University of Colorado Arts & Sciences Honors Program

Norlin Library Room M400M

184 University of Colorado Boulder

Boulder, Colorado 80309

Phone: (303) 492-6617

Email: cuhonorsjournal@gmail.com

Website: www.honorsjournal.com

The 2020 University of Colorado Honors Journal

© copyrighted 2020, Regents of the University of Colorado

All rights reserved

Permissions: Individual authors maintain the Copyright to their respective works. Please contact the author directly to seek permission to reproduce, produce derivatives, distribute, or publicly display the work.

Cover Art — Tall Tales No. 1 by Heather Hanson

Cover, Layout & Typographic Design — Katreena Yeneza

This journal was printed by OneTouchPoint in Denver, Colorado.

#### The University of Colorado Honors Journal

The journal is an annual interdisciplinary, student-run publication sponsored by the Arts & Sciences Honors Program at the University of Colorado Boulder under the supervision of a faculty advisor and the Director of the Honors Program. The Journal presents a collection of works that reflect the utmost talent, diligence, and creativity among undergraduate students at the University of Colorado Boulder.

Each year, the Honors Journal combines undergraduate work from all academic fields, including: art, creative nonfiction, fiction, gender & ethnic studies, humanities, natural science, open media, poetry, social science, and more. Although the Journal is directly associated with the Honors Program, submissions are accepted from all undergraduate students at the university, not just those who are enrolled in Honors classes. The Honors Journal is distributed and available to all students and departments at the University of Colorado. In order to reach a broader audience and exhibit works that are impossible to fully incorporate into the print edition, the Journal has an online version hosted at honorsjournal.com, where content from this and past years' editions is accessible.

The Honors Journal was established and first published in 1992 under the supervision of faculty member Professor E. Christian Kopff and with the support of Honors Program Director, Jack Kelso. The first volumes were devoted to undergraduate research, highlighting an article by an outstanding Honors professor and abstracts of all summa cum laude honors theses.

In 1995, the Journal went hiatus until 1998, when Honors Program Director Dennis Van Gerven reinstated it under the supervision of faculty mentor Dr. Claudia Van Gerven. That year, the Journal expanded to include poetry, fiction, and black-and-white artwork.

In 2010, the Editorial Board elected to expand the Journal from its traditional 6" × 9" format to an 8.5" × 11" format to allow for a greater diversity of printable subject matter. With this expansion, current iterations of the Journal accept work from every academic discipline at the university, and we encourage students to submit work that pushes the limits of what might be considered "printable."

#### **Selection Process**

In order to ensure that the integrity of the Honors Journal is upheld, all selections are made via a blind review process. Upon receipt of each submission, pieces are screened by the managing editors to remove all identifying information from the piece, and each submission is labeled with a number that is used for reference purposes. Genre editors are not made aware of the names of the authors/artists until after final selections have been made.

Within this blind selection process, genre editors are instructed to remove themselves from review of any submission whose author they can identify. These pieces are reviewed and selected by the co-editors of that genre and/or the Editor in Chief in order to prevent any biases from potentially clouding judgments.

For additional queries regarding the blind review process, please contact us at cuhonorsjournal@gmail.com and we will be happy to address your concerns.

#### **Get Published**

The Honors Journal is an important showcase of the University's finest undergraduate work and offers students a unique opportunity to see their efforts published in a widely-distributed, juried publication available both in print and online versions.

Every year, the Editorial Board seeks submissions of exemplary undergraduate work for consideration of inclusion in the upcoming Journal. Generally, we are looking for art, creative writing, and academic papers. We are also interested in personal essays, final course assignments, critiques or reviews, short or long works of fiction, travel writing, and papers about works of literature, philosophy, or history. We accept submissions of all varieties. Essentially, if you are an undergraduate at CU-Boulder who has work that you are proud of, there is a category under which it can be published.

The Honors Journal accepts submissions year-round at honorsjournal.com. For students completing an honors thesis in the spring semester of their senior year, please note that the Journal allows graduating students to submit work up until the submission deadline in mid-November following their graduation. To submit something, visit the website and click on the "Submit Your Work" tab. We look forward to reviewing your submissions!

#### Acknowledgments

The Honors Journal could not be possible without the unyielding support of the University of Colorado Boulder Arts & Sciences Honors Program. In particular, the Editorial Board would like to thank Honors Program Director Janet Jacobs, Program Manager Lynne Buckley, and Program Coordinator Janelle Henderson. We owe a great deal to all of the Honors Program faculty for their continued support, without which the Journal would never find its way into the world.

Funding for the 2020 Honors Journal was generously provided by the Honors Program and the Undergraduate Research Opportunities Program (UROP) at the University of Colorado Boulder. The Editorial Board is immensely grateful for the support of the above and for their dedication to student-run organizations such as our own. Additionally, the Board would like to thank Dr. Abby Hickcox, whose guidance and leadership all year has helped to produce a new and exciting Honors Journal that nonetheless stays true to its rich history of promoting critical and creative thinking on and off the university campus.

	Letter from the Editor May 2020	9	POETRY
	Dear Reader,	21	CREATIVE NONFI
	It is my honor to present to you some of this year's most exceptional undergraduate student work. It is an unusual time to be publishing the Honors Journal, as it is an unusual time to do much of anything, and I am so thankful for our tireless Editorial Board, whose cheer and flexibility in a time of pandemic made it possible to follow through on an ambitious project from afar. I am	43	FICTION
	especially grateful to Kat Yeneza, our designer, whose colorful vision for these pages will be equally stunning on a screen as on paper. And of course, I would like to thank our faculty advisor,	53	GENDER & ETHIN
	Dr. Abby Hickcox, who gave us so much space to make the journal our own while never failing to be present as a steady source of insight, structure, and support. I hope these pages bring you appreciation for the variety and quality of creative and academic work underway at the University of Colorado. I hope they help to ground you, in what matters and what is possible. I hope they bring you joy and a sense of connection to a campus and community that remains lively at a distance.	75	OPEN MEDIA
		85	ART
	Enjoy!	99	SOCIAL SCIENCE
	Kelly Dinneen	129	HUMANITIES
		157	NATURAL SCIENC

### TABLE OF CONTENTS

ONFICTION

THINIC STUDIES

ENCE

CIENCE

7 | Honors Journal 2020

**2020 HONORS JOURNAL** 



### **Cheshire Catatonic**

Kelsey Gallotte

Wood chips under my nails, metal shavings in my forearms, green eyes embedded in my cornea. The more I sleep, the bags under my eyes turn into Saturn's rings. I inject iron and sunlight so I can wake up again. I smile when they ask me to, but moondust grinds on my gums. I was in your apartment when the plague crawled into my mouth. Now vomit makes me think of you.

### how we perpetuate sexual assault

Lindsay Killips

daddy issues send me on a one-way flight to promiscuous behavior / guy after guy after guy / a hopeless plea for love / asking for it becomes begging, silently, for affection / booty shorts, pajama pants; crop top, two-sizes-too-big hoodie; underweight, overweight / coping and teasing / indistinguishable / toe to heel on the red line between sex and rape / told i am promiscuous / warned of falling onto beds in men's hands, my own volition / but the world forgot to tell me / i don't have to give my body / for a boy to fill my space, my being / the world told me i asked him to / gather me like a blackberry harvest / and leave my soil longing for seeds / that just wanted water, to sprout / the world forgot to tell me / it is not the earth that stops plants from peeping their eyes through the dirt / it is the farmers and ravenous eaters / the ones depleting the land, leaving me thirsty, barren and begging, for life / and when a quick fix fertilizer thrown haphazardly across the ground brings hope / i cannot help but smile / sink in / think / maybe blackberries will grow, this time / maybe he can bring what i cannot / on my own / but a quick fix is just a band-aid / over a ruptured femoral artery holding in blood just long enough / to live

maybe i need superglue, duct tape, platelets, time / maybe the doctor who tells me i need to be cautious of who i am attracted to / should tell me / i am not my own enemy / because my heart is pumping blood / like cannons during war / my lungs are adding as much oxygen to my red rivers as my mom planted kisses on my cheeks / my muscles and bones hydrate with that desperate, red liquid / i try my best / to fight his ghost / and sometimes, my best is breaking / it is squeezing my muscles / until my body becomes lactic acid pools / nearly drowning myself / and while i was fighting / the world forgot to mention / demons don't die / they turn to viruses / make bodies hosts / and bodies learn to please / i bake pies and breakfast / so my haunter will be satisfied / won't need my flesh to sustain himself / he runs on the pancakes and honey dripping from my fingerprints / as i become consumed by the war within my body / and suddenly / i can't tell if i am battling for / or against / myself /

and then it happens again / and this time the boy says / my mom told me to make sure i was respectful / was i? / was that rape? / and i don't know / i don't think so / i mean / i chose to come over / gather all my strength / build a pedestal of hurt, root my feet in its wood, / blame myself / absolve his wrong, / i didn't know you were blacked out. / store it in my cervix / it's ok. / this is how i perpetuate sexual assault / this is how the world perpetuates sexual assault / because no one ever told me / what rape is / no one ever told him how to distinguish drunk / and too drunk / and a girl trying to drown a phantom figure living in her tissue / i was not taught / except to blame the

alcohol-bathed blood and eyelashes / and so i pass down my traumas and accidents / like photo albums / sticky with fingerprints and crinkles / the same way i wake up / in his bed / the next morning / both of us / still, unsure / hoping blackberries will blossom / for us both / leave our lips and tongues, sweet, purple / like the bruises we keep leaving on our necks.

### Remember me, my country

### Sami McKinsey

When the summer breeze settles into my lungs and heat rises up to gauzy curtains, that's when we'll meet again.

Oh, lovely earth, my smoky country.

Though frosty clocks journey on into the chilled darkness, your words and your embrace will sit next to me.

When I stand in foreign nations where dizzy voices swirl in my head, we'll meet.

In my daydreams, as I resist truculent winds and sit on mountainous rubble, we'll meet.

l inhale your musky grass, cradle your aromatic sage, and yoke with your aspen leaves.

13 | Poetry

### **Pomegranates and Cherries**

Sophia Chappell Catto

If you've likened yourself a Dionysus, following some small forever as Persephone,

would wine taste like irony if it became water on your tongue?<sup>1</sup>

would water taste like loneliness, if, upon closer inspection,

you discovered

a handful of pomegranate seeds

settled

at the bottom of the glass?<sup>2</sup>

<sup>1</sup>You find yourself in a room full of happy drunks. This is impossibly fun and entirely irritating, but mostly lonely.

<sup>2</sup>You've learned that most toxins sink, and that occasionally they resemble little rubies, that give way to bitterness when bitten down on.

These things aren't always linear

### **Pomegranates and Cherries**

### Sophia Chappell Catto

"Pomegranates and Cherries" is an excerpt from a longer series called "Love is Nonlinear" that I wrote during a twoyear period of persistent depression. This period began in high school, when my best friend at the time attempted suicide, and ended with a breakup that helped me realign my priorities and sense of self. The poems were written at the beginning, middle, and end of this journey, and reflect the cynicism I felt regarding love and human connection, and the discordance I experienced in my pursuit of these things. I believe this cognitive dissonance is a fundamental feature of the human experience. We seek yet reject love, we desire yet fear intimacy, and we scoff at yet yearn for the ideal of romantic partnership. We are emotional creatures that straddle two impossible universes, one of complete idealism and one of complete nihilism. This is why love is a nonlinear phenomenon; we must criss-cross both universes before we realize its very real and strange power over and within us. Love is nonlinear. Love is human.



15 | Poetry

### **My Frontera**

### Charly Mendoza

Haphazardly criss-crossing down mi frente you can see how my body is so divisively split where my mismatched comal burnt parchment skin tells not 1 or 2. but 3 diferente stories. patchwork truths not another make believe fairy tale where you constantly fail to not see past the color of my syllables

living interwoven into every waking moment mi Nestle cafe knockoff eyes shine through your white lies as you try to tell me for the 99th time that I will only be taken seriously if I wear a suit and black tie as if it is my funeral, just so you can feel safe as you read my eulogy

I hold my right hand right up to the purple sky, and swear an oath that my words are bound by the same book of laws that keep people like me behind bars

My 1st story, taking my right balled-up fist up into the air, is that of the savage mongrel spirit living inside my blood Codenamed wetback, mojado, frijolero, beaner or my favorite "a Bad Hombre, ok"

I was taught that the pen is mightier than the sword, but I thank my luck that I was given my family's heirloom of being heavy handed as a necessary accessory living out my page-to-page life where my face is enough to cause you to shiver and shake as you second guess whether or not to take me on

### My first story is

my reclaiming of my brownness where my complexion leaves crowds perplexed as to whether I am gringo enough to be included at the table to fulfill their ethical diversity quota or to whether I'm actually mexican enough to be invited to la carne asada, kicking back listening to some old skool tunes

Ni de qui ni de ya? Nahh Soy de qui, Y tambien soy de ya foo

My 2nd story is the left side of my body where my family history was once lost to me A once empty void, ICE cold like el Rio Grande, it brims to the rim with the constant updated knowledge of my native roots that provide the reasons for you to give me such venomous looks

Desde teniendo jardineras llenas con las tres hermanas hasta usando hojas de yerba buena para dormir después de la cena prepárate que te haga una limpia por ser tan mensa de dar me un sobrenombre que a tí más bien te conviene namas porque es tan difícil para que entiendas que lo que se ve no se pregunta

#### And my 3rd story

this American made barbed wire fence that cuts me down to the bone from my head to my toes in this body that I have on loan

What was meant to divide and conquer binds my tortilla burrito skin ever so tightly that my muxe antifreeze blood seeps through and stains this white canvased world, painting my rainbow words across blank gaping faces, stinging them like holy water

#### This is my voice

a patchwork of beginnings and ends a fighter and a lover, a devilishly handsome brown chameleon donde cambió de cualquier color

the only inheritance I got from my past, and the only tool I have to build my own legacy

17 | Poetry

Can't you see this is me?

And this is my frontera

### gender euphoria

Noah Knight

i.

on never, + on now, i throw off my sealed skin + introduce myself as a multitude of ocean, + of ark, of ebb + glowing microorganisms, of blue hallucinations in a pitch lagoon.

i am a many singularized. i am mostly vowels howling in the imploding single doorway between brine + mycelia of rivers.

> remember the body as wings parasitic to my smooth shoulder blades, as winking lights in the bag of sidewalks beckoning fruitless into the thorns. remember the stories eddied around hornets and leeches

> > ii.

i am chrysalis, i am mushroom chambers clogged with pollen, i am new + stumbling on toothpick bones i am iron-choked + oxygenated pixie

> grins sharp at the corners of the eyes + painted teeth. they, the them, the folk, they willful wisps, they wandering

sirens of anomalism glued to sap and soil + the lichen continents on stony thrones. remember the titles of trees, wind-tall + raw-meat-strong, my body growing

fisted into the wet mesentery of clay.

# **CREATIVE NON-FICTION**

### tell me about the red

### Lindsay Killips

it seethes, ferocious as a sunrise that sears the stars' forest and leaves cloud-white burns across the sky. red drowns me in its brilliance: draws my pupils to it like an anchor to the cold, dark sand, bearing the weight of the entire ocean.

and i can't even scream. my voice is lost in that crimson abyss and i—i close my eyes. blind myself some tragedies we don't have to be our own witness to, my throat whispers to my cells. my boyfriend's truck screams scarlet, for everyone, until the minivan's brake lights bleed across his truck's navy exoskeleton pushed into itself, wrinkled and disheveled

the same way i will be removed from his passenger seat.

i open my eyes, forgetting when they fell asleep, discovering myself: forearms and thighs parallel on the seat, my bellybutton smells my thighs, my chin stretches to kisses my left knee. i twitch each muscle, make sure i am not paralyzed. then, the exhaustion is just too alluring to evade, i close my eyes, delve into unconsciousness.

this time, i wake with my head on a soft, crinkly airbag. blink my eyes until the ethereal watercolor smears and my vision clears. jackson uses his fingers to investigate something with his lips. a brilliant sunrise aura creates a halo outside his window, blurry and bright, enticing me to come, but it seems so far, and jackson looks like a boulder between me and that light. instead, i embody air's senseless shape; i let my eyelashes fall from brows to cheeks until i am ready to face this accident.

before i give my eyes to the crimson abyss, i begin to talk to the universe, or maybe it was god, or a god. i plead, make a deal, hoping it is not with evil:

please don't let me die or die and be brought back. the last time that happened i didn't want to float back into this body. but no matter what, please let me be okay. i'm not ready to face the foreignness of a body that looks the same but has lost its innerworkings. and i'll smile as i turn scars into unrepeatable tattoos; what i mean is, i can deal with the hatchet creating rivers from my skin, but i will drown in my own blood if i lose myself entirely or just parts of me. please. i'll stop drowning my brain in vodka—i know that was never the intention for this mind. if you haven't already taken pieces of me, i promise when i open my eyes i will be who i need to be. please, let me try again.

still buckled, now sitting upright, i wonder how long my eyes have been open, enough for me to sit u—ow. OW, rages and swirls inside my head and i can feel lukewarm blood covering me. my fingertips begin investigating, searching diligently for a wound. none. it is just the coffee, that painted me using the impact as its brush. like a neanderthal scanning the horizon for danger, my eyes dark. nowhere for long, pausing peculiarly on the red outside the windshield.

a guy from the minivan attempts to interrupt i reach for jackson's door-locked, windowmy dazed being by turning the window shut. how did he get out? even without being between us into a drum. but i am hypnotized paralyzed, there is nowhere i can go. by the way the flames seem to dance to the bellowing window. probably too late, i realize helplessness devastates me in this shock, this the truck is on fire. and where the fuck is fear, there is nothing i can do to save myself. jackson? why am i trapped? time is a strange thing. i have no idea how red, belligerent in its attempts, runs like long i've been in this truck, but i'm sure the mascara through his windshield and down the gas in the engine is almost ready to erupt into cheeks of his dashboard, down trying to the atmosphere like magma from a volcano if have my cheeks, too. but the guy will not give the engine gets too close to that blazing red. up, the trepidation in his voice magnetizes my how tragic would it be to die, surrounded by eyes to him. panic vomits past our corneas so many hearts? isolation cocoons me while and i finally can hear his words, "you have to sadness races through my veins—i haven't get out. the truck's on fire." lived all the life i intended to, but

everyone, everything, seems to have language. a voice. i think mine is still hiding beneath the rugs at the bottom of my lungs, hitched a ride with the last breath i swallowed. it didn't want to watch the accident, either. i drag my palms across my leggings, digging for my sound, until it patiently waits at the cliff of my uvula, until it catapults into the world, "i know. i can't." and neither will the window. but our mirrored expressions as we witness the unlocked door hug itself too tightly to let me go, speaks for itself, as does the rolled-up window, a forgotten winter danger.

all the drivers who pulled to the shoulder i can't remember if i thanked him. ignite their legs, eyes, fingers, desperate for a fire extinguisher. the chaos bubbles through the concrete median steals my gaze as i walk, this metal and glass cage, demanding me to trying to make my way to jackson, when i reach his old spice deodorant sweating skin, i listen feel. bodies are spinning out there, trying with everything they can to not let "the girl still in to the officer asking him questions. she turns the truck trapped" become a story. and just her attention to me: "yes, i always wear my my eyes are darting everywhere, then my seatbelt;" "yeah, the airbag went off."

 head begins to awaken, brings my torso with it, lassos my arms and fingers. my legs are last to join. i guess they have been overtired.
 i reach for jackson's door—locked, window shut. how did he get out? even without being paralyzed, there is nowhere i can go.

ge. the guy breaks my window, helps pull me out of the car. "my hand's here if you want it." i've never felt skin like his: it sheds love like pollen.
he is the last person i share the air from my lungs with, spewing words at him like i am not hurt—"i'm okay." he is the last heartbeat the patterns on my fingers hear, listening to
c." his cells surfing through his tunnels, before i walk the canyon segregating the broken brake lights and bumpers storming savagely from the vehicles. he is the last time i feel love before i trek through that gulf that nearly took my pulse.

jackson's red river tongue leaves my own words gurgling below the surface, forgotten, unheard. "no, hers didn't." the officer transcribes his words into the truth in her black-ink handwriting and walks away. "i woke up with my head laying on something, though," i contest to jackson.

