a few weeks before he died in his sleep in his home in Calgary.

The winds began picking up as Faridah left Noelle's home. A storm would come that night. Already, the sun was moving across the horizon. The floater was spinning, but sometimes she would close her eyes and try to imagine that she was standing in the center of the world, and that it was the dark red, setting sun, which spun around her.

She heard the weeping before she stepped inside the house. Faridah pushed open the screen door and saw her grandparents on the couch. Kana was holding Ma-ama, trying to soothe her. She took two steps forward and stopped. On the television was the Maldives. Aerial views of the atolls she had only seen in photos showed the turquoise green waters of the lagoons merging into the deep blue of the ocean. Then the screen cut to glittering white-sand beaches lined with coconut palms, their fronds swaying lazily in the wind.

The announcer spoke:

"These world-class beaches, modeled upon those of the former Maldives, will be artificially built in three sites in Western Europe. The possibility of an exotic holiday will once again be a reality. Tourism from the beaches is projected to bring in up to \$800 million in the first year. Although the islands that the beaches are based on have been submerged for over half a century now, they do not have to be another lost wonder. Visitors can come experience the beauty for themselves starting next summer!"

"They've forgotten us," her grandmother said, "how could they go rebuilding and forget that we already had the most beautiful..."

"It's okay, it's okay," Kana murmured to her. "There's nothing we can do."

Ma-ama choked back tears. "We had the most beautiful islands in the world. If they had wanted to visit them so badly, why didn't they save them then? They'll just rebuild, and forget we ever existed!"

"It's wrong," Kana agreed. "They promised us so much. That we could retain who we are. But they've just taken what they wanted and left us on these pieces of plastic. We'll never get our home back." Faridah heard her grandfather's voice cracking. "We've been forgotten, floating out here."

Faridah couldn't speak to them now. Not about the coral and definitely not about her new design for the floaters. She ducked into her parent's bedroom where her mother was pulling out the prayer mats from the wardrobe.

Her mother was a stolid woman who lived and lost as if they were one in the same thing to her. Born in the last few habitable years in the Maldives, her earliest memories were of chaos, flooding, and explosions in Male. She relocated to the floaters as a teenager with Kana and Ma-ama. Having experienced such loss, there was little which could move her to tears.

Faridah's mother rolled out the prayer mat as usual, facing the wall with the door. The room swayed. The floater was moving, rocking them back and forth. Mum turned and peered out the window, searching for the sun on the horizon. Slowly, it bobbed away towards the edge of the window pane.

"We're drifting south-west. Fari, help me move the mat so it faces East," Mum said.

Faridah angled the mat as she pointed. As they kept moving, Faridah kept shifting the mat in alignment. Facing East all the time was impossible. Who could they be praying to, who left them out here like this? What religion, what home, what society, were they clinging to? Faridah no longer felt guilty about losing the

coral. It was useless. Just like the memories her Kana and Ma-ama wept over, it was nothing but a reminder of a drowned world. They were perpetuating the pain of loss by remembering. The world had given up on them, had forgotten them, just like Kana had said.

“That’s fine there. Let’s pray,” her mother said.

Anomie washed over Faridah like the waves pushing tirelessly against the sides of the floater. She touched her forehead to the mat and closed her eyes.

The floater continued drifting south-west.

Alaine Johnson is a second year student at Yale-NUS College majoring in Environmental Science with a minor in Anthropology. She grew up in Seattle and has lived abroad in Thailand, Guatemala, Swaziland, and currently Singapore. Alaine is interested in exploring how anthropology can be applied to the era of the Anthropocene, and hopes to work within the intersections between the environment and human development.



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Ginger Goes Bananas

Emily Mathias

By far the coolest thing I have ever done was volunteer abroad. Almost two years ago, I spent a month in South Africa volunteering at a baboon rehabilitation center. During my time, I completed class work to get class credit but also had the best month of my entire life.

When my anthropology professor originally mentioned the organization, the Centre for Animal Rehabilitation and Education (CARE), I thought she was crazy. I had never been out of the country, I didn't even have a passport, and I had never planned on studying abroad. But once she mentioned it, I could not get the idea out of my head. I was looking at the Facebook page and their website, <http://www.primatecare.org/>, obsessing over everything daily. CARE rescues orphaned chacma baboons. Most of the rescues have had their mother or entire troops killed in a variety of different ways. Some of the baboons were rescued from labs and people trying to keep them as pets. The goal of CARE is to release the baboons back into the wild and educate people on the benefits of baboons. I decided to email the organization just to see what information I could get, but also so I would see it was impossible and move on. They responded with the volunteer information packet and dates I could volunteer the following summer. Volunteers go to CARE for at least two weeks and help with a huge variety of tasks from spending time with the baby baboons, cleaning enclosures, making enrichment, collecting elephant feces, and so much more. CARE would not run without volunteers so having a steady flow of good, hardworking volunteers is very important to the organization. I worked with my professor to create a class for my trip and get grants and scholarships to help fund it.



In what seemed like a blink of an eye, I was on a 15-hour flight to South Africa. I was super excited but almost equally as nervous. I flew to the Phalaborwa airport, an airport without walls, and was picked up by CARE staff. Phil, the staff member, drove me to CARE about an hour plus away from the airport.

Every volunteer goes through two days of “quarantine” at CARE to guarantee no one got sick on their trip over. We are not allowed to have any contact with the baby baboons during this time. During those two days, everyone is taught safety measures and health issues that may arise. We are also introduced to the sanctuary baboons. The sanctuary baboons are currently not eligible to ever be released back into the wild. Stevie and Patats are the main ones. Stevie is mostly blind and gets frustrated very easily when he does not understand what is going on. Patats is the grandma of CARE. When she was rescued she had been kept in an

oil drum where a witchdoctor collected her feces for medicinal purposes. The first thing she saw after being rescued was humans so associates she humans with kindness. Patats is the only adult baboon with whom volunteers are able to interact. She loves to groom people and give lipsmacks, a sign of affection. I was also trained on the guinea pigs and porcupine enclosure. Presley, the porcupine, has been released back into the wild since I left, but at the time was in an enclosure with a bunch of guinea pigs. They were used to train volunteers on how to properly clean and feed. Though CARE is a rehabilitation center for baboons, the guinea pigs will be used in the education center to educate visitors about the importance of caring for animals once construction is finished. Somehow it became a running joke how much I “loved” taking care of the guinea pigs and Presley so after I was trained, I always trained new people on them.



At the end of the quarantine days, I was able to interact with the babies, I had “nursery” shifts and “nursey at the river” shifts. The nursery is

where the babies spend their days before they return to the enclosure with all of the younger baboons. Nursery at the river is when we would all carry the babies down to the river and let them run around for a bit. They were allowed to play within a circle we made and little bit outside of the circle but knew they could not go too far.

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It seems counter intuitive but the baboons would only go the bathroom on the people they were comfortable with, and Mika loved to go the bathroom on me as well as throw up her morning bottle of milk all over me.
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My favorite baby was Mika. Mika was orphaned after her entire troop was poisoned but luckily she was too young to be eating solid foods yet. When Mika arrived at CARE, she was given a human surrogate mom who took care of her until she was old enough to sleep and spend all of her time with other baboons. The first time Mika and I interacted I carried her down to the river and she absolutely hated it. She wanted to be carried by someone she was familiar with. She did not come near me again for a couple days. Then one day she fell asleep on me and we were in love. It seems counter intuitive but the baboons would only go the bathroom on the people they were

comfortable with, and Mika loved to go the bathroom on me as well as throw up her morning bottle of milk all over me.



Nursery shifts and nursery at the river shifts were amazing but being at CARE was so much more than that. It was waking up at 6am to make bottles, scrubbing enclosures clean, going through rotten food, chasing around Guinea pigs, walking the dogs, helping rebuild old enclosures, hanging out with Patats, and so much more. One of my favorite tasks I did was opening hundreds of yogurt containers. A local grocery store had donated yogurt that was on the verge of expiring or had recently expired. A bunch of us got assigned to open the yogurts up and pour them into larger containers to be brought to the older baboons. I spent probably three or more hours (along with other people) opening up these tiny yogurt containers into larger bins. It would have been one of my least favorite things if I had not seen the baboons get the yogurt. Some of the male staff members and workers brought the yogurt to the baboons and they went crazy. The guys were slinging the yogurt up on the poles of the enclosure but were not

going quick enough so the baboons started to reach into the buckets and covering their arms with yogurt.

CARE was by far the best thing I have done in my entire life. Beyond the experience working with baboons, I met so many amazing people there. I still talk to my roommates and a couple other people regularly. Every single person there spent hundreds if not thousands of dollars to come spend their time helping these animals. Though everyone had very different personalities everyone meshed well together because of the common purpose. It was definitely not a vacation but was just as enjoyable, if not more, than one.

Emily Mathias graduated from Christopher Newport University in May 2015 with a degree in Sociology with a concentration in anthropology. She currently works at a life, career, and mental health coaching practice in Centreville, Virginia with hopes of starting graduate school in the fall for elementary education.



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Fighting for a Better World

Tyler McGilvery

In November of 2011, I set foot in Haiti for the first time. I stepped into a world wherein the ramifications of the tragic earthquake that shattered the country just 23 months earlier were still very present and real. It was Thanksgiving break of my senior year of high school and I was on an 8 day mission trip through my home church, Warrenton Baptist. For decades our church has made this trip once or twice a year to Fort Liberté, Haiti where we have a partnership with Jerusalem Baptist Church through a non-profit organization called Friends of Fort Liberté (www.haitifriends.com). Over the years the associated churches of Friends of Fort Liberté have been able to make a lasting impact on the community of Fort Liberté through the building of a church, a school, a clinic, an orphanage, a farm, church outposts, and various other side projects such as family homes.