"it was the sleeping bag. there are no passenger airbags." i blink spastically as he explains, "it's very old. it was my grandma's." it dawns on me with the radiance of a sunrise void of clouds, if there were airbags, i would be a new color in the morning watercolor canvas. my knees would have pierced my ribs like my nose piercing—sharp, all at once. i would be covered in the cherry tide that swims with the squid and the salmon beneath my now blueand-black-tie-dye sheets of skin.

jackson is snapchatting the remnants. i am dissociating. lingering like a beached whale between the grey median and the bed of his truck i make plans to babysit. i don't need to be at this accident. i can't be here-the officer discovers me, in the open, surrounded by no one. here, but not really. asks me if i am okay, "yeah, i'm fine. my head hurts, but i'm fine."

and i am left, back in my solace. then i reenact the same dialogue with an emt. this one is more difficult to lie through. i can't remember my address; i blame it on moving a few too many times. he walks me to the ambulance and i scribble my name on a black line—i'm sure it doesn't matter what it says. my eyes don't care to read, now.

it is eight months later. july heat back in illinois

is comforting, it doesn't strangle me with humidity like it did in maryland. i am with nate, because he is the best, or only, distraction i have from the pain, tonight. my head still seethes, sears like skewers, piercing through my hair follicles down to the center, bottom of my brain, out through my brainstem.

he offers to bring weed—tonight, we are smoking. tonight, we are having fun-and he drives us around some neighborhoods, disturbing the dark with our small talk that makes its way through the cracks in our windows. smoke paints our lungs ashen. a red light stops the cars in front of us. he presses his brakes. asks me a question that i still can't hear. my face matches the haze in my lungs. he stops at the red light, like the rest of the world

but mine is falling apart. like the night could not contain all her strength and erupted, vicious, violent. blood moons in the brake lights surround me. they grow. millions of moons race towards my head like hail leave my pupils motionless in their pigment.

i know i am not in maryland. i know my soles are bearing roots in his car floor mats. i know we have already stopped. i know we are safe. i know. i know. i know

but a part of me is trapped back in that accident. i transplant myself into that garnet night and there is no escape. this encroaching red cuts me like a scalpel held in a trembling surgeon's hands. everything hurts. parts of me are swimming out of my tears, bleeding all over his car and i don't know how much of me i have lost. and i don't think i can ever siphon enough back.

i command my eyelids to my lower. demand their shelter.

nate lifts his foot from the brake, presses the my mom passes the bathroom while i brush gas, slowly, we accelerate. the blood moons my teeth, asks if i am okay. toothpaste filled are stored once again; i open my eyes. "i need words answer her, "yeah, i'm just tired." twoto go home." minutes is torturous, the mint feels like sun blisters littering my mouth. i spit, expecting to sweat stains my palms. my ribs expand the see blood streaked toothpaste and saliva. just angle they make around my lungs, until they white comes out. i rinse my raging mouth with hugging me. straining with my lukewarm tap water, let it swish and swirl, taste are arms intercostal muscles to convince my heart it is my cheeks and teeth. turn off the light. retreat loved it is okay as my heart bellows so to my bed. lie on my left side, the right hurts loudly my breasts tremble with every thud. too much, again, it may collapse if it has to pretend i am fine. i feel time distance itself, endure any pressure. curled in a fetal position, clocks rewind i am 8 months younger. i shield my blue irises. i disappear somewhere and i want to be home, to feel safe. it's been so i don't have to be conscious. today, i have felt long. and i can't get past this. time, it just keeps enough.

bringing me back. i should have known not to smoke, i know it changes how time touches.

faint and stoic, finally, i step lightly on each square leading to me and my mom's apartment door. my abs are magnetizing themselves together, desperately trying to pump blood to my head. stars fall in front of my vision, i wonder if i will become one. my calves, femurs, knees, and all the rest rely on their memory to get me inside. i cannot see until i stare at the shell of my own existence in the bathroom mirror.

nate has already left. i take Benadryl like it is xanax, knowing this is not an allergy i can sleep through forever. this tragedy is branded on my skin, deep in the crevices and mountains of my brain, and weaves itself into the tissues meant to keep me connect, but it only unravels me. i refuse to look at any of its burn marks. i don't think i've healed enough to see them. i don't think i'm ready to see the heat still trapped, still

trying to expel itself from my flesh. i am still not ready to face this trauma.

### Ruminations on the Image of the Christ.

Javier A. Padilla-Gonzalez

Jesus died for somebody's sins, but not mine.

—Patti Smith

Jesus died on that cross for so many reasons: for us, for me, for your grandma, for love, for the world, for peace, as punishment, an act of cruelty, for nothing. To sacrifice selflessly, to give. I started to doubt all of this long ago—then again, couldn't he just have died because of the socio-political circumstances he found himself in? My Catholic mother loves entertaining my blasphemous suggestions on the way to church. She only cries because she is so happy that I am thinking about our lord. And I do think of him, his fleshy gut suspended over a delicate girdle, long locks framing his face. I think about comely men like this all of the time.

My twin bed is propped up against a wall in my studio. I am standing in front of it with a blade in one hand and a hammer in the other. A long time ago, I was praying before sleep on this bed. Some time went by and I started watching music videos or porn instead. I tried to limit the porn because my guardian angel hung on the wall behind me, and he could be a bit of a prude at times. I lost my virginity on this bed. I felt remorse, or disgust. I had desecrated a temple, a religious site where I had communicated to God my deepest cravings and anxieties. This was the bed that my guardian angel had steered through nightmares, and now I asked myself, standing in front of the mangled mattress, *why did I destroy something so valuable?* 

I cut a gash in the center of the mattress and stuffed a portrait of Jesus there. I sealed the entire thing in lard and lace. "Render to Caesar what belongs to Caesar." God could have my innocence and my guilt, this mattress was my gift to him. A couple of days later, I decorated my bed's wounds in baby's breath and pink roses. White tinged by red.

I am standing alone in a Spanish colonial chapel in Santa Ana, Jalisco. It is modest and bleak. I am far from anything important, and yet I have made the pilgrimage (a two hour walk through cattle ranches) to visit the holy site. In front of me, there is a glass case stocked with relics - the remains of saints and martyrs. My gaze is fixed on a vial of dried blood that belonged to the canonized martyr, Santo Toribio Romo. Santo Toribio is supposedly my great great something, and I say 'supposedly' because this celibate man is somehow related to the entire state of Jalisco. Yet, I feel an intimate pride or disdain for this vial of blood, for the chapel that was built on Romo's family home, where he was seized and tortured before his execution. During the Cristero Wars, soldiers would skin the feet of priests who refused to stop ordaining mass and made them walk miles on dirt roads. What did I have to do with a soldier of God, a selfless man who had the courage to die for his values?

I am beginning to wonder if Robert Mapplethorpe's transition from an altar boy (even described as looking like a "young shepherd" by his partner, Patti Smith) to an active member of the BDSM community was a unique development—or, if there were underlying motivations. Bondage: The Binding of Isaac. Discipline: Rules and Commandments. Sadism: The Old Testament God. Masochism: Martyrization. I have been painting images from some *NSFWhardcorebighubfuckXXXsextube* website, and trying to find images that parallel scenes from the Bible. You'd be surprised. My favorite is one that resembles Jesus on the cross (*Crucified Twink Fucks Himself With A Dildo - BDSM Gay Bondage*). I make these on cheap butcher paper, and fold them into small squares when I am done. I can't remember the last time my mother saw my artwork. I am also beginning to understand why Robert Mapplethorpe rarely talked with his family after moving to New York City.

Summer 2016: A nun is showing me to my room in Sacred Heart Cathedral in Jalostotitlan, Jalisco. I travelled down here without my parents, because they cannot leave the United States, else they might be denied reentry. I am only sleeping in the church cloisters overnight for the Perpetual Adoration of The Holiest. The Holiest is a hunk of gold with a glass case in the center where the Eucharist is placed. This is interchangeable with God in the flesh, and God in the flesh wants to be worshipped perpetually for 24 hours on days of religious observance. Members of the parish agree to pray alone in the main chapel for an hour out of the day.

My parents insisted that I take a night shift, because these were reserved for energetic young adults. I can't sleep, so I try to swat the mosquitoes in the room by following the sound of their wings. A nun knocks on my door at three in the morning and leads me to the cathedral nave. We approach the altar from behind and pass through the sacristy which is lit by a handful of votive candles in a corner of the room. The room is dark and small and I have to be careful not to stumble over a kneeler. I look up to try to make out my guiding nun, but I am frozen in place by the sight of a corpse.

The man in front of me was nailed to a splintered cross, and his body slumped to the ground as if the nails were about to tear through his palms. His body was covered in gashes that oozed blood, but they were only visible because of the candles glimmering off of his porcelain skin. This crucifix bore a wig that I later learned was made of real human hair. Something about the hyperrealism of this particular rendering, or maybe my sleepy mind, defamiliarized the all too familiar image of the Passion of Christ. What if Jesus had his brains blown out by a firing squad? How would we go about turning *that* corpse into a symbol, an icon? Headline: *Cartel Violence, Gang Member Found Dead in Plaza.* God was a journalist, he knew his message of love could not be spread without a little shock value, drama.

#### Just for good measure:

Abandonan tres cadáveres desnudos sobre carretera de Jalostotitán ... https://jalaco.guidratin.com.no/ ./abandonan-tres-cadaveres-desru.... \* Translate this page Do: 10, 2015 - JALOSTOTITLÁN, Jul., 10 de diciembre de 2016 - Desnudes, con huellas de violencia y manches de líquido hemático. fueron hallados los Localizan cadáver desmembrado en Jalostotitán - Quadratin Jalisco https://aisco.guadratin.com.ma/ /Localizan-cadaver-desmembrad \* Translate this page May 25, 2015 - El cadéver desmembrado de un hombre fue encontrado en el ... de este sueves, en la contunidad de San Nicolas de las Flores, de Jalostotitián. Abandonan tres cadáveres en Jalostotitián - Milenio www.mienia.com/policie/abandonan-tree-codavereo-en-jalostotitian \* Translato this page Do: 11. 2016 - El hafazgo de bes cattarmes, en el municipio de Adostotitán, provocó la movilización de los cuerpre de seguidad la noche del saloado. Missing autown presebudo Abandonan a hombre decapitado en Jalostotitlán - El Informador https://www.informadoc.mof. /Abandonan-a-fiombre-decapitado-e... • Translate this page Aug 21, 2015 - GUADALAJARA, JALISCO (31/AG0/2015) - La madrugada de este hares sajetes shandorunon el cadáver de un hombre a la mitad de una Mitthing autower encompanies Cadáveres decapitados hallados en Jalisco - La Prensa

https://www.la-prenta.com.mv/\_/82035-codeveres-decepitados-hall...\* Translate this page Sen 17. 2015 - Fue encontrado el cuertro decabilado de un masculino el cual se Apenas el martes placade stro cadilizer también aplifale fue excentrade a 500 metros ... a los machachos que hace 15 d'as desaparecieros de Jalostotitán. Missing wateres ( Must include: coderes

There is a new pantheon of saints in Mexico, the saints that help criminals and drug lords. Jesus Malverde was a criminal that stole from the rich and gave to the poor (a very original plot, undeniable), but he was executed in the early 20th century. Narcos and bandits pray to him to bless their actions, and maybe even to justify them. El Chapo has a chapel dedicated to Jesus Malverde and La Santa Muerte in his villa (the chapel was run by his mother). The images of Jesus Malverde are compelling, his eyes are tender, and he has an air of humility about him. Portraits and busts of Jesus Malverde are often decorated in marijuana leaves and gold jewelry. Who gives permission to change religion to suit one's needs? The unchanging truth has shifted, and I don't know if this new Jesus is a breath of fresh air or a slap to the face. All of these years, had I been praying to the same God as my parents?

I was bitter when I lost god. It didn't seem enough to just not believe in him, I needed closure. Maybe the switch was too fast, my knees were still sore from kneeling. My remission into Catholicism happened when I was 19 years old. Except, I was exploring a much darker, enchanting side of Catholicism. You see, in Catholicism monotheism is only a facade, a remnant from Judeo-Christian origins. God was really three people, the father, the son and the holy spirit—but these are three parts, manifestations of a whole. Nevertheless, there are three distinguishable entities with distributed powers. And one cannot forget the cast of diverse saints that are associated with anything from the arts to soccer. But, I was not interested in St. Scrosoppi; rather, I wanted to know about the other powers. I understood the world in opposites because of this religion: for every god there is a Devil, and for every angel there was a Demon, for every christ there lurked an Antichrist.

I began staging performances at three in the morning, sprinkling spices on a linoleum tile

under twinkling candles. Dancing effeminately under the guise of nightfall. Little rituals consisting of spelling wishes to the wrong deity, or conjuring lucifer to keep me company, to see if he was real. At first I became submissive to this freedom, mistaking it for the Devil. How decadent it felt to bathe in a sigh of moonlight in the nude. In front of my balcony window. Curtains agape. A seductive voice would wake me from boredom, when the house echoed with snores, beckoning me to rub fresh thyme on my navel and offer my body to Nero. At first I felt a sweet satisfaction, it felt gluttonous or lustful. Maybe rage took hold of me, and I was feasting on a secret vengeance. Maybe these were ludicrous, lunatic attempts to hurt someone I did not believe in. The night these stopped, at least the rituals performed with these intentions, I begged lucifer to take my soul, to possess my body, to open the earth and swallow me whole ['que me trague la tierra']. I prayed to no one, arms outstretched to a star, satellite.

Robert Mapplethorpe photographed other members of the BDSM community quite often. A new system of belief that had hierarchy and structure. He perpetually honored the same image throughout his life: the tortured and empowered christ he feared as an altar boy. The leather straps and metal studs were only liturgical vestments reinvented. The BDSM photographs were reenactments. There was the god who demanded obedience, or a priest to fulfill these commandments. Followers, subs, and gimps to bend over in submission. Devils to indulge in sin, and proclaim this indulgence: Self-Portrait with Whip (1978). Mapplethorpe's motivations behind these pictures were complex, he had transmuted the violence and inadequacy he felt into an excruciating sadomasochist thirst. A vengeful or self-indulgent pursuit: Self-Portrait with Gun (1978). This is how he performed god. An angry, old-testament god. The kind of god that ordered the deaths of newborn children or the sacrifice of an eldest son. These photographs were justice.

Every time I pass by the reproduction of St. Michael the archangel in my parish, I think of Theodore Roosevelt proudly towering over two dead leopards, beasts. My father works out every morning. Strong, able-bodied, moral men that could provide and protect. Upright and unyielding protectors of humanism, the kind that held that man was 6 feet above nature, and the kind that granted man the right or destiny to manifest his wishes. Rugged, rough riders causing a racket with iron dumbbells, my father's vice grip. Muscular Christ, who only used his mother's womb as a doormat to the earthly realm, prying her labia apart. How selfishly tied she was to her own nature, fainting and hysterical. Men sacrificed, they died for others sins, and after death they were reincarnated as Benjamin Franklin, family guardian. Machismo, Machete, Machito. My grandfather smokes 8 packs of red Marlboro cigarettes every day and only takes

Forgive me they were delicious so sweet and so cold

—William Carlos Williams, This is Just to Say

his liter of coffee black. Proactive, undying men. At his ripe age of 80, he could lift a brick house by his testicles and still be home in time to deliver the bacon. Speak softly and carry a big dick. The self-made man was a self-made mass of flesh and obstinance, he needed no one but he seemed to think everyone needed him.

> Daddy, I have had to kill you. You died before I had time-----Marble-heavy, a bag full of God, Ghastly statue with one gray toe, Big as a Frisco seal

> > —Sylvia Plath, Daddy

Until his flesh begins to sag and droop. Countless representations of the pieta agree upon the limpness of Jesus's body slinking over his mother's knees. His abdomen sinks, pulled by the gravity of physics or his own situation, needing to be closer to the earth or his mother's womb. The first home and final resting place. I wonder if Mary ever moved after that moment, or if she had mummified her son's body in her dress. Jesus subsumed in plunging garb. A return to nature, to his creator. How unequivocally dead he looked—cold, cold. Stone cold.

There is an image of the Sacred Heart of Jesus in my parents' home that has a particular demeanor about his look. He stares out from a shadowy alcove on our staircase landing, eyes cast slightly downward, so as to disapprove of any act you are engaging in at any given time. He also seems to know about your devious agenda, all of the sin that you have scheduled. His scornful eyes are seared into the back of my neck. A tight-lipped smile betrays no compassion, only contempt. I could try to avoid meeting his eyes when I went up to my bedroom and passed the altar, but I knew he was there, waiting for the perfect moment to cast me out of his paradise. At any moment I could have lifted the cheap print off of its hook and torn Him to small shreds. But transubstantiation was his secret defense-the shreds would have coagulated into living, breathing meat, and how the hell would I clean that up? No time. I would have to pack all of the 2 bottles of wine in the house and my clean underwear before train-hopping to the next town south (maybe Trinidad, near the Sangre de Cristo Mountains).

I lament the lack of images of Jesus forgiving Mary Magdalene, or Mary Magdalene washing his feet with her tears, or Jesus washing her feet as an act of empathy. I have been drawn to the story because it was heartwarming to learn that a sexual deviant could hold so much value in god's eyes. A Jesus that could bend absolute truth to include all, forgive all. However, his kindness or revolutionary momentum had been weaponized and exploited. Jesus became a reason to spend in December or a noble cause to excuse the decimation of Native Americans. His image had been plastered around the bric-a-brac in racists' homes, or his name was blasphemed on picket signs. Ideals that strayed far from the simple wisdom of the prophet. If we had met under any other circumstances, I probably would have had a beer with the guy. Nevertheless, I am sobered up by the thought that I was always the one searching for His approval, and not the other way around.

July 2015. I am staying at my uncle's home in Jalostotitlan. It is late and I am showering,

I don't hesitate. I turn the shower off \*distinct gunshots, far away\* I open the bathroom door. "Get down, away from the windows." I hug the earth and crawl under a bed.

\*More gunshots, closer now\* \*panicked breathing, heavier and worried and heavier\*

\*truck rattles down the cobbled street outside house window\* \*gunshots, here, now\*

\*invocation of all the saints, my lungs can not fill up enough to spell all of their names\* Torre de marfil. Ruega por nosotros. Casa de Oro. Ruega por nosotros.

\*wailing and gnashing\*

Arca de la Alianza. Ruega por nosotros. Puerta del cielo. Ruega por nosotros.

Estrella de la mañana. Ruega por nosotros. I forget about all of the transgressions and false impressions. I can only think of god, anyone who could divinely intervene. I thought about him before my mother. I thought about him for my mother, because of my mother.

Madre de Cristo. Ruega por nosotros.

Madre de la Iglesia. Ruega por nosotros. Madre de la divina gracia. Ruega por nosotros. \*gunshots, striking the fear of god\*

Madre purísima. Ruega por nosotros. Madre castísima. Ruega por nosotros. Madre virginal. Ruega por nosotros.

\*gunshots, shaking the house, impending\* My aunt shuffles under the bed. I do not notice her trying to calm me. \*Assuaging of fear, sounds like more prayers\* Padre nuestro que estás en el cielo \*gunshots, farther\*

> \*Asking for forgiveness\* santificado sea tu nombre

\*embarrassing pleas for help\* \*Gunshots stop\*

\*Realization of dependence, maybe codependence\*

everyone is awake in the living room and I can hear the hum of conversation under the crashing sounds of my shower. There is an abrupt change in the air. A coldness or stillness takes hold of

\*6 knocks on the door, someone yells for me to get out of the shower\*

\*breathy prayers\*

31 | Creative Nonfiction

I retrieve myself from under the bed. A minor transgression of atheism, it is excused by the intensity of the situation. It was just something to do, to pass the time. Who would have thought the Cartel would be such an effective missionizing force?

Mapplethorpe created a series of works near the end of his life that consisted of black and white portraits of flowers set against the darkest, black background he could produce. Many of these flowers, including the lily, were flowers that were commonly found on altar arrangements. He captured a simple beauty associated with religion, images that demanded a silence or obedience much like the Catholic god had required. I regard this as a final token of peace to the religion. An apology. A display of gratitude. We learned ways to understand the world through god. Catholic aesthetics permeated his work, because we could not distinguish a blue sky from heaven or a deep grotto from hell. Our cosmos were arranged around an inexplicable entity. His final statements were portraits of flowers that could be found quietly contemplating on altar steps, even after it closed and the priests had gone home, and the candles were put out. In the darkness, when no one could witness, they worshipped, they worshipped, because it was all they knew.

### **The Yoke**

### Amanda LeJeune

My mother was a roamer. My father than to stick such an ineffective Band-Aid over never roamed. His ethnic background as a gaping laceration. In the summers, the heat Acadian-French, his accent, and his schooling became so exasperating it was inhumane. The funneled his path directly into the only living money itself was always "a dime wide and a wage a man could provide for his growing nickel high." For over twenty-five years this is family of six children in the 1980s and '90s: where he labored from either 3am to 3pm or trade-work. It enslaved him to a merciless 3pm to 3am. His home hours were diminished cycle of grind and paucity for most of his life... to much needed sleep and food so that he an enslavement that I have seen leave manycould restore himself for yet another round of a-disgruntled man in its wake for what it took work. from him. For when Eve was condemned to How he did it I will never know, but the the bearing of children, that bull-shaped organ effects of this sacrifice rippled through the called her womb that would bear her pain lives of those whose sustenance depended on evermore, Adam was, in turn, condemned to the misery of this caged and burdened body. toil in labor...his existence reduced to that of The ripples reverberated like polluted river an oxen. The fate of the bull. streams coursing under the old iron bridge at Jimmy was a welder for an oil piping the edge of town. A current that twisted tides of both pain and gratitude through all of us... and that had to keep moving or die.

company who worked "six on and two off" or some other cruel combination that involved a sizable aluminum weld shop pitched and From the time I was a small child until forlorn in the southeast Texas countryside. I left home for good, I saw these ripples in The field he found himself in for so many colors. In fact, I always saw life in color. The years had its share of stubborn and ill-treated rays of sorrow would solder through the hands that slowly and dreadfully exhausted window panes of our old house and somehow the fuel from their barrels. Steers deprived of bathe our lives in blue. One image scorched the use of their own numinous will and sense into my memory is my father's jet black hair, of direction. The shop had no air-conditioning. slate blue eyes, and strong but slumped The large fans the company did place on the shoulders at the head of our table while the perimeter only blew the hot air through the sun danced into twilight one evening around workspace where the men could be found his fortieth birthday. The fixed look of sorrow toiling, meat-hands slugging away on dog-legs. on his face as he stared through the bluest of The after-thought was more offensive than windows during my baby's breath teenage life, the heat. It would have been better if they had smelted me from ore to core. The desperate pretended to forget about the temperature search for something innocent lost. The

internal rage of something precious taken. The anger was borne like the densest of sandbags that caused him to stomp when he walkedthe kind of anger that could only lift in tragic displays within the walls of our small woodframed house.

I cannot forget the iron he both mustered up into will and smashed into day after day. I cannot forget the heat on his clothes that nearly burned my skin when my brother and I would run up to hug him. I still remember the smell of dirt and metal and combined sweat. That was his signature smell. Over the years I would see him pace throughout the house, walking himself to the front door which had a small opening placed at the top of it. He would sometimes spend hours staring out the tiny window...a man and a fixed gait. You could feel the quiet desperation as he looked out from his prison cell. It was as if he was immovable, a bull permanently stuck in his thoughts, mouthing frustrations to himself... fighting through the delirious exhaustion. He was distant most of the time...unable to connect because of the ever-brewing anger and resentment. Yet after the red muleta had passed we could catch spare moments of his humor and softness which we would readily savor as children. Jimmy was a man under the full weight of the yoke with his mind as his only refuge. The most vital decades of his adult life were tragically distinctive and yet as Catholic as the church he rigorously prayed to for deliverance.

...a "golden arm" with a "poor fit-up,"

...a rig of burn rods that had been "alligator cut,"

...a "fish-eye" of steel blue that never cried. Saint Joseph the worker was his favorite. The soil where we lived was so dark. Dark and fertile...like the lives we lived. It rained often.

so often that our summers were inundated in it. The pounding of the storms was the pounding of our hearts. The smell of salt in the air before the sky broke was the fragility of our hope and the anticipation that relief might come to us. We will have some alleviation, we can smell it. The weight of the fat drops of rain was the pestle in the mortar of the world that pummeled us into the soil...until we became the soil we toiled in.

And, yet, levity did come to us. It came to us in the most fertile and peaceful of ways...a way that evoked the old egalitarian way of life that depended only on nature for its sustenance. Like all good Acadians, we meandered out onto our porches with family when the sky finally fell and the rain came down. We slowly huddled to watch it, muttering the same phrases over freshmade coffee and either sitting in a lap or gently rocking in our chairs. "We need da rain"..."it's comin' down now, yeah ... " Stories about weather, floods, hurricanes and such were always exchanged first as they were always the most memorable of shared experiences. This was our way of cultivating spontaneous family time. It was the time to tell stories that somehow never got old, to talk about important matters, to make clever jokes and to playfully goad each other on. These spontaneous little gatherings were where I learned that you're not true Acadian-French until you've learned that your truest inherited pastime was to hone your skills and wit—and become a fully-fledged professional bull-shitter. With flair. After all, that's what made life entertaining. If you could convey a story well, you were listened to with devoted adherence. If you could tell it while being a smart-ass...that made you a prized member of the family.

And so the thunderstorms carried

on. As children we always hoped it would last relied on each other for survival had gathered a little longer since we hungered for more in its congregation, declaring communal defeat stories and more time listening to the adults of the beast. When the rain eventually let up, tell us about serious matters. We educated we would slowly retreat back into the house for ourselves and grew from them. We absorbed more coffee...or whatever small leisure we had their tone. We matured from the way they access to-revived somehow and grounded... reasoned and recounted their experiences. ready to plow on. Yet, some of us could never We developed ourselves by witnessing with hold the cruel weight of the yoke for too long. attentive guietude how the conversations were My mother was a wanderer in every tilled and seasoned carefully by the adults as if sense of the word. Despite the threats to they knew they were nourishing fertile soil. her survival, she never allowed the beast As the rumbles and mumbles continued, to chain her. She simply could not bear its it drenched and enriched us, weaving that breath. If she were cornered in a windowless room, she would somehow squeeze through pattern in the family tapestry that only families know. From the deepest roots, those the peephole and become something else fundamental needs we all share, and in which entirely to escape its rude demands on her the entire idea of family is there to serve...to unconquered, yet fragile spirit. She wandered the shoots of the tree, the little idiosyncrasies in mind, in creative impulse, and eventually, that make your family genus personally yours. from street to street. I suppose when a poet My mother's inimitable laugh and unfailing cannot defeat the beast by sheer will as my declaration that she had "gypsy blood." My father tried to do, then the only other option older brother, John, and his personal stories is to resort to the wildest forms of creative that made our sides hurt at what would have abandon. Perhaps this was her way of attaining been the most mundane life events to anyone her freedom. else. My younger brother, Theodore, playing You cannot pin a moving bulls-eye. his guitar and butting in a joke every so often— Life cannot emit suffering unto something that suffers itself unto life. I read that the bull flawlessly timed. My oldest sister Jean's unapologetic incursion on the world, our ability has been with us since ancient times. I read to laugh at our sorrow, our ability to offer each that it has been both an object of worship, other compassion rather than pity...and how and a symbol of material power, along with we skillfully learned how to put the "fun" in the its symbolic manifestations of servitude. The dys-fun-ction of our family circumstances. The ancient Romans, after slaving their enemies secret we carried with us was that all of this in battle for example, would make conquered proficiently honed bull-shitting wasn't just our peoples walk under beams as a symbolic way of coping or enriching ourselves with what representation that they must now pay tithes we were given...but a way of shitting back on and submit to Rome's authority. They called it the bull. "walking under the yoke." John of Patmos had In the small huddle of slowed time, a lot to say about the bull in all of its material a reaffirmation of values came into being power as the root of all evil. Given what I have that was beyond the yoke and its gruesome seen and felt throughout my life I can't say I demands on us and on our lives. A herd that

disagree with him. I think of my father and his

willful consternation in the face of his grueling life-long bondage. I think of my own life experiences of working two or three jobs since the age of fifteen for very little gain and few moments that edified or nourished me the way I needed to be nourished. Scrubbing floors and toilets, exhausted late nights, hours of awful Clear Channel music that should be classified as a mild form of insanity, soulless corporate environments that bound and stretched my personality into a caricature lest I be deemed "not a fit" and therefore "fired" (as if I always had the option to go somewhere else that would miraculously turn out to be completely different than their special set of dehumanizing corporate demands). I think of the environments that pull on all of us and provoke us when our sustenance could just as easily be gained in plentitude working alongside family and loved ones, tilling and enriching our own soil and educating ourselves in our leisure. Creatures cultivating goods, waged by their own hands, transforming them into profits. In fact, I say with all the satisfaction I can muster in my soul that I resent the bull with the most brazen of contempt. I relish in the molten ball of fire it has ignited in my soul that cannot be extinguished. For it has taken more from me and those I love than death ever could. I have seen it drag my authentic core through its mud. I have felt it stomp out the essence from me. I have smelt its shit. And so like my mother the roamer, I will creatively craft another path... one the illustrious beast cannot track or follow. And like my father, the welder, I will craft my metal carefully in this molten core. I will eye my oxygen levels, keeping my hands still and steady. I will muster my iron will to withstand the brutality of the heat on my burdened body, and you may watch me craft my swords with the utmost care. I will slay the beast in my

father's honor. I will celebrate with my mother's creative flair. I will not set myself fixed lest the beast catch me. I will learn and therefore adapt, lest the beast tempt me with its self-degrading conveniences and expediencies. I will enrich my life in ways the world has not yet thought of. I will nourish myself beyond the yoke with wit and poetry and so make it my servant. I will roam.

### Horses or Zebras: Misdiagnosis and Self-Definition

### Alex Sardanis

March of this year, 2019, in a rental condominium in East-Vail, I am seated on an scholastic philosopher William of Ockham in L-Shaped couch—the 'L' part—facing my the Latin phrase: *pluralitas non est ponenda* dad, who is sitting on the other end, sipping sine necessitate. "Plurality should not be a vodka-tonic. We have been in Vail for five *posited without necessity."* It is more simply stated as follows: of two competing theories, days, skiing and catching-up-we don't see the simpler explanation of an entity is to be each other more than once a year these days. Roughly a 30° angle bisects either end of the preferred.<sup>1</sup> Interesting or obvious—I'm not couch, making our eye-contact less than sure. straightforward, which I appreciate. The couch Mid-August, I'm traveling to a physical is faux-leather and perceptibly squeals when I therapy appointment by bike, which leads me shift into a more laid-back position. to illegally cross some train-tracks to avoid Perhaps I shouldn't have, I think, while my a <sup>3</sup>/<sub>4</sub> mile construction detour. I arrive at the Northeast Boulder warehouse one minute dad begins recounting, in a morose tone, a series of events regarding my grandfather's early, though the physical therapist I am recent medical scare. In great detail, he here to see, Matt, will make me wait at least describes how the best oncologist in New five minutes longer. Inside the warehouse, there are endurance athletes with serious, York misdiagnosed his dad with coloncancer-he says it like that, his dad (he expressionless faces and lean frames using never does that). My grandfather, who lives the alien exercise apparatuses that line the walls. It smells of sweat. Nobody wants to be in Zambia, in southern Africa, was unaware of his misdiagnosis and thus traveled the 8,000 here; being here means they are injured. miles back to Zambia with the blessing of his My running-coach, Adam, tells me: Matt is esteemed oncologist only to discover, mere the best in the business, he'll get you running hours after arrival in a third-world country, that again. And that's the exact thing I haven't been doing, running. Three weeks back, I dropped something far worse, far more complicated than colon-cancer, was to blame. By the end, out of a 100-mile foot race in California. I I'm leaning all the way forward. Dad's crying, dropped out because I got heat-stroke at mile and I want to. fifty, though my knee-the pain that I am here I first heard of Occam's razor in a to diagnose-didn't begin hurting until two days after, walking my dog on the beach in philosophy class; I wrote it on the corner of Santa Cruz, CA.

a piece of loose-leaf paper to be forgotten with a number of other marginal notes. The principle was initially stated by the 14<sup>th</sup>-century

Matt welcomes me to lie on my back

on a light-blue massage table, then proceeds to torgue the lateral (outside) of my right knee, the locus of the pain, in various directions with a casualness that suggests he does this for a living. At this moment, I trust him implicitly—he was, after all, partially responsible for bringing a friend of mine back from multiple fractured bones after she fell 200 feet off a cliff during a mountainous running race. I mention this connection. He tells me recovering from broken bones is much more straightforward than what you're dealing with. Oh, I say, well, what am I dealing with? He leads me to the far corner of the warehouse and places small electric nodes along my body. He asks me to perform a single leg squat, wearing the nodes in front of a camera. The exercise is awkward; I can't find my balance, and it's embarrassing-I'm a runner, not a gymnast. The video is pitiful to watch. My body's alignment is not good, he says, you have IT BAND Syndrome. Syndrome, I ask, surprised he can diagnose such a thing from two repetitions of an exercise I have never done. You don't want to watch me run? ask. Syndrome sounds chronic. Deadly, even. Shouldn't he see me run first, just to make sure? He hands me a red elastic exercise band and, placing me before a mirror, asks me to perform a single leg squat with the band affixed to my knees, with good form. In three repetitions, I can do it more or less correctly. So, it must be something else, I tell him, since I can do these exercises with good form. Nope, he says, this is caused by a weakness in your Gluteus Medius—you can't do anything until you make that stronger. I pause to take it in—*nothing*? He prescribes me three sets of twenty reps for ten days and asks me to

make another \$150 appointment with his receptionist after that period.