I decided to embark on my first trip to Haiti for a multitude of reasons. First and foremost, I had always wanted to positively impact the lives of others via mission work. Friends of mine who had been on the trip before strongly urged me to go, and I decided that I needed to take advantage of the opportunity at hand. Additionally, I selfishly hoped that my life would be positively impacted by the experience of seeing a culture that was drastically different than mine. Leaving Haiti at the end of my first trip I knew that the country and its people had stolen a piece of my heart, and I left promising myself and my newfound friends that I would return. Since my first trip in 2011 I have revisited Fort Liberté three times over Thanksgiving break in 2013, 2014, and, most recently, in 2015. During each trip, the work I did varied, but all of it has been centered on the same premise: love for the Haitian people. Over the years I have built wooden frames for

pouring concrete columns, cut rebar, broken boulders, dug foundations, painted buildings, tilled land, planted crops, scribed in the clinic, and carried out nurture groups with the kids at the orphanage. Through these experiences, I discovered that one of the largest differences between construction and farm work in the States and similar work in Haiti is the absence of machinery. Rebar is cut by hand, wooden frames for concrete columns are assembled and then leveled by hand, concrete is mixed and poured by an assembly line of people, boulders are broken with hammers, foundations are dug with shovels, and land is tilled with hoes. Keeping this in mind the skillset of most Haitians in regards to jobs such as these is unbelievable. I have seen Haitian kids no older than 10 remove nails, cut rebar, and dig holes faster than grown men and their willingness to work hard without ceasing through the heat of the day is truly inspiring.

Despite the extraordinary work ethic of the Haitian people, however, unemployment is a very prominent issue in the country. Nationwide, unemployment is estimated to be as high as 70%, a statistic that is not due to the lack of willing or skilled laborers; it simply boils down to a lack of opportunity. The fact of unemployment is one that countries sending foreign aid and church missionaries alike need to take into consideration when helping in Haiti. Employing foreign citizens or carrying out work without an educational or partnership aspect to it is not progressive and is many times detrimental to improving communities. A community's overreliance on aid hinders its members from facilitating social and structural changes themselves and further promotes a sense of helplessness.

When one steps back from the single story that the media presents of hunger, malnutrition,

and unemployment, they will find a Haitian culture that is extraordinary eclectic. The culture is characterized by a compilation of the country's West African and French roots, colonial history, and Caribbean and Spanish influences due to the island's geographic location on the Island of Hispaniola, shared with the Dominican Republic. Religion is deeply rooted in the culture of Haiti and Catholic and Protestant influences are visible specifically in the art, architecture, music, and dance of the country. Additionally, although exaggerated by the media, the religion of Haitian voodoo has impacted these aspects of culture as well, particularly Haitian folklore. Finally, the exquisite cuisine of the country has a heavy French Créole and Caribbean influence and meals comprising of meat, starches including rice and beans, and various tropical fruits that can be grown locally are most common.

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 heart**
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My experiences in Haiti, as in any new culture, have been characterized by my perception and personal evaluation of sensory stimulation. When I think of Haiti, visually, my mind jumps to the first time I saw naked children running down a dirt path carrying water, when I saw a family of 5 riding on one motorcycle and upwards of 25 people hanging onto and sitting on top of lorries in traffic. Come nighttime, I experienced the most beautiful night sky and starscape I have ever seen. Olfactorily, which is arguably the strongest and most memorable sense, my mind recalls the smell of fresh air, the countryside, dirt, gas, and within more densely populated areas, the smell of trash and



human waste (an unfortunate side effect to lacking an adequate sanitation system). Tactilely, I immediately think of all the kids in Fort Liberté; they are always pulling on your hands and arms and are more than content to walk hand in hand with you wherever you are going. Additionally, hand shakes and hand holding while touching thumbs is extremely common whilst in conversation.

At first, I was overwhelmed by the change in culture and the barrage of sensory over stimulation; however, with time and multiple return trips, the culture has become all the more familiar to me. The scenes that I associate with Haiti now are not that of a poor and hopeless people but that of a beautiful and skilled people who crave opportunity. Upon return to the United States many times I feel ashamed of the materialistic and self-centered lives that are characteristic of our society. I, like so many other people, often dream of moving down to Haiti and living a much simpler life, but as of now that cannot be the case. My first

trip to Haiti gave me career inspiration, one that I have been following and molding over my last four years of undergraduate education at Christopher Newport University. I will be graduating this coming May (2016) with a Bachelors of Science in Environmental Biology and a double minor in Anthropology and French. Starting in September of this year I will be moving to Malta to pursue a Masters of Science in Environmental Management and Sustainability through an international program with both James Madison University and the University of Malta. I am beyond excited to study environmental sustainability internationally and, through this international experience, I hope that doors will be opened for me to continue pursuing jobs on the global market. I dream of one day working for, or running, my own non-profit organization which focuses on environmentally sustainable solutions to problems such as poor water quality, food shortage, and inadequate sanitation in third world countries around the world. I believe that there are solutions to these problems that will benefit both the local communities and the environment positively; it just takes planning and asking the right questions. Now more than ever cohesion and

cooperation between non-profits, NGOs, governmental organizations, academics, and other interested parties is the key to a more progressive and environmentally sustainable world.

Tyler McGilvery is a passionate environmental conservationist, photographer, and follower of Jesus Christ who aspires to one day to be a leader on the global environmental stage. After graduating from Christopher Newport University with a B.S. in Environmental Biology and a double minor in Anthropology and French, Tyler will be attending the University of Malta to pursue a M.S. in Environmental Management and Sustainability.



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21st Century Hunter-Gatherers

Lindsey Rhoten



The environment is an essential facet to any human being's survival; the need for oxygen created by plants, water housed in the lakes and rivers, and nourishment produced from the Earth. While humans are dependent on the environment for all of these necessities, imagine depending on the environment for your livelihood. Imagine if hunting and gathering was your mode of subsistence in the 21st century.

Today's capitalist society has morphed the original sense of hunter-gathering into hunting and gathering for a profit. Uncontrollable elements such as weather, water cleanliness, and harvest season times determine if you are going to be able to pay your bills at the end of the week. This is an everyday concern for the watermen on the Chesapeake Bay. They are 21st century hunter-gatherers for different species such as oysters, fish, and shrimp in the Chesapeake Bay. Being a waterman is a profession that can be highly unpredictable, but many of the watermen are third and fourth

generation, and dropped out of school during their early teenage years to carry on the family tradition. This profession is the only one the watermen are familiar with and it is an occupation that requires a particular set of skills, talents that they acquired from their parents and grandparents at a young age.

Watermen culture is declining as it becomes difficult for gurus of their trade to strictly adhere to the increases in regulation by governmental agencies. It is a worldview that has been passed down from generation to generation, and when someone interferes with a mindset that has been around as a family mode of subsistence for years, it becomes personal to the watermen. For a large number of the watermen, it is a skill that they have been doing for decades, before the regulations were strict, and before politics had an impact on what decisions were being made. Where it used to be a family profession, unfortunately, watermen have begun to encourage their children to steer away from it. Getting up at

3:30 in the morning, performing strenuous hours of physical labor for a low wage is no easy task, especially when there are a myriad of factors contributing to their ability to catch for that day.

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I was introduced to the watermen community through a project conducted by one of my anthropology professors on the declination of waterman culture. Combined with my personal passion for the legal field, this led me to focus on regulatory agencies and how their actions might contribute to the decline of the watermen culture.

The exposure to the interaction of regulatory agencies and the watermen opened my eyes to the importance of protecting the environment and having a long-term view of survival of species. I was reminded of the destructive power man has over the environment. Seeing the watermen's pure connection to the land and water can only come from personal experience and information passed on from generation to generation. Their knowledge of the tides and the weather patterns are remarkable, nothing close to what can be found in a textbook. The connection to the

water goes deeper than just being able to survive, it is all the watermen know, it is all they live for.

My father was a recreational fisherman when I was growing up; going out to fish on the Bay was something I lived for as a child. It was a bonding moment between us that built long lasting memories that I now cherish since his passing, all of which were centered on the water. The thought of my children not being able to experience something like that is frightening and troublesome, and it was never a thought that crossed the watermen's mind until the last ten years. Living off the land might not be something that is valued by the average person in society, but it is essential to groups of people like watermen, and if they are able to survive in a society that has long abandoned the days of hunting and gathering.

Lindsey Rhoten is graduating in May 2016 from Christopher Newport University with a degree in Sociology concentrating in Criminology, and a minor in Anthropology and Psychology. She plans on attending law school in the fall in hopes of furthering her career as an attorney in the legal field.



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Image of Chesapeake Bay Waterman by Chesapeake Bay Program made available through Flickr ([link](#)).

An Ethnography of a Time, Place, and Plants in Bali

Emily Crawford



Ubud, Bali, Indonesia. Motorbikes, offerings, women carrying woven baskets on their heads, tourists slinging cameras keen to paparazzi commodified culture at dance performances, tourists perhaps more in abundance in this corner of the island carrying yoga mats and sipping Jamu (an Indonesian medicinal drink consisting of Turmeric, lemon and tamarind). Dogs roam and own the streets and hotels and home-stays are found at every turn and corner. I came here three years ago and was sad to discover the music and culture hub “Jazz café” had closed down, a multistory hyper modern hotel constructed next door. What else has changed since I was last here?

Balinese spirit and culture stays strong through many storms, and continuing development creates no fallen branch on the path to the temples for their many ceremonies, but the island is also in a constant state of change. A Balinese couple I befriended last time moved on from the area, calling it “VIP.” Rental prices soaring mostly based on foreign interest. My current research is based on an ethnography of plants, plant agency and sites of plant/ human co-mingling¹ as well as artistic collaborations, so while mulling over cultural changes in the area, I decide to turn to the plants.

The sheer abundance of greenery in the tropical jungle here is psychologically nourishing even for those who suffer ‘plant blindness,’ a side effect of human

¹ See Michael Marder and Caitlin Berrigan

exceptionalism where plants are seen merely as a background to life and not consciously acknowledged. Everywhere I walk here, I've become acutely aware of giant leaves and small soft vibrant flowers brushing past me, the gentle thundery sound of it. Mosses and small plant contortionists grow on most human-made structures, the thick humid air and daily rain ensuring wild flourishing.