The connection of Occam's razor to the diagnostic process is best manifested by this well-known maxim in the medical community: when you hear hoofbeats, think horses, not zebras (dubiously attributed to Dr. Theodore Woodward, a professor at the University of Maryland School of Medicine in the 1960s).2

Though his diagnosis, IT Band Syndrome, may have been correct—it is the most common running-related-injury (read: non-contact-related—i.e. a meniscus tear) to the lateral side of the knee—Matt perhaps overlooked the possibility of nuance (such as a slight-hitch in my running stride, which led me to, over the period of ten years, accrue tens of millions of repetitions with bad form, severely damaging the underlying tissue and fascia). That is to say, he sought the most straightforward explanation and prescribed treatment accordingly. The diagnostic process of the best oncologist in New York bore an eerie resemblance to Matt's: he took into account my grandfather's age, late eighties, simply dismissing his ailments as symptoms of his pre-diagnosed colon-cancer, and told him he was fine to go back to Zambia for six months. The oncologist told my grandfather that he was old, but okay—he would live to walk the lush front lawn of his safari lodge, Chaminuka, for years to come (the oncologist was far more interested in Zambia than he was in my grandfather's condition, my dad told me). In most scenarios, this is my grandfather's death sentence. Those were tears of anger, my dad's. When my grandfather arrived at the

oh, man, that spot is lit-up or I think there is an adhesion there. I nod like I understand. I find myself revealing more than I expect to this veritable stranger. He uses what he calls the Active-Release Technique, leaning heavily into *trigger points* on my right leg with his thumbs, looking for sticky adhesions, scar After finishing my exercises on the tissue between muscle and tendon. Then he takes the aforementioned steel tools and scrapes the length of my quadricep until it turns bright red. I wince in the massage headrest, trying to keep the conversation going. He concludes the session in a typical chiropractic fashion: face the wall, deep breath, exhale, crack! He tells me: nothing is really wrong, but everything is kinda wrong. With the treatment he gave me, \$90 worth, he says I should go for a run. A little pain is good. Necessary even, he says. When I leave, I have an email from Matt in my inbox. I delete it. I haven't run in one month. Who is a runner who can't run? Short answer: a biker, sometimes a swimmer. An endurance junkie. I'm going for a run.

lodge—after a thirty-six-hour journey—he went into subsequent sepsis in a country without the medical knowledge to treat his specific problem, which was not colon-cancer at all, but a leaking intestine—literally leaking bodily discharge into his chest cavity, filling his lungs. Zebras, not horses. tenth day, I take one step and feel pain on the lateral side of my right knee. Six out of ten. Same spot as always. No better, no worse. I email Matt to tell him as much and discuss the protocol moving forward. Simultaneously, I email John, a chiropractor that a runner-friend recommended to me in passing last weekshe suffered from a similar injury. John responds first by a long shot, within ten minutes (that's the kind of responsiveness I'm looking for when I'm desperate). Plus, he takes my insurance, so I have nothing to lose. I arrive at the office complex they share with a small law firm, traveling again by bike, and enter a traditional waiting room with an array of self-massage tools and pain-relieving An international conference of creams for sale on the wall to my right. He comes out to greet me, taking me back to his surgeons happened to be staying at office, which has a mechanical table in the Chaminuka, my grandfather's safari lodge, at center and a counter, fitted with a sink where the precise time my grandfather was arriving he has laid out several steel tools that look like from New York. On the first night of their they'd be more at home in the last scene of arrival, at dinner, a French urologist introduced Braveheart-the disfigurement. Unlike Matt, himself to my grandmother. She was in a who was a lacrosse player, John is a runner, desperate state; her husband of sixty years training to break four minutes in the mile. I tell was unconscious in a Zambian hospital. A day him about my high-school personal record, later, the urologist was at my grandfather's 4:19, to convey worthiness. Asking me to side in an operating room, fixing the problem lie on my stomach, he lowers the table and the oncologist failed to diagnose (for reasons reaches with both hands onto my hamstring. I that now seem disconcertingly similar to wouldn't even consider running 100 miles, he convenience). It was a simple misdiagnosis, says, conversing through various self-imposed the French urologist told my grandfather, interjections-touching a particularly tight professionally. It almost cost you your life. spot and mid-sentence blurting out things like I take a moment to decide between twenty

<sup>2</sup> Hart, Ann M. "When You Hear Hoofbeats, Think Horses—But be Prepared for Zebras." The Journal for Nurse Practitioners, vol. 15, no. 6, 2019.

pairs of running shoes. My brain turns into an Excel spreadsheet: which shoes have the least miles? The least wear? I lace up a pair of Nikes. By my estimation, they have six miles—one run, two years ago, I hated them. Only an hour since leaving John's practice, but still painfree, I start down my block at a brisk nineminute pace, turning onto the Boulder Creek Path, feeling alive for the first time in a month. The September air is temperate. My lungs burn. Two miles is something. I'm coming back. When I get home, I book another appointment with John.

Back on the mechanical table in the center of John's office, he tells me that I will probably need five sessions to get back to 100%. I trust him. Five sessions for \$300. Your deductible is too high to go through insurance, his receptionist tells me, taking my credit card. By the third session, the pain is a distant memory, and I rave about John to everyone I meet. One week after the first session, my dog, Storm, stares at me, tail wagging while I strap on his running harness. We haven't done this in a long time, his eyes seem to tell me. Out on the creek path, Storm sees a squirrel and the leash, tied around my waist, jerks violently-on the lateral side of my right knee, the pain is instantaneous. I hobble home, cursing Storm, knowing it was probably my fault. I email John and my coach, Adam. The email is dramatic, verging on hysterical. I have since deleted the evidence.

Adam suggests to me in a coded message that I should get an MRI—he tries not to worry me, but after two months of pain and no conclusive explanation, it is clear that more extreme measures must be taken. I receive a voicemail from my grandfather on the first day of October. He is alive and well, better than he's been in a long time. I'm happy for him.

When I enter the CU Sports Medicine Center that same day, his message gives me hope. I meet with a doctor, an MD, not a PT or a Chiropractor or a pseudo-anatomy expert on an online web-forum. She takes X-Rays, then sits me down on an examination table with crinkly sanitary paper and prods my knee. She leaves the room, comes back and says, as far as I can tell nothing is wrong, why don't you explain to me what kind of treatment you're looking for? I shrugged at the question. Well, that's pretty much why I'm here, I tell her. I explain my pain using all the anatomical terminology I have learned from my sessions with John: Valgus-moment, Tensor Fasciae Latae, IT BAND, fourth epicondyle, sticky adhesions, glute-med exercises, etc. She looks taken aback by my technical language. You ultra-runners sure do your research, she says, flippantly, as if it should suffice to settle the tension I am consciously creating. On your way out, you can book a \$200-dollar appointment with Tim—he'll watch you run and tell you if anything is wrong. I walk out of the room, but not before she prescribes me a high-strength anti-inflammatory ointment. On my way out, I do not make an appointment with Tim. I am going to be late for my 2PM Literary Analysis class, which is surprisingly upsetting given the fact that I actually have a doctor's note.

John is my rock in this healing process, despite my growing sense that his treatment is doing very little to relieve my pain—the root of it. The success I had with him at first has thus far been unreproducible. I am drawn to his practice for another reason. He explains things to me in a matter-of-fact way. Concerning Occam's razor, John is a firm believer in looking for zebras, not horses. Each week, he focuses on a different part of my body, trying

to figure out where the tension is coming from. Tension, he tells me, is built up over years of repetition; once you hit that critical mass, things start going haywire. Unlike my grandfather, there is little risk involved in this trial and error process, and he assures me, even after seven sessions, that I will get better. But this fact alone does not make the stakes seem any less dire.

I haven't run in two months. Who is a runner who can't run? Longer answer: perhaps he is no-one, waiting to become himself again, or perhaps he is something else: a blank slate poised to be rewritten. I worry about life without running, life without my superpower. Since my first run ever-three miles when I was nine years old—I have defined and redefined myself as a runner. Not just a runner, but someone who confronts physical limitations, pushes through pain, and finds joy in suffering. I don't understand a world without this eventuality.

Horses and zebras, as I have stated, are the medical terms we use to describe the number of assumptions going into a diagnosis. Horses require the fewest assumptionswhen you hear hooves, you assume horsesthey are the simplest explanations. Coloncancer or a muscular imbalance. Zebras require more assumptions, although I'm unclear on how much more—when you hear hoofbeats in the United States, you'd be rather shocked to look up and see a zebra-they are the most complicated explanations. Ruptured intestines and sticky muscular adhesions, pain that verges on psychosomatic—could I really just be making this shit up? Horses and zebras are, then, quite useful in the diagnosis of who we really are. How we define ourselves. Imagine one hundred horses, then imagine one hundred zebras: is it not inconceivable

to say that by sight alone, one might come to differentiate between each zebra? That by coming to know each zebra's unique pattern of stripes, one could come to know them as individuals, as unique? And is it not, then, similarly inconceivable to say that by sight

- alone, one might never come to know each of the one hundred horses as individuals? That, due to their commonness, one would only come to know them as such—by their breed?
- When I call myself a runner, attaching my ego to that phrase, am I not in some crude way
- diagnosing my simplistic fate? Perhaps I could be a writer, too, maybe even a philosopher. Perhaps I could entertain a foray into the legal community-I do enjoy suffering, after all. Perhaps all these things are just horses, and we're zebras. Perhaps a *simple* misdiagnosis in the self-definition process is the most fatal of them all.

Works Cited

- Britannica Academic, s.v. "Occam's razor," accessed October 14, 2019. https://www. britannica.com/topic/Occams-razor
- Hart, Ann M. "When You Hear Hoofbeats, Think Horses—But be Prepared for Zebras." The Journal for Nurse Practitioners, vol. 15, no. 6. 2019. ProQuest.



### Untitled

### Clarissa Midyette

I've had lotsa different teachers in my life, but I think Mike was maybe the best one of 'em all. Mike taught me all kindsa important things, like how to change the oil in the old truck he drove everywhere, or how to make mashed potatoes just right. But I think the most important thing he taught me was about how there ain't nothin' wrong with bein' different, no matter who tries to tell you otherwise.

"And that's all right," Mike would say, "just means you gotta be careful sometimes."

I didn't get what that had to do with Mr. Jackson glarin' at me when I made to kiss Mike's cheek after he'd offered to buy me a Coke.

"Peter," Mike had hissed softly, pushin' me away. "Can't do that here." My face got hot and red, and I mumbled "sorry" as quietly as I could. My face didn't change 'till I's back in the truck with Mike and he started drivin' towards my house. That's when Mike had started talkin' 'bout people bein' different. Mike said that Mr. Jackson wasn't too keen on two guys kissin' each other, even if it was only a real friendlylike peck on the cheek. But he told me that not everybody was like that.

"Don't want you spendin' any more time with that fairy," Pa said, all angry-like at supper that night. "Boy's a bad influence on you."

"Aw, c'mon, Pa," Will said. My older brother Will was Pa's favorite. "Peter's just stupid. Doesn't matter who he's with, he'll be stupid." Pa laughed real hard at that, even though Mama hit 'im on the arm and told 'im to be nice. I finished my supper quick as I could and asked to be dismissed from the table so I could try to do my homework for Miss Flynn, but all I could think about was why Pa didn't like Mike.

Truth was, Mike was really the one that made me see I wasn't quite the same as everybody else was. I's one of those different people he was always talkin' 'bout, and I guess he must've been too. I's just as happy to talk about how nice Lindsay's legs looked in that purdy new skirt of hers as I was to daydreamin' 'bout that time I saw Rob—he was captain of the football team and just 'bout every girl was in love with him—shirtless down in the locker room. How was I gonna know that I was different 'less somebody told me?

Mama always said I wasn't nothin' too special. "You'll get by, Peter," she'd sigh whenever I'd screwed up and done somethin' stupid, "But I hope you marry a woman smarter'n you'll ever be." Then she'd wipe her hands on her apron and tell me to go on and get washed up for supper. "And don't let your father know about this, y'hear? He'll whoop you into the next week."

Mama didn't think I'd ever amount to anythin'. Mike made me feel like I's somethin', though. Sometimes, when we'd sit on the little dock by the pond behind Mike's house, he'd look at me and it made me feel like I's the only person on this earth. And sometimes, if I was havin' a real bad day and bein' real down on
myself, Mike'd put his hands 'round my cheeks and look at me with big, sad eyes. Mike had the kind of eyes Mama called puppy-dog eyes.
"Hush, Pete," Mike'd say gently, in the
"I'll always care about you, Peter,"
Mike said, and he'd say it like it was the most important thing in the world. He'd say it like the whole wide world depended on me knowin'
what he was sayin' to me.

same tone Mama'd take with my kid sisters "Even if I do somethin' real, real stupid?" sometimes, when one of 'em skinned her knee "Even if you do somethin' real, real or pushed the other's doll into the mud. "You stupid." Mike always knew how to make me feel ain't worth any less than any other person. Hell, better. Pete, most of the people in the world could Turns out, even Mike had his own stand to take a lesson or two from you 'bout secrets. He didn't tell me very many-reckon bein' kind and carin'. Ain't a soul in this world as that's why they're called secrets—but I guess sweet as you are." that was why he showed up at my house real Most of the time, he'd hug me real late one night and climbed in through my tight after sayin' that, and wouldn't let go 'till he window.

Most of the time, he'd hug me reallate one night and climbed in through mytight after sayin' that, and wouldn't let go 'till hewindow.knew I's feelin' better. On real good days, when"Pete," he whispered, and I 'boutMike knew his pa wasn't 'round to see anythin',jumped ten feet in the air, he'd scared me sosometimes he'd even kiss me. Those were thebad. "Pete, I have to leave."days I'd think 'bout for weeks afterwards. Mike"You should leave before Mama and Paalways said I was special, but those were thefind you, but you just got here," I said, lookin'days I really felt it.at Mike all confused-like. "Long as you're quietMike always seemed like there'sthey won't find you."

somethin' wrong. He wasn't unhappy, really, "No, silly," he said, and even in the dark I but Mama said at supper one night that could see him grinnin'. That made me grin real he had a lot of weight on his shoulders, on big, and I was too busy thinkin' 'bout how Mike account of how his mama was dead. Pa said always made me grin to realize when he sat that I's supposed to have more weight on my down right next to me and gave me a big hug. shoulders, and then Mama told him I couldn't His shoulders were shakin' and I could feel a handle too much weight. I didn't like it too patch on my shoulder startin' to get wet. Mike much when Mama and Pa fought, 'specially was cryin'. when they fought 'bout Mike. Mike always I don't know how to deal with people seemed like there was less of that weight on cryin' real well. I used to be a real crybaby, but his shoulders on the days he'd kiss me. my older brother told me cryin' was for wusses Mike also taught me 'bout how and that if I didn't wanna be a wuss I wouldn't

Mike also taught me 'bout howand that if I didn't wanna be a wuss I wouldn'teveryone's got their own secrets. After the firstcry. Will always said that cryin' was for girls,time he kissed me, he said that'd have to beand then Mama would snap at him and makeour little secret, and I's okay with that. I trustedhim be nice. My kid sisters cry lots, 'bout stupidMike with just 'bout everythin'. I told him all ofthings, but I ain't ever the one to help 'em. Theyand Pa care 'bout me much."Where are you leavin', then, if it's not

"I have to leave town." Mike's voice sounded all choked, like Mama's when she told me Grandpa had died and gone away. "My pa's real upset with me."

"Well, when my pa's upset with me, I just offer to do some of his chores." I'd heard stories 'round town and from Mama and Pa 'bout how Mike's pa tended to get real angry and yell lots. I didn't think helpin' with chores would help somebody that angry, but I wanted to help Mike some, on account of how he always helped me lots.

"I don't think chores'll help me, but thanks for tryin' to help."

"Oh." We sat there for a little while, Mike tryin' not to cry and me tryin' to figure out what I was s'posed to say. "Are you goin' to come back?"

"I'm goin' to try. I'll come back and get you, Pete. Don't like leavin' you." He hugged me one last time, real tight, and I could feel him cryin' so I just tried my best to be a good shoulder to cry on.

So, even though Mike hasn't come back yet, I think I understand why. His pa didn't like how Mike was different, and Mike didn't like keepin' secrets. I think that's why Mike was so set on teachin' me 'bout those things. I think he did real well.

I heard Mike's pa isn't real happy with Mike leavin' town and all. Mama and Pa said that Mike better not come back to town on account of how his pa will whoop him real good. I don't want that to happen to Mike, but Pa says it's what that boy deserves. Pa says lots of angry things 'bout Mike, says there are lots of rumors flyin' 'round 'bout him, but I don't get why.

I don't know a whole lot, but I know that Mike'll come back for me. Might be a while, but Mike'll come back for me. Teachers don't just give up on their students. 'Least, the real good ones don't.

And after all, Mike was the best teacher l've ever had.

### When the Heartseller Comes Over the Hill

### Madison Aeling

Three-hundred men died tonight. Hurry now, you know how it goes. Douse your fires, snuff your candles, dim your lanterns.

Three-hundred men have died, the Heartseller will be over the hill.

The Heartseller will be over the hill.

Róisín Ó Ceallaigh's brother had died first. The only son of her bloodline and ten years her younger. He was a boy too brave to live long. Róisín had never believed in the stories, so she went and bought the brightest lantern she could find and hung it high above her door.