I came by Nadi Herbal by accident, looking to escape the frenetic traffic of Raya Ubud, wandering up a random road to a small shop selling herbal medicine and cosmetics. Vibrant and friendly Lilir, owner, ushered me inside and began pouring various oils on a motorcycle wound I'd acquired and feeding me tea of Tulsi and 'cat's whiskers' – good for the immune system and kidneys she says. Her booming smile and clear eyes suggest she takes a healthy dose of plant medicine and perhaps spends a lot of time among plants. I mention to her my interest in plants both anthropologically and in emerging research into plant intelligence, plant agency and liveliness. "Well you

must come on our herbal walk!" Lilir and her husband, Westi, are both students of traditional Balinese medicine and Ayurvedic medicine and also possess knowledge passed down from their parents who are both village healers, plants being the vital ingredients in the making of offerings and for medicine. She tells me one of her main motivations is to hold on to traditional Balinese medicine, with many people now, especially the youth, turning to pharmaceuticals as a quick fix. She says the health of the soil is also a concern, where rice farmers are increasingly turning to non-organic methods and compromising the rich black wormy soils of the past (and still often, present).

Taking her up on the offer, I hand over 200,000 rupiah for the tour and the following day I'm darting through tour buses and men offering "Taxi! Taxi! Cheap! Cheap!" on Raya Ubud to meet for the tour in front of the Puri Lukisan museum. I'm late, and my new addiction to Indonesian 'koppi' is to blame. Finding no one in front of the museum,



one taxi driver points me towards a tiny opening between touristic restaurants, a small narrow overgrown path. Has this always been here? Entering the muddy, rocky path with high concrete walls either side, unruly vines close the gap even tighter. Winding around several corners I begin to feel a claustrophobia setting in. Could this really be the right way? I pass

and wears colorful socks with her thongs. “When I was small we had no TV, so this was very fun for us. We also cut the Frangipani tree and use the sap as glue to put on a stick and catch dragonflies to eat!” Her playful nature meets an impressive interest and knowledge of plants for a young woman.



through a small swarm of dancing dragonflies and eventually emerge into rolling rice fields surrounded by pockets of jungle, water sitting in the plateaus of rice look like a mosaic of mirrors for the sky. The sound of traffic has completely faded, replaced by the sound of flowing water, intricate irrigation systems called *subaks* where water flows through the fields and ends up arriving at temples. Water that is viewed as holy. Slowly shuffling rice farmers peacefully swing machetes with woven triangular hats, sinking their legs knee deep into mud while they plant. I see the tour up ahead, and am surprised to meet Iluh, the 19 year old tour guide. She is showing the group how to blow tiny floating bubbles from the broken stems of Castor leaves,

The Balinese have an intimate connection to rice. I was intrigued by the level of care taken by the rice farmers to provide optimum conditions for the plants, evenly spaced and roots submerged in just the right amount of water that requires constant attention and tending to. Rice features in Balinese religion (a unique brand of Hinduism) and ceremonies, the word for rice being ‘nasi’ which also means meal, for a meal without rice is almost unimaginable to the Balinese. Rice is seen as a divine and feminine ‘being,’ I am told. I notice a bamboo structure amongst the fields, a windmill circle at the top spinning in the breeze. I assumed it was to scare away birds when the rice is young and vulnerable. I’m surprised to learn the

relevance of the sound it makes, “Ting, ting, ting, ting!” The rice likes this sound, Iluh tells me. “It makes the rice happy, and it makes more rice. Just like a pregnant woman, they like the sound too.”

Curious and intensely focused on the plants, we spend the next three hours deep in the rice fields, far more abundant with generous plants than one would imagine. Walking slowly, crouched towards the earth, our eyes flicker through micro floral worlds and water droplets shimmer amongst the layers of green as though we are searching for precious relics lost in the haze of fast paced modern life. Interestingly we learn that a small glowing white flowering plant known to Iluh simply as ‘white star flowers’ can be soaked in water and used to wash the impurities of pollution from ones eyes.

Understanding includes a haptic vegetal sign language. Pointing, touching, and tasting our partial translations across language and species lines. We use our senses to greet rambling ylang-ylang and magnolia, both important in Balinese prayer. Scrunching small samples of leaves, we inhale deeply the aromas of kefir lime, pandan, clove, annona, the sweet unexpected smell of turmeric leaves. Iluh’s knowledge of plants is only halted by my questions of invasive plants, vines that appear to be colonizing sections of forest and algae’s amongst the rice, describing them only as “parasite.” I wonder if the same method of waging a war on all non native ‘weeds’ and the questionable desire to return to pre colonial ‘wilderness’ is a discourse with any weight here as it is in Australia and many other post colonial nature-cultures, but I get the sense that Balinese are not so stagnant in their view of nature, or culture.

Iluh tells me that ‘wild passionfruit’ is “not really native, but we like it very much,” as she strokes one of the leaves

by the side of the path, a vine that is noticeably taking control of the space. Perhaps foraging the plant, while still respecting and being thankful for its generosity, is a form of management. Balinese make gratitude for plants official during a ceremony that happens once every six months called Tempek Uduh. Offerings are dedicated to all vegetal life on this day, placed at the foot of trees, gardens and rice fields to show gratitude for the generosity and life giving value of plants, and to pray for more nourishment and abundance, a giving force the Balinese are acutely aware of as crucial to their survival.

“Look here is the shy princess!” Right next to our feet sits *mimosa pudica*, also known as ‘sensitive plant’ or ‘shame plant’, though I far prefer the affectionate nickname Iluh chooses. Originating in Central and South America, it is considered invasive in places it has jumped ship to such as Africa and Southeast Asia. I have long awaited a meeting with this plant, famous for its rapid movement and sensitivity to touch. The low lying shrub has small fern like leaves with leaflets that curl immediately in response to touch and round purple explosions of flowers. “We play with this one a lot” says Iluh, tapping the tiny branches. As I fool this clever plant into thinking it is under threat and retreat its leaves so quickly and gracefully, I am reminded that *mimosa* is at the forefront of one of many scientific studies into ‘plant intelligence.’ Just like the tiny floral explosions of purple adorning mimosa, insights into the way plants respond, sense the world around them and communicate have shifted humans’ perception of plant worlds in recent years. It was recently discovered by biologists that *mimosa* is able to learn which stimuli is worthy of defense and which is not, changing its behavior accordingly. In these lab studies it was found that the plants were able to ‘remember’ these learnings for several

weeks, sometimes a month. Mimosa is helping to blur the borderlines between plants and animals, where it is often assumed that intelligence like memory is automatically linked to a central nervous system. The agential capabilities of plants are agreed upon by the group as I share this information, one traveler from Germany adding as he scans the landscape thoughtfully that plants are “incredible creatures.”

Though the Balinese may not necessarily agree that plants are intelligent agential creatures, they certainly practice an active acknowledgement and gratitude for plants and their unique liveliness, demonstrating somewhat of a kinship across species. The common word Balinese seem to use when referring to nature and plants is “mother.” Indigenous perspectives and TEK (Traditional Ecological Knowledge) is often inappropriately romanticized or assumed to be “in harmony” with nature, homogenizing highly diverse groups of people. TEK should never be seen as fixed and unchanging, however, there is

still immense value in turning to TEK in the face of so many environments facing neocapitalist development and destruction. (So very close to this peaceful place amongst the rice and medicinal jungle on the Indonesian islands of Sumatra and Kalimantan, fires raged across unimaginable areas of forest just last year, and continue to devastate ecosystems and their people across the country, mainly caused by slash and burn farming.) In another way, just as a mistake is made by trying to erase the differences that exist between each community and within communities regarding TEK, differences between species may actually be a site of communion.

Departing from the colonizers tendency to erase difference, Rosemary-Claire Collard (et al) suggests in “A Manifesto for Abundant Futures” that working towards more abundant futures requires a building of responsibilities and relationships that embraces vast differences, borrowing the concept of *walking with* from the Zapatista



movement to describe the need for solidarity between species. Literally walking with the plants in this small corner of jungle, we enfold ourselves with ancient farming methods and medicinal kinships, cosmopolitan “parasites”, the smoke haze of development, and curious humans from many shifting cultures, landscapes and histories. When the only way is forward, to learn, taste, touch and be affected by plants and their entangled humans and cultures may be a small act of protest. A moment to consider futures beyond human exceptionalism and beyond narrowly neoliberal development and its often destructive outcomes so we may cultivate respect for plants and non-humans, and make way for more abundant futures.

Emily Crawford is an honours student in Environmental Humanities at the University of New South Wales. She has a particular interest in experimental ethnography and cultural anthropology that seeks to free multiple non-human species from the backgrounds of mainstream anthropology. She also majored in Fine Arts and is interested in the potential of art and various forms of 'artivism' to ignite curiosity, imagination and engagement in complex topics and issues.

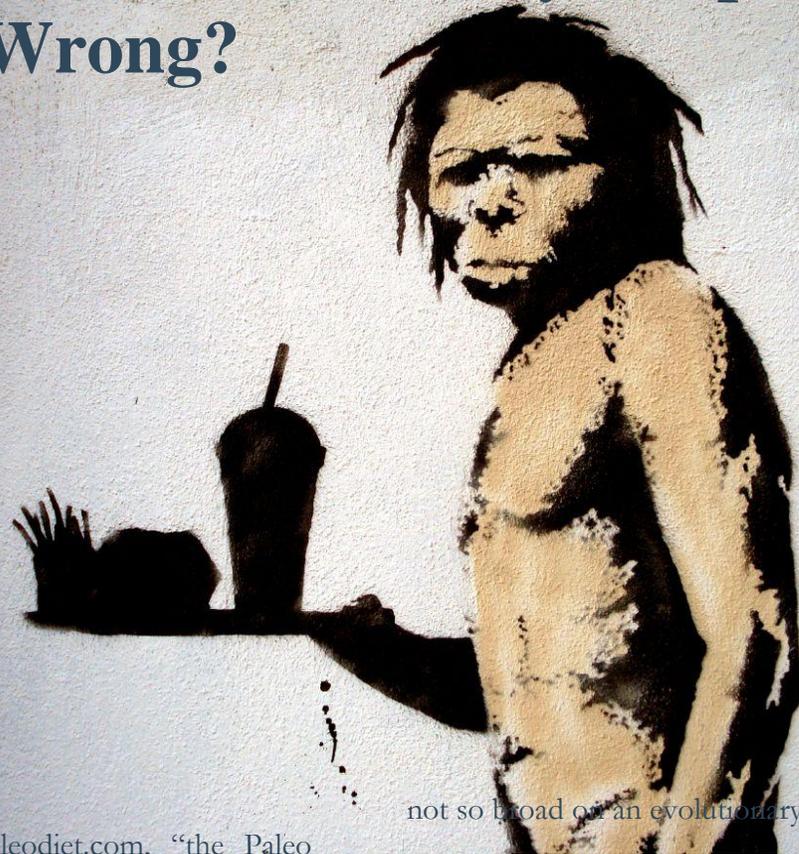
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The Paleo Diet: Brilliantly Simple or Simply Wrong?