Shannon Mac Gabhann's husband wa next. Men who batter their wives are always terrible with swords. Cowards they all are, and I have long seen my share of cowards. Her candles remained lit as a wish.

Eithne de Paor's son had lived for hours. His brothers took him to their mother who held his hand and stroked his hair and sang to him until he slept. Of her twelve other sons, none would put out the lantern for her. She sat before her fire, tending to it, dozing in her chair. Waiting.

----

\_\_\_

l went to Róisín first.

She was sleeping when I found her. I remember thinking how peaceful she looked, for a woman who just lost her only brother, and how peaceful she looked for Róisín Ó Ceallaigh.

ır	Róisín was a large woman, her skin tanned and freckled from work in the woods, hands calloused from lumber. She wore wild sturdy curls that formed a mane around her face. A face you look at not because it is beautiful, but because it demands it. I waited, it would not take long. Róisín Ó Ceallaigh woke. When she saw me, she sat up in bed. She crossed her lumber-woman's arms over her chest. "You're real then."
	"Yes, Róisín Ó Ceallaigh."
st	She raised one red eyebrow. "You know
<u>,</u>	me?"
	"I know you. I wouldn't come if I didn't
as	know you."
	She smiled with one corner of her
d	mouth, looking out her bedroom window into the glow of the lantern outside. "So, I should have put out the lantern." "Perhaps," I said. Róisín said nothing. "Heartseller," she said. Testing my title.
r	"Heartseller. How do you go about it? The stories never make it that far."
ו	"You give it to me." "Give it?" "Not for nothing," I said. "You sell it." "But <i>you're</i> the Heartseller." "It is not a title I chose," I said. "We
,	never choose our titles." She furrowed her brows as I said it. She ran a hand up her shirt, pressing down on the skin in the center of her chest. Feeling her

heart beat below her fingertips.

"What will you give me?" "Anything."

She glared at me. Her eyes were green as emeralds and sharp as knives. "I know your kind," she said. "It is not *anything.*"

"It is."

I did know Róisín Ó Ceallaigh. I knew she was the oldest of eight children. I knew she had six sisters that were all cast aside by their father in favor of their brother, the youngest, who had killed their mother on her birthing bed.

I knew Róisín Ó Ceallaigh had built the very house I entered. I knew there were still splinters lodged in her calloused palms, that she felt nothing in her fingertips and had a nail on her left thumb that had gone black and fallen off. I knew somewhere in this house two of her sisters slept, and they had fled with her instead of living under her hellish father's thumb. He slept now, sonless, in the castle on the hill that looms above the village.

"Then you know," she said. "You know me."

"Róisín Ó Ceallaigh," I said. "When the sun rises, you will have everything your brother had. Your father's castle will be yours, everyone in this village will be your people. Your sisters will live lives in silk, and your birthright will be yours. Firstborn."

Róisín removed her hand from her shirt. She let her hands fall onto the bedding beside her and gripped the blankets. She held her head high.

"So be it, Heartseller."

Róisín Ó Ceallaigh's heart was red. It glowed and pulsed like an ember, so full of life. It would stand proud amongst the others, it would be one that never faded. It would outlive the sun.

---

Shannon Mac Gabhann was awake. She sat by the window and watched the night pass. Beside her sat a little red candle, dripping wax onto the windowsill. In the light, Shannon looked as if she was fading. Shannon Mac Gabhann was already a ghost.

She saw me coming up her entryway path. She took her little candle and opened the door. The wax from the candle melted and pooled on the flesh of her hands, but she did not flinch.

"Shannon Mac Gabhann," I said. She moved from the doorway, standing to the side and gesturing for me to come in.

Shannon Mac Gabhann did not build her house, and neither did her husband. Her house was one of the oldest and largest in the village; her husband's grandfather had built it. It was full of trophies. The house was her husband's grandfather's, the animal skins covering the floors and the horns adorning the walls her husband's fathers, and Shannon, her husband's.

"I know your kind," she said. The red candle wax now streamed down the back of her hand, oozing through her fingers. Bright against her white skin. "Give me what I ask and nothing less."

I bowed my head to her. She raised her chin and ran her free hand over her belly. "Of course," I said. "I deal not in tricks."

Shannon Mac Gabhann. I knew she used to be beautiful. The most beautiful woman for miles. Beautiful enough to attract others of my kind, and I knew she had been careful then. Then, she didn't step into the circles of toadstools. Then, she left gifts by the window and sprinkled salt by the door.

Now Shannon Mac Gabhann was small, despite her belly being round and full. Her hair was grown past her waist and was as yellow and firm as straw. Her eyes were clouded, and her arms pale as the moon, streaked with formless marks of blue.

"I want a husband," Shannon said. Her voice was shaking, the words *I want* were foreign to her. "A *good* husband, you hear? A strong husband. A kind husband." Her cloude eyes were now a deep blue, and they caught the light of the flame in a way that mimicked courage. "I want a husband who will love me."

"Hush," I said. I reached for her. I ran a strand of her ruined hair through my hand, where it became fine and soft once again. "I only ever give what you want."

She looked up at me, and she smiled. Shannon Mac Gabhann's heart was white, with ribbons of blue moving on the surface, like worms, trying to dig in deeper. It likes to be held, so I hold it. I hold it as close to me as I can.

----

Eithne de Paor sat in her chair.

The fire was lit, and her children were not with her. Eithne de Paor could not walk; he chair had wheels to get around. She sat in it, crumpled, every joint in her body as hard as a knot on a tree branch.

She swung her head over to look at m her neck permanently crooked. She moved each part of her body separately, and with great effort. I believe she could see me, even through her milk-white eyes, for when those eyes fell on me she sighed and nodded her head.

"I told them," she said. "Put out the lantern before midnight."

"They didn't believe you?" She shook her head. "They think I'm a mad old woman with mad old stories, Heartseller."

"I don't come to the mad."

"Oh, that isn't true."

า	With a trembling, jointed hand, Eithne
	picked up a long iron fire-poker that had been
-	leaning against her chair and jabbed at the logs
	with it. Her blind eyes reflected the flames like
	a mirror. She prodded until the largest log fell,
ed	and the flames burst forth, swallowing the new
	air. She looked content, closing her eyes to
	allow the flames to warm her face.
,	"Go on then," she said. "Do your
	bidding."
	"What is it you want?"
	She opened one eye. Against the fire,
	it glowed orange. "You're supposed to know,
	aren't you?"
	"Yes," I said. "I know, but I do not
	understand."
	"What's so hard, Heartseller?" she
0	said, closing her eyes again, leaning her head
	against the back of her chair. "I want you to
	take my heart."
	"l" I paused, a loss for the words. "I
	can't take it."
er	"Why not? There's nothing else I want."
	"You could want wealth," I offered.
à	"Gold. I could fill your walls with gold."
	She shook her head. "What am I to do
ne,	with gold?" she said. "I'm too old to buy those
	silk dresses or heavy jewels. It'd be wasted on
	me."
	"If not for you, then for your children."
	To this she scoffed. "Of all the things
	my children need, it is not gold."
	"Power then," I said. "Come morning,
	you will rule this land. Every inch of it yours, to
	command as you please, all the people <i>your</i>
	people. To love you, like you deserve."
	She crossed her arms over her lap,
	knitting her fingers together. "I don't want
	power," she said. "And I am loved."
	"Maybe not a queen's power," I said.

"I could give you power over the sun, and the moon, you could take them down and hold them in your home. The stars even. Weave them into your hair."

"My hair is thin," she said. "What would I do with the sun and moon?"

Here I paused. I thought of what brought me here, of the hearts that drove me over the hills. Yes, there was one last gift I could offer.

"Your son," I said, "Your son, back from the dead, just as he was."

"My son is at peace," Eithne said. "I do not want him back." She took a long breath. "Take my heart"

"I can't."

"I give it to you."

"You can't give it," I said. "You have to

sell it.'

Eithne de Paor smiled. "I know your kind," she said.

"You all do."

She sat up in her chair, as tall and proud as her crooked spine would allow.

"Give me your heart."

"What?"

She placed one hand on the wooden wheel of her chair, with a great creak of the floor the chair turned to face me. Eithne de Paor smiled through me.

"Your heart, Seller," she said. "I want your heart."

I have heard the stories the people tell of me. The songs.

They are different each time. Some say I am cloaked in black, while others say I am as naked as a newborn. Some say I ride on an ashen horse, and others say I have a wagon that simply pulls itself. I have been told I have blinding red eyes, and I have been told I have no eyes at all. I have even been told I am the

brother of Death, and I have been told there is nothing like me in the world.

Of all the stories, there is one thing that never changes. Two undisputed rules among the people.

The Heartseller has no name.

The Heartseller has no heart. "You know me." I said to Eithne de Paor. She smiled. "I know you, Heartseller." My heart was red. My heart glowed and pulsed like an

ember, so full of life. My heart stood proud amongst the others, it was one that never faded. My heart outlived the sun.

My heart was white.

My heart had ribbons of blue moving on the surface, like worms, trying to dig in deeper. My heart liked to be held, so hold it. Hold it as close as you can.

But my heart is black.

It is black and dotted with stars. It is a little piece of the night, carved from the sky. My heart is old, and it has seen more than I ever have, or ever will.

My name was Róisín Ó Ceallaigh, the firstborn of my family, and the rightful heir to everything my brother had.

My name was Shannon Mac Gabhann, I was the most beautiful woman in my village, and I will be loved.

But my name is Eithne de Paor, and I am free of my children. I am free of my home.

Three hundred men have died across the hill. Hurry now, put out your candles, dim your lanterns.

The Heartseller is coming over the hill.

### **Poisoned Pomegranates**

### Shayna Brooke Silverman

and lit another cigarette. She lay in their old Unclothed and short of breath, they lay bed, wooden and splintering at the feet. It creaked when they sat in it, when they rose every day and slept every evening. It was their good morning and good night. But tonight, it just seemed to break the silence. She stared The smell of smoke strode across back at him. He thought she was plain. Not unattractive, but plain. Her hair was longer than he'd like. He didn't want to speak. She was the one who started that conversation in the first place this night. But he was the one who grabbed her hips and kissed her in a park all those years ago. Maybe she was just a girl to him and he was just a boy to her. They were just people.

next to each other, collapsed on their backs, staring at a ceiling fan, trying not to be the first to look at the other. Their own despair and lost desires had started too long ago; this lingering had simply lasted too long. the bed, leading her eyes towards his tangcovered lips. He was a cigarette sipping a whisky glass, and because of this she became a rolling pair of eyes. Their place was old, musky, and half-buried in the earth. The corners of the room were connected by cracks that veined the walls and met at the heart, where the fan beat above them. And, She thought of the first time they used their bed. How he had stared as she

like stained glass, they were filtered in a deep lighting by slatted windows. Out of the corner of her eye she saw approached him. How he had wanted to the rise and fall of his chest. He too peered out crack her open like a pomegranate and watch the corner of his eye and noticed her glance. the seeds waterfall out onto the bed. She "What are you looking at, darling?" His remembered when, before the bed splintered, words melted between his lips like cream left he'd kiss her, and it would prick her skin. How to sour on the counter. he was a sea urchin and she was poisoned. He "You just look beautiful, dear," she stared back at her. He was peculiar looking. replied quickly, retreating to the whine of the Not unattractive, but peculiar. He had shaved ceiling fan. She started to move her hot hair his beard and he was different without it.

from behind her neck but then stopped. She become; she knew he liked her hair shorter.

She thought maybe she ought to grab didn't want him to notice how long her hair had his hand. He thought maybe he ought to look at her face. She thought maybe she ought to He noticed her movement and jumped say something else. He thought maybe he a little, murmuring inaudibly and scratching the ought to roll back onto her, but the hunger chin where his beard once was. He wondered if was gone. All desire had gone in an instant. He she noticed its absence. wasn't manly enough for her and she wasn't He started to get up. He looked at her womanly enough for him. Still, they had each

other. They had had each other for some time now.

Finally, she asked him, "Would you quit smoking for me?"

He paused and looked at her with a soft smile before responding. "Of course, darling." He put his cigarette out on the bed frame. "You are my only vice."



### Fragmented Reality in *Resisting Interpellation:* Femininity, Cinema, and the Workplace

**Raine Roberts** 

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate honors theses/f7623d209

#### ABSTRACT

Powerful women are generally misrepresented and underrepresented in films, both behind and in front of the camera. It is difficult to rise to the top of an industry when a stigma of inferiority follows you everywhere you go. Resisting Interpellation addresses the struggle to be taken seriously as a minority in a corporate environment. Our main (unnamed) protagonist, a young, mixed-race woman, attempts to start her first day on the job with ease and without negative judgment. Set in current times, she meets with her supervisor who provides her no useful information for the job that she is about to begin. As the format of the screen changes with the fragmented ways a woman can be viewed in an office, she learns that you cannot control the ascription assigned to you. She must grapple with what is reality and what is perception.

The film will explore the dynamics of an internal space and the positionality of gender in the workplace. Ultimately, she will achieve closure and success at the end of this film, making a stand within her own internal space, within the frame. Though the film takes place in contemporary times, it does have aspects and references that are applicable to any given time in American history. It will address the misleading representation of women in

#### films.

This film will pay homage to femaleorientated films—films made by women about women. Films like Wendy and Lucy (Reichardt, 2008, USA), In A World... (Bell, 2013, USA), Erin Brockovich (Soderbergh, 2000, USA), and SKUNK (Silverstein, 2014, USA) will help hone the message and the intended perspective of this paper. Films such as The Thomas Crown Affair (Jewison, 1968, USA) and A Place to Stand (Chapman, 1967, Canada) will provide reference and influence to the format of the film. In addition, through this film, I look at perceived lack of legitimacy targeted at women's work and women's interests. The accompanying essay will delve into the perceived lack of legitimacy associated with female-oriented films. A connection to the broader social issue regarding women in the professional sphere will support the claims of perceived lack of legitimacy. It will discuss the historical context of women in film, and how they came to be a forgotten contribution to film history. Finally, the essay will discuss the implication of rhetoric used in 'mansplaining' and in general conversation with, and about, women. This essay's purpose is to create a comprehensive and relatable rhetorical dynamic to propel further questioning of one's own conversational practices and one's

perception of feminine legitimacy.

#### [...]

#### I ITERATURE REVIEW

*Resisting Interpellation* is generally the power of gendered dynamics within a non-narrative, though it does have some workplace or out in the world. In A World... narrative aspects in it. Finding a way to create uses the film industry as its target, featuring a visual and auditory story without using a female protagonist who navigates through the classical narrative structure of most a male-dominated voice-acting industry. Her mainstream films leads to its own creative problem solving. As reference, I looked harder as she is confronted with male into books that talked about women in the obstacles, including her own father. Much like workplace, or addressed aspects of it. We Should All Be Feminists by Chimamanda strives to achieve power over her inner space, Ngozi-Adichie (2017) and Men Explain Things devoid of views of the disciplined feminine to Me by Rebecca Solnit (2015) provided body. In SKUNK, the female protagonist's dog resourceful tools to talk about feminism in gets stolen after a sexual experience with a workplace environments. They addressed guy who gets embarrassed and blames her issues like 'mansplaining' and the nature for it. She sets on a journey to rescue her dog of femininity in a masculinized corporate from this guy, ultimately achieving getting her world. 'Mansplaining' can be defined as an explanation of something by a man, normally protagonist in my film 'journeys' through the to a woman, in a patronizing tone-the man's office as she is being subjected to untrue conversational tone may be a conscious or versions of herself. It is a harsh experience, unconscious decision. Ngozi-Adichie, for example notes, "To be 'taken seriously' is in this space. But, once she overcomes the masculine by nature" (Ngozi-Adichie, 38). difficulty of these gazes, she accepts herself Women have to dress like men in order to by expanding her panel to full-frame, taking be taken seriously, "to be legitimate" (Ngoziup all the space on the screen and taking the Adichie, 38). These sources reinforce the space in her mind. notions and mainstream corporate thoughts on femininity that helped shape Resisting I looked at formats within narrative and Interpellation's costume design. Women need experimental films alike to hone in on how I to dress like a man (i.e. pant suits, ties, button wanted the frame to look on the screen. The down shirts) to be seen as credible, so our fragmented reality of the framing notes the main protagonist wears masculinized outfits splitting of the protagonist's self-image and in certain versions to convey professionalism maintains this sense of isolation within a panel. and sophistication. Films like The Thomas Crown Affair (Jewison, Narrative films that influenced the 1968, USA) and A Place to Stand (Chapman, 1967, Canada) incorporate this paneling

themes and message behind *Resisting* 

Interpellation include In A World... (Bell, 2013, USA), Erin Brockovich (Soderbergh, 2000, USA), SKUNK (Silverstein, 2014, USA), and Wendy and Lucy (Reichardt, 2008, USA). These films have a unique way of showcasing desire to be a known voice in trailers becomes in Resisting Interpellation, the main protagonist dog back and a personal reward. Our unnamed and this makes it feel as though she is isolated In continuation with the style of the filmmaking,

and framing of the image. Done by the work of Pablo Ferro, The Thomas Crown Affair's polo scene spans and jumps space and time. Certain panels repeated over the screen put an emphasis on the action happening. Characters are isolated within a certain frame. making note of their reactions. This is a fantastically edited sequence that evokes the fast-paced play of a polo game. In Resisting Interpellation, the eyes are doubled up and repeated over the frame to emphasize the gaze; our main character is isolated in different frames to note her reactions and actions. The Thomas Crown Affair was a huge influence on the accentuation of certain frames repeated over and over on the screen. A Place to Stand provides a slightly different influence on my film; it shows the same action, but for different angles. For my film, I integrated this effect by utilizing the different angles, but with different versions of the protagonist as well. A Place to Stand influenced my film in a way that made me think outside the box in terms of angles and actions, on what I can show and from where.