Coltan Scrivner



I. The problem

According to thepaleodiet.com, “the Paleo Diet, the world’s healthiest diet, is based upon the fundamental concept that the optimal diet is the one to which we are genetically adapted.” Who can disagree with that? After all, it does make sense that the best diet would be one that, according to our genetics, our body can utilize most efficiently. However, is this what the Paleo Diet actually offers?

The Paleo Diet claims to offer “modern foods that mimic the food groups of our pre-agricultural, hunter-gatherer ancestors.” First we have to look at what the Paleo Diet means by our “ancestors.” Being a “paleo” diet, it is referring to our ancestors in the Paleolithic era, which extends from about 2.5 million years ago to about 10,000 years ago, just after the end of the last ice age and around the dawn of the Neolithic – or agricultural – revolution. 2.5 million years is a pretty broad range from which to select a diet, but perhaps

not so broad on an evolutionary timescale.

One issue that arises when understanding the diets of ancient hominids is the fact that archaeological sites older than 10,000 years ago are uncommon. Prior to the Neolithic revolution people were largely hunter-gatherers. They didn’t really have permanent settlements, as whatever could be hunted and gathered would vary by the season. Over the centuries animals permanently migrated to new locations or became over-hunted in their previous locations. However, when mankind developed agriculture about 10,000 years ago, people began to establish permanent settlements. These settlements, which were fueled by the domestication of plants and animals and thus liberated humans from hunting and gathering, provided a rich source for archaeological artifacts. It’s difficult to find the few material bits and pieces of a nomadic lifestyle. When people settle for hundreds or even thousands of years in a

location, artifacts build up, and the chances of finding something 10 millennia later are much greater.

II. Studying ancient diets

So, how do we know what the hunter-gatherers ate? One way is to look through the archaeological evidence. Animal bones are often signs that the inhabitants ate meat. Furthermore, we might find tools that could have been used for butchering along with cut marks on the bones that imply that the animal was butchered. Along with this, we can track morphological changes over time. Changes in the size and structure of certain bones, such as the mandible and cranium, might indicate a change in diet. A diet heavier in meat could require a larger mandible and would imply an increase in calories that would be necessary to support a larger brain in the larger cranium.

Osteological analysis, though, requires an array of assumptions. It's important to remember that an archaeological site is merely a snapshot in time. For example, a site that was only inhabited in the winter might show a heavy use of meat due to the fact that not many plants grow in the colder months. With so few sites, there isn't very strong evidence one way or the other about diets. Small sample sizes can be incredibly biased.

Another way to study ancient diets is by using stable isotope analysis. If you remember from chemistry class, isotopes are two elements with the same number of protons but a differing number of neutrons. About 99% of the carbon in the atmosphere is C12 – carbon with an atomic mass number (combined number of protons and neutrons) of 12. Carbon has two other isotopes that are relevant to scientific studies, C13 and C14, which are less stable and less abundant. Carbon dating measures the relative abundance of C14 in an organic artifact and

derives an approximate date based on known rates of decay for C14.

There is a certain ratio of C12 to C14 in the atmosphere and this is taken up by organisms. After the organism dies, C14 begins to decay. Because C13 is not heavy enough to decay, it will remain in the bones and teeth in the same C12:C13 ratio as when the organism was alive. Although C12 and C13 are not discriminated in our bodies, some plants, known as C3 pathway plants, distinguish between C12 and C13 ever so slightly. Ribulose-1,5-biphosphate carboxylase/oxygenase – commonly known as RuBisCO – is an enzyme that, in most plants, binds to the CO₂ entering the stoma. Rubisco happens to have a slight affinity for C12, meaning the plant – and everything that eats the plant – has a disproportionate C12:C13 ratio. In arid climates plants had to adapt to the selective pressure of water escaping from the stoma when it opens to have rubisco capture CO₂. Therefore, some plants, known as C4 pathway plants, evolved to use another enzyme, PEP-carboxylase, to bind CO₂. PEP-carboxylase binds much more strongly to CO₂ than rubisco, and doesn't present a preference for either C12 or C13.

Why does this matter? Carbon isotopes are used in conjunction with other elemental isotopes, such as nitrogen, to assess relative ratios of plant to meat in diets. For example, organisms higher in the food chain tend to have more N15 than organisms lower in the food chain. To make matters even more complicated, the isotopic variation of the ecosystem can vary, especially when environmental manipulation (such as cooking) comes into play. Ultimately, stable isotope analysis has a modest amount of discriminatory power, but is not comprehensive.

Another thing to consider is which “paleo” we should eat like. Clearly there were different times and species of hominids that ate more meat than others. An Inuit living in north Canada survived largely off of seal fat. However, *Homo erectus* probably lived more off fruits and nuts. Humans survived and came to dominate the planet due largely to their adaptability, including our omnivorous diet. Our ability to adapt to mostly nuts or mostly blubber has granted us freedom to roam from the heat of Tanzania to the frozen lakes of Canada. Paleolithic hunter-gatherers simply ate what was available to them.

Many Paleo dieters cite articles discussing health disparities that arose when agriculture entered the picture. While this is true, it’s probably not because we stopped eating a “paleo diet.” More likely, health problems arose because we stopped eating such a wide variety of foods. Many ancient peoples went from elk, bison, nuts, and berries to what could be domesticated. Eventually, our domesticated crops and animals grew in variety and things leveled out a little more. This was likely a slow transition. Domestication started out as a way to supplement hunting and gathering before the boom of the Neolithic Revolution. Regardless of your diet, it is important to eat a variety of food in order to encompass all nutritional ingredients. Unfortunately, many people in Westernized cultures today eat a much more monotonous diet than they should.

III. We are not our ancestors

One of the main arguments of the Paleo Diet is that our genome has changed little since the end of the Paleolithic period, meaning our bodies are still best adapted to the diet of that time. This argument is a bit short-sighted. To claim that our genome has not adapted to our Neolithic lifestyle is simply incorrect. It is true that our genome evolution lags far

behind our cultural evolution, and is often overshadowed by it. However, there do exist some key differences in our genomes from those of a Paleolithic hominid. The two most well known adaptations are the amylase and lactase mutations. Amylase is an enzyme that allows for digestion of starch from grain. As the Neolithic Revolution kicked into gear, those with an extra copy of the amylase gene better metabolized all of the new grain they could grow. This extra gene placed amylase in the saliva, helping break down the starch at the beginning of digestion rather than beginning halfway through in the gut.

The second mutation is a regulatory mutation. People are born with a gene that regulates the production of lactase, an enzyme that breaks down the unusable dairy sugar lactose into the usable sugars galactose and glucose. Before animal husbandry practices of the Neolithic Revolution, the lactase gene would be transcriptionally inactive, or “turned off” in most people around the ages of 5-7. The child no longer breast fed and really had no need for lactase. However, once people began raising dairy animals, foods such as milk and yogurt became important. This may have caused positive selection for the genetic mutation that allowed the lactase gene to remain “on” throughout life. Those with the lactase and amylase mutations could better exploit dairy and grain products than those without the mutations. Though similar, our genomes are different from those of our ancestors.

Even if our genome is relatively similar to our ancestors, our microbiome certainly isn’t. The microbiome is the summation of microorganisms that inhabit us. To put this in perspective if we were to take the entire amount of DNA in your body, including that of the microorganisms, human DNA would comprise only about 10%. The other 90%?

That would be the microbiome. With the recent completion of the human microbiome project, we can expect to see some incredible discoveries about the differences between ourselves and our Paleo ancestors in the near future.

One way to study the Paleo microbiome is through ancient DNA. Unfortunately (or fortunately for researchers today), there were no Paleo dentists around, nor were there any Paleo toothbrushes. When people ate, plaque built up and calcified on their teeth. This calcified plaque is called dental calculus, and it can preserve the DNA of the microorganisms that made up the plaque along with some of the DNA from the actual food. Using Next Generation Sequencing techniques, we can learn more about the kinds of food and the microorganisms that were present in the bodies of our ancestors. By comparing what we find to oral microbiomes today, we can have a better understanding of what Paleo people ate. Also, microfossils can be preserved in the dental calculus, allowing for a visual confirmation of food in the plaque. Again, these are qualitative measures that are inhibited by sample size. Still, these are the best methods we have, and they are producing some exciting results..

People freak out about GMOs. The truth is, basically everything we eat – meats and plants alike – are genetically modified. Over thousands of years we have artificially selected plants and animals for particular traits. Just as our genome has changed since Paleolithic times, plant and animal genomes have also radically changed, largely due to human manipulation. So, even if you eat according to the Paleo Diet, you are eating the modern-Paleo Diet, not the Paleo-Paleo Diet. So, really, you aren't even eating like you think the ancestors ate. Our modern food is the product of human ingenuity.

IV. Caveat emptor

Ultimately, the Paleo Diet, as it is marketed, isn't really a Paleo Diet at all. There's no harm, and definitely some benefit, in cutting refined sugars and overly processed meats out of your diet. However, eating modern versions of nuts, fruits, and veggies isn't going to make you any more like a Paleo-man or Paleo-woman than if you just eat a normal, balanced diet. If anything, skipping out on legumes, dairy, and multi-grain wheat, which are prohibited in the Paleo Diet, could cause a lapse of certain nutrients. Technological and agricultural advances have produced some amazing foods that our Paleo ancestors could have only dreamt about. If you really want to be Paleo, then take advantage of the advances in food science. It's what our ancestors would have done.

Coltan Scrivner is a second year M.S. Forensic Biology student investigating DNA methylation patterns in identical twins at the University of Central Oklahoma. He holds a bachelor's degree in anthropology, and will be pursuing a Ph.D. in Comparative Human Development at the University of Chicago this fall.

Image of Banksy's caveman via Flickr user Lord Jim ([link](#)).



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