Originally, Resisting Interpellation was going to be structured as a narrative short film. I had written a script and designed a general shot script, but once I had finished my BFA capstone film I realized I would rather tell this story through non-normative ways as opposed to a strict narrative structure. Thus, I began designing ways in which I could tell this story, through non-traditional ways. In Women Filmmakers in Early Hollywood (2008) and in Be Natural: The Untold Story of Alice Guy-Blaché (2018), Mahar and Green speak of the female filmmakers who made a large amount of nickelodeons. What differed the female filmmakers from their male counterparts was their attention to storytelling, as opposed to

the spectacle picture shows. These female filmmakers were very innovative and inventive. They would color on film celluloid, make cuts and edits, and they even achieved a syncedsound experience for audience members (Green, 2018). They created new ways to tell a story on film. Nowadays, it is nearly impossible to do something that someone has not already done before with film, but these vignettes and nickelodeons of the early female filmmakers had me thinking about ways to tell a story quickly. Drawing from these shorts, I utilized what I read to make each of the paneled versions of our main protagonist in *Resisting* Interpellation its own stand-alone vignette. ANALYSIS OF RESISTING INTERPELLATION From the fragmented visuals to the droning audio, Resisting Interpellation has many moving parts all at once. To make sense of it all, I will be discussing the varying aspects of my film and how it relates to a workplace environment. With the opening of the overwhelmingly deep voice of the supervisor, we immediately get the sense of being surrounded by a male presence. His image fills the screen, taking up all of the space. Bartky (1988) talks about the spatial awareness of women and men within an environment. especially in the workspace, "Women are far more restricted than men in their manner of movement and in their spatiality" (Bartky, 66). When I hear this, I think about Jim from The Office (Daniels, 2005-2013, USA) as he constantly leans back in his chair, elbows out creating a large winged-like spread. In my film, when you see our main protagonist, she is already in a panel, just in a portion of the screen. This frame visually demonstrates she has not yet been given the room she is allowed, embodying Bartky's position regarding the restricted nature of women's

movements.

Women's spaces are also more frequented by others. Other coworkers feel an internal one, supporting the notion of the that they can reach across their desk to grab protagonist taking control of her environment a pencil, as also seen in The Office. Pam, the and trajectory. receptionist, is shown behind a large reception To begin talking about the panels of desk where others intrude on her space to her on screen, I want to point out the varying make copies, grab supplies, lean over to sizes and placements of the panels. At the talk, etc. In my film I wanted to show that the end of the film, the protagonist's "True to Self" protagonist's space will always either have version (which is the most accurate version someone else in the panel, or will have some of our main character within reality) is boxed other panels overlapping each other. When into the lower right corner. The framing reveals we first see our main protagonist, she is with her and the supervisor far away in depth, two other frames, one being a "Be Yourself" but also shows that the "True to Self" panel poster-which is there for irony-and another is not widely regarded nor brought to the being a cluttered desk with the focus being on forethought within her mind. It is the very act of the phone—suggesting a receptionist's duty, sitting down, seeing her space, controlling her like Pam from The Office. trajectory and narrative, which brings the panel When certain audio cues kick in, they to center and also allows for an increase in size. Though still fragmented, and surrounded by eyes, the main character consumes her space to fill the screen and ultimately anchor her narrative. A full frame is the norm for most film formats—rarely do we see a split screen nowadays—so this expansion into full frame reinforces the fact that she is now in control of her own narrative.

are droning and non-diegetic. The droning audio does not come from anywhere in particular; instead, it is there to represent her internalized soundscape. It feels like waves, going in and out, as if she is attempting to block the perceptions of her and her body, but the forces-the eyes-keep coming back. It also creates an ominous environment of hidden dangers—the feeling of being looked My film is set in contemporary at, being judged for no particular reason other situations and workplaces. It draws on than because she is a woman. This droning the gendered power dynamics that are is overlaid with sounds of the office and the represented in workplaces, whether in echoed, condescending expectations of the corporate jobs or on-set film studios. Resisting supervisor. Beginning with the office noises: Interpellation creates an atmosphere of the stapler, printer, and keyboard. These isolation, uncomfortability, and vulnerability. sounds serve the purpose of reinforcing the The way it panels the female body is monotonous nature of a 9-to-5 office job. The representative of how the female body is sounds are slowed to a point where they seem portrayed in movies, in media, and in societyunrecognizable. Again, this is to evoke her it is an extreme example of objectification, and internal soundscape as she starts becoming purposefully so. There is a constant juggling more of an anchor of narrative as opposed of roles and perceptions, yet this is out of to being thrown about in sequential panels. one's control. To take control, or anchor the

With the echoed voice of the supervisor, they slowly turn from an external space into narrative, is what is most difficult to achieve in any internal space. Thus, the last shot of the film is the most important for us, for her, and for the internal space of consciousness. Films that showcase this process of realizing and conquering the internal consciousness are rarely seen in female-oriented films. Though they do exist, they are few and far between. SKUNK depicts the main female protagonist winning her confidence and trajectory of her narrative with the reward of getting her dog back. The same goes for Wendy and Lucy and In A World..., the female characters conquer their internal space to create a freedom of thoughts, away from judgments and negative impressions from others. Cléo from 5 to 7 showcases the gazes and the impressions of others on Cléo; she is used to being looked at, but in a climatic scene she challenges the gaze. Instead of being complacent with being looked at, she returns the gaze of the onlooker and thus changes her perspective both internally and externally. Our main protagonist in *Resisting Interpellation* similarly sifts through the eyes and alternative versions of herself within the panels that she is aware of and wishes to eradicate. Once this has been achieved, she can then start to return the gaze outwards-to be looking, as opposed to being looked at. Finally, she will be able to take her internal narrative and achieve a sense of control within an environment made to erase and ignore her.

#### [...]

#### Works Cited

Bartky, Sandra Lee. Foucault. Femininity, and the Modernization of Patriarchal Power. Boston: Northeastern University Press,

#### 1988.

Bell, Lake; director, writer, producer. In A World... 3311 Productions, In A World, Team G, 2013. Film. Chapman, Christopher; director. A Place to Stand. Ministry of Economic Development, Job Creation and Change, 1967. Film. Daniels, Greg; executive producer. The Office. NBCUniversal Television Distribution. 2005-2013. TV Series. Green, Pamela B.; director. Be Natural: The Untold Story of Alice Guy-Blaché. The Film Sales Company, 2018. Film. Jewison, Norman; director. The Thomas Crown Affair, United Artists, 1968. Ngozi-Adichie, Chimamanda. We Should All Be Feminists. Fourth Estate, 2017. Reichardt, Kelly; director, writer. Wendy and Lucy. Field Guide Films, Film Science, Glass Eye Pix, Washington Square Films, 2008. Silverstein, Annie, creator. SKUNK. Independent Release, 2014. Film. Soderbergh, Steven; director, and Susannah Grant; screenplay. Erin Brockovich. Universal Pictures, Columbia Pictures, Jersey Group, 2000. Film. Solnit, Rebecca. Men Explains Things To Me. Haymarket Books, 2015.

## Queer Futurity and Hybridity in Arrival and Embrace of the Serpent

#### Emma Breitman

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate honors theses/05741s686

### [...]

#### Introduction

On July 18th, 2006 Vice President Mike Pence addressed Congress to argue against samesex marriage. Pence has been known to be fervently anti-LGBTQ and a supporter of "Focus on the Family," a Colorado Springsbased conservative organization that is not only pro-life, anti-LGBTQ, but also pro-medica psychiatric intervention for LGBTQ identified persons.<sup>1</sup> The organization is one that frequently pathologizes queer populations, so it is no coincidence that on July 18<sup>th</sup>, 2006 during his speech, Pence said the following:

I come today to defend that institution that forms the backbone of our society: traditional marriage. Like millions of Americans, I believe that marriage matter that it was ordained by God, instituted among men, that it is the glue of the American family and the safest harbor to raise children...l believe first, though, marriage should be protected, because

	it wasn't our idea. Several millennia ago
	the words were written that a man should
е	leave his father and mother and cleave
	to his wife and the two shall become one
	flesh. It was not our idea; it was God's
	ideaMarriage matters, according to
	the researchers. Harvard sociologist
	Pitrim Sorokin found that throughout
al/	history, societal collapse was always
	brought about following an advent of the
	deterioration of marriage and family. <sup>2</sup>
	This statement is problematic for many
6	reasons. First, the Vice President's allusion
	to homosexual marriages as being unsafe
	"harbors" to raise children cites the historical
	association between queerness and
	criminality. As Gayle Rubin explains in her
	work "Thinking Sex," "the term sex offender
S,	sometimes applied to rapists, sometimes to
	"child molesters," and eventually functioned as
	a code for homosexuals." <sup>3</sup> In this way, Pence's
	implication that heterosexual marriages are
	"safe" for children alludes to these historic
	associations that members of the LGBT

For information about central pro-life and anti-LGBT values: https://www.focusonthefamily.com/about/foundational-values/

<sup>&</sup>lt;sup>1</sup>Information about Pence's support of "Focus on the Family": https://www.denverpost.com/2017/06/23/mike-pence-focus-family-colorado-springs/ For information about counseling:

https://www.focusonthefamily.com/family-ga/parent-suspects-that-child-might-be-gay/ http://media.focusonthefamily.com/fotf/pdf/channels/social-issues/thriving-values-when-a-loved-one-says-im-gay.pdf <sup>2</sup> Congressional Record. 2006. 109th Cong., vol. 152, pt. 1, p. H5301. <sup>3</sup>Rubin, S Gayle. "Thinking Sex: Notes for a Radical Theory of the Politics of Sexuality." Deviations: A Gayle Rubin Reader, Durham, Duke University Press, 2011, p. 138.

community-especially gay men-are sexual predators and therefore are a threat not just to children but to society as a whole. Furthermore, by using the figure of the Child in the argument that homosexual marriages are "unsafe harbors" to raise children, Pence implies that queer people are a threat not only to society itself but also to our society's future. Lee Edelman, who utilizes the notion of "the Child" in conjunction with gueer theory explains that "...the child has come to embody for us the telos of the social order and come to be seen as the one for whom that order is held in perpetual trust."<sup>4</sup> In other words, not only does the Child represent the "ideal society," but also the futurity and longevity of that ideal society. Consequently, Vice President Pence's description of homosexual marriage as unsafe for the Child implies that queer people are ultimately a threat to the viability of society. That idea is reified when, at the end of the quote, he equates changes to heteronormative marriage structure with the collapse of society itself. Additionally, by arguing that heterosexual marriage is "ordained by god," Pence essentially argues that heterosexuality is natural, inevitable, and sacred. This statement indicates that homosexuality is unnatural and preventable, which implicitly cites queerness' long history of being seen as a "physiological abnormality." In her work Queering the Color Line, Siobhan Somerville investigates how homosexuality has been similarly pathologized. She notes that numerous sexologists such as Richard von Krafft-Ebing, Havelock Ellis and Karl Heinrich

Ulrichs worked to classify homosexuality as a "physiological abnormality" and in the process became the scientific authorities of what sexual practices were pathologized and which ones were not.<sup>5</sup> Moreover, pathologized behavior was largely seen as such due to its perceived divergence from "normal" expressions of masculinity and femininity and had explicit racial undertones.<sup>6</sup> Pence's claim that heterosexuality is "ordained by god," and therefore natural, positions heterosexuality as the norm while simultaneously alluding to historical anxieties connecting homosexuality and race with disease. Together, the discursive tools used by Pence reveal the perception that queer populations will infect and ultimately destroy normative society. However, this narrative is not limited to politicians, but is also spouted through mainstream media outlets such as the film industry. In this thesis I analyze two films, Arrival and Embrace of the Serpent, and identify how they both articulate a similar message about queer populations. Arrival tells the story of what happens when twelve alien ships land in various locations across the world. Louise Banks, a professor and highly accredited linguist is recruited by the U.S. Government to work with the aliens, called the Heptapods, to figure out what their purpose on Earth is. As the film progresses and Louise begins to understand their written language, called logograms, she begins to experience time out of linear order. Eventually, she learns that thousands of years in the future the Heptapods will need the help of humans, so

and one that allows for some resistance against the pathologization of the queered groups, is that Embrace of the Serpent is presented from the Indigenous peoples' perspective whereas Arrival is from hegemonic culture's perspective. As a result, Embrace of the Serpent gives the Indigenous people more agency and allows them to push back some against their pathologization. In this thesis, when I refer to queer populations or queered populations, I do not exclusively mean those who do not identify as heterosexual. Rather, my use of queer is in line with David Halperin's definition in which "queer is by definition whatever is at odds with the normal, the legitimate, the dominant."7 Consequently, my analysis will focus on groups that are portrayed as "backwards" or "abnormal" in relation to hegemonic culture, the norm. In Arrival the queer group is the Heptapods, the aliens who land on Earth and impart their language to Louise. In Embrace of the Serpent the queer group is Karamakate and the other Indigenous people living in the Amazon.<sup>8</sup> In both films these queered groups are seen as an infection to society, and certain preventative actions are put in place to stop their infection from spreading to members of hegemonic culture. Despite these preventative actions, members of hegemonic culture still become "infected"; however, those who survive do so by developing hybridity, thus

by teaching Louise their language they ensure that the humans can communicate with them when that time comes. Embrace of the Serpent takes place in the Amazon rainforest and tells the story of Karamakate, an Indigenous man who is the last of the Cohiuano people. The film recounts his travels with two Western anthropologists, Theo and Evan, who come to the Amazon forty years apart, both in search of a sacred plant called "yakruna." Theo looks for the yakruna to cure his unnamed illness, while Evan seeks it for its ability to "raise the purity of rubber," despite telling Karamakate that he just wishes to study it. The travels of these two men run parallel to one another with each man visiting many of the same places, meeting some of the same people, and often having some of the same conversations with Karamakate. However, their endings differ greatly which, I will argue, is the result of their commitment to learning from Karamakate so that Karamakate may pass on his Indigenous knowledge and allow for the survival of his people. In this thesis, I will argue that both films, while seemingly different on the surface, demonstrate how queered populations are seen as an infection or an illness by hegemonic culture and have the power to infect those from hegemonic culture that come into contact with them. However, an important difference between the two films,

<sup>&</sup>lt;sup>4</sup> Edelman, Lee. "The Future is Kid Stuff." *No Future: Queer Theory and Death Drive*, London, Duke University Press, 2004, pp. 11. <sup>5</sup> Somerville, Siobhan. "Scientific Racism and the Invention of the Homosexual Body." Queering the Color Line: Race and the Invention of Homosexuality in American Culture. London, Duke University Press, 2000, p. 19. <sup>6</sup> Ibid.

<sup>&</sup>lt;sup>7</sup> Halperin, David M. Saint Foucault: Towards a Gay Hagiography. New York, Oxford University Press, 1995, pp. 62. <sup>8</sup> In regard to my analysis of Embrace of the Serpent I use the terms "Indigenous" and "Native" respectively when speaking about peoples with a political, spiritual, and social relationship to the land and who are the first inhabitants of that land. In my analysis I utilize the term "Indigenous people" when speaking about Karamakate and the other first inhabitants of the Amazon since "Indigenous" is typically situated within an international context outside of the U.S or Canada. The location of Karamakate and the other Indigenous people in the Amazon therefore qualifies them as "Indigenous" although it should still be noted that these identity categories are socially constructed and often times ambiguous. I use the term "Native"—a term typically used in the context of the U.S.—when referencing research about the first inhabitants of what is now called the United States and comparing it to the situation of the Indigenous peoples in Embrace of the Serpent. For sources explaining this distinction in terminology see: "Terminology." Indigenous foundations, University of British Columbia, indigenous foundations.arts.ubc.ca/terminology/. "Lexicon and Terminology." Reporting in Indigenous Communities, Reporting in Indigenous Communities, riic.ca/the-guide/onthe-air/lexicon-and-terminology/.

being part of hegemonic culture as well as part of the gueered group. In both films their hybridity not only allows for their own survival, but it also allows for the survival of the queered group itself. These two films therefore bring up questions of queer futurity, or the ability of queer people to survive. Some queer theory scholars, like Lee Edelman, have theorized that there is "no future" for gueers and that fighting for future inclusion in society reproduces heterosexual ideology.<sup>9</sup> Others, like Jose Esteban Muñoz, disagree with Edelman and argue instead that queer futurity is never in the "here and now" but rather exists in the "then and there." It is something "on the horizon" that we will always strive to reach.<sup>10</sup> Both films end with the disappearance of the gueered group which ultimately begs the question of which view on queer futurity they present. My findings suggest that although this may seem problematic on the surface, the disappearance of these queer groups reflects the "fleeting" quality of queer futurity as identified by Muñoz.

The thesis is separated into three chapters: a literature review, an analysis of *Arrival*, and an analysis of *Embrace of the Serpent*. The first chapter of this thesis, titled "Creating the Other," will begin by giving some context to the notion of Otherness an essential aspect to the queering of the Heptapods in *Arrival* and the Indigenous people in *Embrace of the Serpent*. After explaining how Othering has occurred throughout history, mainly by European powers to non-European powers, I will move on to explain "The queer Other" and how their subjugation is carried out as well as how it is linked to pathologization. Lastly, I will investigate how racial Othering, like queer Othering, is also linked to pathologization. I note that although queer and racial Othering have been historically linked, for the flow and organization of this thesis I separate the two.

The second chapter titled "Alien Ailments" begins my analysis of Arrival with the section titled "Queering the Heptapods." It looks at what characteristics cause the Heptapods to be seen as the gueer and racial Other. I begin by looking at the visual aspects of the Heptapods including their skin color, the "misorientation" of the camera in relation to them, as well as the fog inside their ship that prevents their full visibility. Next, I move on to the auditory aspects of their queerness, namely the "queer sounds"-sounds that not only refuse legibility due to their mechanical and manufactured nature, but that also create a feeling of disharmony thus disrupting hegemonic "norms" of happiness.

The second section builds on the previous section's explanation of the Heptapods' queer characteristics and describes how their queerness is presented as an infection or threat to hegemonic culture. I begin by discussing the numerous preventative actions used by hegemonic culture, which in turn pathologizes the Heptapods, including the inoculations that Louise is given prior to contact with the Heptapods as well as the insistence by officials that she wear a hazmat suit. I then turn to how the Heptapods infect others, namely Louise. Louise's increased fluency in the Heptapods' written language, logograms, leads others from hegemonic culture to view her as<br/>mentally ill although it is this same fluency that<br/>allows her to survive her interactions with the<br/>Heptapods unlike previous experts. I end the<br/>section with a discussion of queer futurity and<br/>what Louise's newfound hybridity as a result<br/>of her logogram fluency says about a queer<br/>future.the other hand are more frequently killed since<br/>they are no longer redeemable and therefore<br/>the only way to eradicate their disease is<br/>through extermination.The final chapter of this thesis<br/>addresses how the Indigenous people in<br/>Embrace of the Serpent come to infect those<br/>from hegemonic culture. Here I contrast

section with a discussion of queer futurity and what Louise's newfound hybridity as a result of her logogram fluency says about a queer future. The second chapter titled "Indigenous the sickness of Theo to the health of Evan Infection" marks the beginning of my analysis to discuss the differences not only in their of Embrace of the Serpent. In the first section interactions with Karamakate but also their of this chapter titled "Queering Karamakate" journeys as a whole and how this is a reflection l identify what queers the Indigenous people of their respective ability to accept Indigenous of the Amazon, Karamakate included. I begin cultural practices and become a westernthe chapter by noting how the environment Indigenous hybrid. Ultimately, I conclude that of the Amazon is a key component that Evan's decision to learn from Karamakate. queers the Indigenous people and how the as well as Karamakate's decision to teach Amazon comes to represent the "wild," "mess" Evan is what differentiates him from Theo. that refuses colonial legibility. I then turn to who refused to learn from Karamakate and dreams—a way for the Cohiuano people ultimately dies because of it. Finally, I will argue to connect to the gods through the use of that the health of Evan and sickness of Theo yakruna or other hallucinogenic plants. I argue suggest that queer futurity is only possible that dreams are essential to Indigenous ways with the help of queer people as teachers. It of living, and since Indigenous ways of living should be noted that this conclusion supports are tied to the environment, which is gueered an ableist logic that positions health as good due to its mess, dreams which provide the and sickness/disability as bad. Although outlet for understanding how to be Indigenous overall Embrace of the Serpent is slightly more are also queered. progressive, the contrast of Theo's sickness The next section, "Preventative with Evan's health does become problematic.

Actions," moves on to what causes the My purpose in this thesis is to compare Indigenous people to be seen as an these two films and identify firstly how the infection by hegemonic culture. Here I make queered groups are seen as a sickness to a distinction between young Indigenous hegemonic culture. Then, I identify the ways children and Indigenous adults, arguing that in which they are portrayed as infecting age impacts the preventative measures used others in order to conclude what their disease by hegemonic culture to "cure" the world of suggests about queer futurity—or the ability of their infection. With the Indigenous children these queered groups to exist alongside the I argue that correctional action is more dominant culture of Western powers. Although prevalent since the children are still seen as in both films the queer Other disappears at being malleable enough to erase Indigenous the end of the film, leaving the hybrid in their practices from their life. Indigenous adults on wake, I argue that rather than seeing it through

<sup>&</sup>lt;sup>9</sup>Edelman, Lee. "The Future is Kid Stuff." *No Future: Queer Theory and Death Drive.* London, Duke University Press, 2004, pp. 1-31.

<sup>&</sup>lt;sup>10</sup> IMuñoz, José Esteban. "Queerness as Horizon," *Cruising Utopia: The Then and There of Queer Futurity*. New York, New York University Press, 2009, pp. 19-32.

Edelman's eyes as an example of "no future," it is instead an example of Muñoz's notion of queer futurity as being "always on the horizon."11

[...]

### Performative Identity in Yekl and Salome of the **Tenements**

Caleb Wexler

changes the outward signifiers of his identity Identity, as it functions in Abraham Cahan's Yekl and Anzia Yezierska's Salome and in doing so changes his identity itself. He of the Tenements, is complex and fluid. dresses in the fashions of America, rather Characters in both novels-most notably, but than those of his religion and his homeland. not exclusively, the protagonists-change By shaving his beard and dressing as an their appearance, their behavior, and even American, Yekl visually assimilates himself into the norms of mainstream American culture. their names in order to change not only the perception of them, but who they are This sets him apart from the "greenhorns" as individuals. In these novels identity is (newly arrived immigrants) and distinguishes performative, rather than innate, which allows him as being something other than them. One of the most notable remarks on his the protagonists to overcome their social positions as Russian-Jewish immigrants. appearance is the following from when Yekl However, their attempts invariably fail, not is reunited with his wife Gitl, "She was at the because of an inherent Jewishness, but same time mentally scanning the Yekl of because their attempts to subvert the Jewthree years before. The latter alone was hers, Anglo dichotomy still operate within, and thus and she felt like crying to the image to come reinforce, this very system. Consequently, back to her and let her be his wife" (61). What attempts to performatively escape the role of is so striking about this scene is that while the ghetto Jew serve only to thrust them into his wife recognizes him, she simultaneously an equally artificial, equally restrictive role. cannot find the image of the person she knew, Yekl (who also goes by the name Jake) is and the absence of the image shows him to the protagonist, and central tragic figure, be someone different from her husband. In of Cahan's novel by the same name. Of visually performing an American identity, he all the characters in these two works, he has become manifestly other from who he most fully works to transform himself. Yekl was. becomes Jake predominantly by changing In changing his name, Yekl effects an his appearance and (obviously, though even more profound change of his identity. significantly) his name. These changes are The name is the most intimate signifier of the performative in the dual meaning that they are self. Even with a common name like Jake, affected and performed like a role and also in one would not identify themselves with "I the linguistic sense of having a definite effect. am a Jake," which would position the name By presenting himself as Jake, Yekl does, in as a quality which the subject shares with fact, become Jake. a collective. Rather, one would say "I am By changing his appearance Yekl Jake." This identifies the speaker not with

Muñoz, José Esteban. "Introduction: Feeling Utopia," Cruising Utopia: The Then and There of Queer Futurity. York, New York University Press, 2009, p. 11.

a collectivity but with a unique subjectivity. Therefore, by changing his name, Yekl signifies, and in doing so effects, a change from his past immigrant identity to his present yankee identity. Indeed, the construction of this American identity is the goal of all his performative changes. This is made clear by his leitmotif, "Dot'sh a' kin' a man I am!" (10). This phrase is itself performative, continually redefining his identity, culminating in its final iteration, "I am an American feller, a Yankeethat's what I am" (117), in which Yekl both signals and effects the apotheosis of his selftransformation.

Despite the realization of his goal to become American, Jake ends the story still unhappy, and even trapped. When this text is considered on its own, it is unclear why the story ends with Yekl unhappy despite accomplishing his goal of becoming an assimilated American; however, when this text is considered alongside Yezierska's Salome of the Tenements it becomes clear why performative identity in Yekl is self-defeating. In Salome, the performative nature of identity is shown through the story's heroine, Sonya, as well as her love interest, John Manning. For Sonya, like Yekl, this performance is largely visual. For Manning, the performance of his identity is not in any one act; rather, it is in the repetition of established patterns and traditions. Considered together, and alongside Yekl, these characters show how identity is performed and the effects of this performance within social structures.

Initially, Sonya, a poor woman from the Jewish ghetto, wants to be beautiful to express herself as she believes she truly is. To borrow the language of semiotics, she wants the external signifier of her body to reflect the internal signified of her subjectivity. This is

made clear when she says that she is looking for something "that will express me-myself" (23). This phrase, "me-myself" refers to her internal being, her essential self. She does not believe she can achieve this unity of externality and internality in the ghetto, so she makes it her goal to become the wife of the millionaire John Manning.

In order to pursue Manning, Sonya must embody Manning's ideal of the Jewess. This ideal is of a people made beautiful by their suffering and elevated by their poverty. His ideal of the poor Jew has no room for suffering which is not beautiful, or poverty which is not simple. Consequently, Sonya must make herself appear beautiful, but also must make this appear simple and effortless, contrary to reality. This is made entirely evident in Manning's visit to her apartment, during which he remarks favorably on the simplicity of her clothes and furniture, entirely unaware of the fact that it has all been carefully and expensively curated for him. As a result, Sonya begins performing not the identity which is true to her, but that of Manning's ideal Jew. To understand identity in this text, it is necessary to understand Manning's perception of the Jews. Two key points are shown in the line, "Even as a boy the tragic history of the Russian Jews had stirred John Manning with heroic longings" (32). This makes clear, first, that Manning's perception of the Jews is a priori. Second, that his perception is based on their role as an object for his own heroism. This can best be understood within the discourse of Orientalism, as established by Edward Said in his book Orientalism.

The context of the modern Orientalist discourse allows us to better understand the relationship between Sonya and Manning. As is explicitly stated in the text, "Sonya and

Manning...were the oriental and the Angloeither side of this divide. Additionally, Said Saxon trying to find a common language" identifies this relationship as one of power (132). In Said's Orientalism, he describes and domination, and Yekl recasting himself as the Orient as the constructed European the Occidental can thus be understood as an perception of the East, and the Occident as attempt to gain social power. the perception of Europe constructed as While Yekl and Sonya apparently that which is not the Orient. Just as the ideas subvert the Orientalist paradigm by becoming themselves Occidental, neither of them are of the Orient and Occident as places are constructed, the identities of the Oriental and able to find happiness in these new roles. For the Occidental (Anglo-Saxon in the language Yekl, repositioning himself as a Yankee renders of Salome) are performative. Sonya is not him unable to relate to his unassimilated wife, initially the Oriental that Manning perceives engenders an internalized self-hatred, which her to be, but rather adopts (which is to say, manifests as an increasingly antagonistic performs) the appearance and behavior of the relationship with his wife and culminates in Oriental for Manning, and later as his wife, the their divorce. When Sonya adopts Manning's Occidentalized Jew. Sonya's observation that, version of Oriental beauty and becomes "You [Manning] never budged from the straight his Occidentalized wife, she is at her most footsteps of your ancestors" (152) reveals that alienated from herself and her desires. The Manning too is performing a set of expected reason that neither of them can become behaviors which have been established as happy is because performing the role of the tradition by his family and which are reinforced Occidental is not a subversion of Orientalism as normative by his society. His continued but is instead contingent on its perpetuation, performance of these behaviors constitutes and thus reinforces a system which is his Anglo-Saxon identity. inherently oppressive. Yekl and Sonya remain The dichotomy in Yekl is not nominally unhappy because perpetuating this paradigm between the Oriental and Occidental, but only changes the form, not the fact, of their rather the vankee and the greenhorn, or the oppression.

assimilated Jew and the unassimilated Jew. The Anglo-Saxons are the beneficiaries However, assimilation into the American of the power dynamic of Orientalism, receiving cultural norm is defined by the mainstream, social privilege as a result of it, but it is which is to say the Anglo-Saxon culture, and nonetheless a restrictive and oppressive the greenhorn is defined by their retention of system for all involved. For the Jews, it old world and specifically Jewish customs and relegates them to a role of poverty in which language. Furthermore, by repeatedly defining they are expected not to advance themselves, himself by opposition to the greenhorns, Yekl but to embrace the suffering and simplicity reenacts the construction of the Occidental as of their poverty. For Manning it restricts his the opposite of the Oriental. The dichotomy in behavior so thoroughly that he is unable to be Yekl is therefore de facto between the Anglo emotionally intimate even with his wife, even at and the Jew, and thus between the Occidental the crucial moments when it might have saved and the Oriental, and we can understand the their marriage. Nobody wins because this identities of Yekl and Jake as existing on system is inherently oppressive, and therefore

happiness is found only when characters refuse to participate in it.

By the end of Salome, Sonya lives as herself, not as an Oriental or an Anglo-Saxon, but as an artist. Before Sonya's goal became marrying Manning, it was to become beautiful in a way that reflected who she felt herself to be. This is the other side of performative identity, changing the signifier, not to change the subjective signified, but to represent it truthfully. Becoming an artist allows her to create this beauty herself and in doing so create an identity which is not, so to speak, "readymade."

Yekl and Salome of the Tenements both represent identity as performative. For both Sonya and Yekl, the method by which they affect their identities is their appearance. However, both of these identities exist within, and reproduce, an oppressive structure in which neither character can become happy. By refusing to participate in this system, and recognizing its artifice, Sonya is able to live a life which is authentic to herself and achieve the happiness which eluded her as Mrs. Manning and eludes Yekl as Jake.

#### Works Cited

Cahan, Abraham. Yekl: A Tale of the New York Ghetto. New York, 1896. Said, Edward. Orientalism. 1978. Penguin, 2003. Yezierska, Anzia. Salome of the Tenements. 1923. University of Illinois Press, 1995.

# The Disproportionate Effect of Restrictions to Abortion Access

Megan Saks

The systematic, institutionalized denial of reproductive freedom has marked Black women's history in America. Considering this history—from slave masters' economic stake in bonded women's fertility to the racist strains of early birth control policy to sterilization abuse of Black women during the 1960s and 1970s to the current campaign to inject Norplant and Depo-Provera in the arms of Black teenagers and welfare mothers—paints a powerful picture of the link between race and reproductive freedom in America. —Dorothy Roberts, Killing the Black Body

Since the passing of Roe v. Wade service centers, Targeted Regulation of Abortion Providers, and Crisis Pregnancy in 1973, new bills surface every legislative session that aim to restrict access to Centers. I aim to show how restrictions to abortion. The legalization of abortion in abortion access hurt low-income women 1973 did not result in affordable, safe, and and women of color the most through the timely access to healthcare for all people. framework of Reproductive Justice (RJ). Targeted Regulation of Abortion Providers, The eugenics movements of the twentieth or TRAP laws, impose strict regulations century focused on regulating women's on abortion providers that often result in reproductive health care by differentiating care between white people and people the shutting down of clinics. These laws take many forms, such as the requirement of color. White physicians emphasized of mandatory waiting periods for patients positive eugenics, emphasizing the or specific width of hallways. Since 1973, reproduction of the 'right' kind of Federal and State governments continue genes, backed by pseudo-scientific to pass legislation that restricts access understanding that genes could determine to abortion and reproductive health care, race and class. People of color, especially such as the Global Gag Rule and the Black women, were subject to negative eugenics with a focus on the prohibition Hyde amendment. While abortion care providers are routinely and systematically and regulation of reproduction. 'Scientists' targeted and shut down, Crisis Pregnancy of the time routinely tested 'medical' Centers (CPCs) are opening at an alarming technologies on Black women. These tests often resulted in temporary or rate. CPCs often coerce people to carry permanent forced sterilization. pregnancy to term through illegitimate medical practice. Throughout this paper For example, one powerful I analyze the history of family planning figure of the early twentieth century

that supported negative eugenics was Margaret Sanger. Making great strides in favor of reproductive freedoms, such as her work in overturning the Comstock Laws, Sanger then turned her attention to the "Negro Project" working with African American leaders of the time, including W.E.B. Du Bois in promoting the eugenic cause. The merging of Sanger's American Birth Control League with the Clinical Research Bureau to form the Birth Control Federation of America (BCFA) marked an important moment in the targeting of low-income black women in regards to reproductive health. The first "family planning centers" were set up in black areas with little wealth (Washington 196-197). These early centers contradictorily promoted the eugenic movement and provided access to healthcare for poor and/or rural Black women. These clinics gave women access to cheap and free family planning services such as birth control pills and other types of contraceptives. Later in the twentieth century, Black organizations declared their suspicions that the federally funded family planning centers, which looked like they existed to help Black women, were actually aiming to eliminate a black presence in the U.S. under the guise of 'family planning' (Washington 198).

Following World War II, the United Nations passed a resolution to prevent and punish genocide in reaction to Hitler's Nazi regime and eugenic platform. This resolution resonated with members in the Black Power movement that distrusted white establishments that were targeting Black reproduction. A key split in this

ideology was that it was predominantly male voices making a comparison to genocide while Black women, especially those who were poor and with less access to education, embraced birth control and accepted abortion. Despite distrust of the targeting of African American populations for family planning clinics, Black women were often forced to get services from these clinics despite the clinics' true intentions. This is because "these clinics were numerous and well funded at a time when health advocates failed to address more pressing African American health issues, such as abysmal nutrition, poor control of infectious disease, high infant mortality, low life expectancy, poor quality health care, scarce mental health care, and even a lack of access to hospitals and physicians" (Washington 200). In line with the sponsoring of eugenic-backed clinics targeting Black women, the government supported programs of the 1970s coercing Black women into sterilization. Biological understandings of where, when, and how children can and should be born and raised, led to supposed biological solutions that were anti-Black in intention and impact.

Targeted Regulation of Abortion Providers (TRAP) laws are one contemporary way in which the government continuously targets low income and women of color. Gaining traction in the 1990s, TRAP laws are pieces of legislation that deliberately close down reproductive health clinics and/or decrease access to abortions and reproductive healthcare. For example, due to TRAP laws many states require

abortion clinics to follow the guidelines (Guttmacher Institute). Each law making of ambulatory surgical centers, which conflates abortion with much riskier and access to abortions less safe, less invasive procedures. TRAP laws both affordable, and less timely is compounded for poor women and women of color who shut down abortion centers and increase the stigma surrounding a procedure often already experience disproportionate restrictions to their access to health and that is statistically proven to be less dangerous than the routine procedure of resources. a colonoscopy. One TRAP law, enacted Another tool for shutting down in Utah, requires reproductive health care abortion centers and restricting access to reproductive care for women is Crisis providers to acquire admitting privileges to a nearby hospital. As many hospitals Pregnancy Centers which use manipulative advertising and deceptive recruitment in Utah are religiously funded institutions which do not allow admitting privileges tactics with the intention of making in cases of abortion, the law targets women who are pregnant carry unwanted abortion providers and has resulted in pregnancies to term. At first glance, these resources may look like they aim the systematic closure of abortion clinics in throughout the state. In 2016, the to support low-income women, but they American Civil Liberties Union (ACLU) are actually aiming to convince women reported in an article named "Women Who against abortions. Crisis Pregnancy Have Been Denied Medically Necessary Centers offer free, often state subsidized, Health Care at Catholic Hospitals Speak access to family planning services. CPCs Out" that one in every six hospital beds in often promote 'comprehensive' options, the United States is in a Catholic hospital yet do not offer abortion services and (American Civil Liberties Union). As of are actively anti-abortion. Professionel April 1st 2019, twenty-four states have at CPCs are trained to persuade women passed laws or policies that regulate out of abortions through providing abortion providers and go beyond misinformation and other tactics of what is necessary to ensure a patient's persuasion. For example, when people safety. Seventeen states have licensing enter the clinic they may experience standards comparable or equivalent a person in a white coat, though not a to the state's licensing standards for licensed medical professional, telling them ambulatory surgical centers which perform that an abortion will increase likelihood of a much more invasive procedures than risk of breast cancer and future infertility. abortion, which, for abortions occurring The unethical practices of CPCs target earlier in pregnancy, is often as simple and attract low income women by offering affordable or free pregnancy-related as taking two pills at home (Guttmacher services. Crisis Pregnancy Centers offer Institute). Eighteen states have specific requirements for procedure rooms and services like pregnancy counseling from an anti-abortion standpoint, but are corridors and require clinics to be near

and have relationships with local hospitals

not required by state or federal law to disclose their intentions or the fact that they are not licensed medical clinics. CPCs also attract people with promises of support and guidance by offering and administering free ultrasounds (which do not need licensing to utilize) with the intention of shaming pregnant people into carrying unwanted pregnancies to term. Most CPCs are affiliated with and supported by Christian and anti-abortion organizations, like Heartbeat International, yet fail to advertise their religiously based and anti-abortion ideologies. Further, CPCs locate themselves in close proximity to real reproductive healthcare clinics. They also flood online search databases to optimize visibility—all the while operating under the guise of being unbiased and comprehensive. This 'scientific' medical language and information is *false* and has been discredited by research, yet CPCs' ability to spread this false information is protected under free speech rights granted by the First Amendment (Borrero et al.). While state and federal public funds are often appropriated to finance CPCs, the Hyde Amendment prevents the use of any federal funds to pay for abortion except for in cases of endangerment of the woman's life or in cases of pregnancy resulting from rape or incest. Government funding of Crisis Pregnancy Centers in many ways parallels the government subsidization of eugenics-based clinics of the early twentieth century. Both, unfortunately, still target low income women and women of color. Government agencies and institutions clearly have a stake in preventing bodily autonomy

and should be held accountable for their contemporary and historical actions. We know now that health disparities cannot be attributed to pseudo-scientific examinations of race as biological, although they do fall along racial lines due to other economic, social, and political structures. The disproportionate health disparities between communities of color and white communities is due to a long history of inequitable accessibility to healthy environments, food, healthcare, and much more. To attribute disparities in health outcomes and healthcare to the targeting of reproductive options and clinics on women of color, especially Black women, is to ignore the systemic roots of inequity. Statistical and qualitative data proves this point: "According to the Centers for Disease Control, African American men die on average 5.1 years sooner than white men (69.6 vs. 75.7 years) while African American women die 4.3 year sooner than white women (76.5 vs. 80.8 years) and they face higher rates of illness and mortality" (Smedley et al. 2). Disparities in health are not biological in origin, but they are biological in effect. To recognize and shift the paradigm in which people are receiving and experiencing health requires engaging with frameworks that purposefully acknowledge the history of anti-Black racism and the legacy of the eugenics movements in the United States.

One important framework that does acknowledge the historical and contemporary complexities of reproductive health is Reproductive Justice (RJ). Black women and activists, including Loretta Ross, coined the term Reproductive Justice in 1994 as a way fueled by vocal opposition, often hidden behind facades of 'regulation.' to move the focus of reproductive activism towards an intersectional A historical account of the approach considering race, sex, gender, development of restrictions to abortion sexuality, class, age, and nationality. access illuminate the ways restricting **Reproductive Rights and Reproductive** reproductive freedoms have always Health movements often focus on "The affected low-income and women of color application of neoliberal concepts to the the most. Although reproductive rights reproductive lives of women..." which and health organizations are organizing enable "the reproductive capacity and to support abortion freedoms, there is motherhood of free, white, wealthier need for a more intersectional approach. women" while "degrading the reproductive Reproductive Justice is an important movement in the fight for bodily autonomy capacity and motherhood of all others. The one outcome structures and depends that addresses the many ways that on the other" (Ross and Solinger, 106). In freedom over one's own body can be attacked, restricted, and controlled. The contrast, Reproductive Justice operates from three intersectional pillars: the right capitalist system of the United States was to parent, the right to not parent, and built upon controlling Black and Brown the right to parent in a safe and healthy bodies and continues to do so today environment. Loretta Ross co-founded through vast restrictions to abortion the Reproductive Justice organization access and reproductive freedom. SisterSong in order to illuminate the The bodies of women of color structural and socially created inequalities are under constant scrutiny from that disproportionately affect women governments, religions, organizations, of color. The praxis of RJ calls upon and individuals to the point where larger frameworks such as Environmental experiences of systemic racism and Justice and Economic Justice to illustrate inequality are eclipsed by a focus on the the focus of reproductive freedoms on neoliberal privatization of reproductive individuals with a consideration of social 'choices' and health. The focus of conditions that shape decisions regarding Reproductive Rights on laws and litigation, family planning. The framework of though an important endeavor, does Reproductive Justice allows us to see, and not do the work of acknowledging how therefore work to dismantle, the systems institutions and systems of power routinely which continually attack the access to and disproportionately affect poor women reproductive health care for poor women and women of color. A woman of color and women of color. Although frameworks experiencing the environmental injustice like Reproductive Justice are advancing of living near toxic waste might also know the discussion on action for more equity, the injustice of economic disparities restrictions to reproductive health care are and an ever increasing wealth gap, still extremely prevalent and continue to be she might already have children she is
trying to raise in a state where the police are being exponentially militarized and explicitly target communities of color to fill prisons which fund state and federal governments. These same governments in turn might use their funds to support Crisis Pregnancy Centers and create new bills (like Fetal Personhood bills) and TRAP laws with the overt intention of shutting down *real* abortion clinics.

The layers of complexity and obstacles that people must overcome to access abortions are unjust. All of the restrictions to abortion access that I detailed in this paper are only heightened for people who hold intersectional identities. Reproductive Justice organizations such as SisterSong and the Colorado Organization for Latina **Opportunity and Reproductive Rights** are doing work not only to address the restrictions of access to health care and abortion, but also to address the existing disparities in wealth, health, opportunity, and state sanctioned violence affecting women of color. Other organizations working for reproductive rights should be following their lead and doing the same.

## Works Cited

American Civil Liberties Union. (2019). New Report Reveals 1 in 6 U.S. Hospital Beds Are in Catholic Facilities That Prohibit Essential Health Care for Women. [online] Available at: https://www.aclu.org/news/ new-report-reveals-1-6-us-hospital-bedsare-catholic-facilities-prohibit-essentialhealth-care [Accessed 1 May 2019].

Apha.org. (2019). *Regulating Disclosure* of Services and Sponsorship of *Crisis Pregnancy Centers*. [online] Available at: https://www.apha.org/ policies-and-advocacy/publichealth-policy-statements/policydatabase/2014/07/22/08/33/ regulating-disclosure-of-services-andsponsorship-of-crisis-pregnancy-centers [Accessed 1 May 2019].

Borrero, Sonya, Susan Frietsche, and Christine Dehlendorf. "Crisis Pregnancy Centers: Faith Centers Operating in Bad Faith." Journal of General Internal Medicine, vol. 34, no. 1, 2019, pp. 144-145.

Guttmacher Institute. (2019). *Targeted Regulation of Abortion Providers.* [online] Available at: https://www.guttmacher.org/ state-policy/explore/targeted-regulationabortion-providers [Accessed 1 May 2019].

Roberts, Dorothy E. *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty.* New York: Pantheon, 1997.

Ross, Loretta, and Rickie Solinger. *Reproductive Justice: an Introduction.* University of California Press, 2017.

Smedley, B., Jeffries, M., Adelman, L. and Cheng, J. (2008) *Race, Racial Inequality and Health Inequities: Separating Myth from Fact.* San Francisco, CA: Unnatural Causes.

Washington, Harriet A. Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present. Doubleday, New York, 2006.



## **Shadows of Clouds**

Nelson Walker

Shadows of Clouds was written for the inaugural Chigiana Summer Composition Program with Richard Danielpour and the Carpe Diem String Quartet, and premiered in Siena, Italy on June 28th, 2019.

The piece is a reflection on what it means to live in a post-nuclear age, with global annihilation only a few political missteps away. Portraits of terror and confusion are contrasted with desolate, radioactive landscapes, bookended by a brief "meditation" on either end to ground the ear and ease the listener into and out of the world of the piece.

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/nelson-walker-shadows-clouds-2020





## Fatphobic

## Leilani Osmundson

When hearing the phrase "eating disorder," many picture the same image—a stick-thin female, skin and bones. Even Googling "eating disorder" shows this same picture again and again. But eating disorders do not discriminate. This mini documentary explores the journey of someone not typically associated with an eating disorder—a larger body. Overweight people living with an eating disorder often face misdiagnosis and lack of proper understanding and medical assistance at treatment facilities. Bri Whitbread was one of those people. Thank you to Bri for being so open, courageous, and articulate in sharing her story. This film was the October 2019 Winner for Best Documentary in the Flick Monthly Film Festival, as well as a "Best Student Film Honorable Mention" at the Top Shorts Film Festival.

The following is an excerpt from a longer piece. For full text, please visit https://vimeo.com/369172576



Untitled Glitch Art Nathan Kregstein 11x17 inches Untitled Glitch Art was made from a self-created pattern that I then ran through a Java pixel sort program. Rivers of New Zealand Daniel Strangfeld Photography Dimensions: 5000px X 3333px (Height x Width) Midsummer, with clear waters and warm weather, New Zealand provides memorable views in any direction, even looking down at how the landscape ties itself together.



79|Open Media



Top Left: *Dentist Waiting Room*, Top Right: *Summer 2005*, Bottom Left: *Hallmark Holiday*, Bottom Right: *A Trip to the Zoo* 

# Julia Merten

This series of 'Handscapes' provides a whimsical lens to revisit our memories, reminding us of the moments we carry and hold dear. Combining miniatures, color within darkness, and physical touch, handscapes are a visual playground.





81 | Open Media



## THAT FEELING.

### Graham Fee

Through the manipulation of elements like color, dense line work, flattened shape, graphic style and a series of recurring themes and motifs, I am able to speak directly to a widely varying population. By fragmenting the everyday and juxtaposing these elements, I make work that acts as a visually communicative exploration of oneself and one's experiences, bringing to question what is beyond the surface level, all the while making a lasting connection between myself, and those that view my work.

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/feeling

Gunnar Autterson

Untitled

Over the last year I have focused on the combination of graphic design and portrait photography. I find myself using graphic design to influence space in photos to help draw the attention closer towards the subject.





*Swimming* Graham Fee



# *Tepebağ* Dilara Miller

Most of us are told stories of how our mothers and fathers grew up and as we do, we begin to take these stories more seriously because we can see how these tales shaped our parents' lives. Most of my mother's and aunt's stories stem from an old city named Tepebag. Tepebag has become a common theme in my life since I was young. What's special about this place is that all of my family's stories seem to branch from this one location. So, I like to think that my family grew from this place. My grandparents' journey from Tepebag defines my family's personality now. The girl in the image is my mother in her marching band uniform. I like to think that my mother drumming on this wood signifies all the hardship but also the romantic selflessness my family holds sometimes. I added mulberry branches behind my mother to signify my own childhood and my mother's childhood similarities, a growth and reflection from one generation to another. And finally, I decided to add a silkworm and its final form, since my mother used to collect them to watch them grow when she was younger. This image was constructed with the Monotype method and printed on Arnhem Paper. Monotype processing uses akua inks and a brayer to spread the ink onto a piece of pixiglass and wipe away each layer. With Monotype, there is only one consistent print that can be created.



# Mother Goose Has Changed Dilara Miller

In Turkey aunts are sometimes called "second mothers" which is reflective of my own relationship with my aunt. The two grew up together and took care of one another, so I have always seen them as inspirable sisters. But things have changed. This piece is a representation of that shifting relationship. There are two sets of hands in the form of shadow puppets to signify a certain animal, one a goose, and one a rabbit. For me, the goose always signified a protector or a mother. "Mother goes has changes" signifies the change in their relationship and the change I have seen in my mother; one tugging on the other to get the other to do its own actions. One egg broken, one not. The rabbit ears appear similar to a tightly tied hijab, signifying the importance of religion in my mother's life. The print is made through a Monotype process using Arnhem paper.





# Terzilik Tedavisi (Tailor Therapy)

### Dilara Miller

I created a design of a person holding a chicken and sewing its feather back on. The title, "Terzi Tedavasi" translates to "Taylor Therapy". I created this print as a way to symbolize my relationship with my family, a relationship that has faced both hardship and an acknowledgment of respect through the actions I take in relating to my family. This image is an attempt to grapple with the feeling of being a part of a family, while knowing that the feathers that allow for that recognition are sewn on. Does this make the connections stronger or phony? I suppose my biggest concern is that one day the twine will become loose and all my feathers will fall off and reveal the "truth". This piece used Arnhem Paper. The image was printed through copper using aquatint and hardground method. Both processes use acid to etch your design into the copper. Once done with these two methods, the piece is wiped-down with gamsol. Intaglio etching inks are then wiped onto the plates, then excess ink is buffed off with tartan cloth and newsprint. The paper is then soaked, placed onto the inked plate on the press and run through the press with intense pressure.





Eplene US 2° 212 Hospital Houses

## Spheres No. 1 and 2 Heather Hanson

The sphere is a foundational shape important to the artist. It is the first thing one likely learns to draw. The round shape and the smoothness it might possess set it apart from other broken-line forms. In this context, these spheres are Romantic in nature. The Romanticism of the late 17th century promoted nature, fantastical imagination, and a dissension against conformity. By and large the movement is a reaction to the Enlightenment. The balls in Spheres are randomly seen. Found after a particularly windy instance which has set the large balls free, amongst the trees, defying their logical placement



Gold in the Wind Allison Murphy 3867 × 2770 pixels The freedom came all at once. I was stunned by the change of space and melted into fractional split seconds of time. I became a blank canvas ready for paint, and liberation felt like liquid gold. I infused myself to abstraction.

Allison Murphy 5184 × 3456 pixels I cracked my dusty ribs

Testify

protecting this heart, And allowed the bird to fly,

escape, and Capture what held it back.

l jump off new perches.

No leash can contain the plunge Down canyons of opening

where

Rapids race past what has won.

Mist rises from rocky water Down the valley of opportunity.

Every flower is considered.

Every fallow thing can grow.

The sky testifies unlimited

happiness

For those who gratefully find





01.23.19 Allison Murphy 1440 × 1677 pixels radiant carnation and my purpled lips play games more complex than all of the tricycles wrapped on christmas eve. unexpected yet smooth like softened ice cream, cashmere sweater with matching socks, and hallucinated lingerie for such an aggressive yellow that seduces under water peering into hues of milky lilac pansies while the ochre pollinates moisture.



# Above: Self, Top Right: Fungi, Bottom Right: Fungi Eve Hamilton-Kruger

In these aquatint prints I explore the topics of loneliness and disconnection in conversation with the need for community and acknowledgement, things we all need in order to survive. After learning that 80% of plant species need fungi to not only grow but survive, I found that was a perfect analogy for what I need to "grow" in my life as well. The self-portrait is inspired by Jason Parker's work. The mushroom growing out of the head symbolizes the focus on human connection that I have realized is so important in the time I have been in college. Alongside are two portraits each with a species of mushroom, a Chanterelle and a Phaeocollybia, native to both the Northern California and Colorado regions.





# Untitled, Digital Art

# Jessica Myers

Since childhood I have been fascinated with puzzles in all forms: pieces, riddles, games, mysteries, and relationships (bonds or lack thereof). It is this fascination that is continued and experimented through my work and expressed with my process and materials. The integration of a material can completely change the meaning of another when introduced to each other. Each element in a work informs the other, as is the case with this digital landscape. My work investigates the various elements of nature and their relation and connection with one another. It is the combining of these separate elements that create a greater entity that makes the work realize itself through the meaning of the materials.





Ibn Tulun Omar A Kaheel Mosque of Ibn Tulun is the oldest mosque surviving in Cairo in its original form after being constructed in the year 884. It is also the largest mosque in Cairo in terms of land area. Parts of the James Bond film The Spy Who Loved Me were filmed in this mosque.



Tall Tales No. 1 Heather Hanson Tall Tales No. I is part of a series of gigantic icons found towering over the contemporary landscape. In the West, where the biggest is celebrated, and we are witness to the grandiose, the manufactured idolization of the western cowboy is prolific. The modern legend of the cowboy, fostered by Filmmaker John Ford, Wild West Shows, and dime store novels, does precious little to reflect the true brutality of the Western Frontier. Tall Tales explores the condition of "that which is often not what it seems." The Western Cowboy is a western deity embodied by this monumental concrete cowboy. Intended for a theme park in the 1950s, the "concrete cowboy" creator John Sutton specialized in large cement displays for zoos and parks in Denver and the Bronx. Its actual placement is located at the entrance of the Rustic Ranch Trailer Court along Hwy 287 on Denver's Federal Blvd. Directionally challenged, it is the first landmark I oriented myself with upon arriving to the city. The gigantic sculpture dwarfs the caravans that surround it in a joyful dichotomy. The enormous 30 foot icon intimates memory of fanciful kitsch that signals the traveler to stop. Mythology and mysticism for those who settle.



# *Understanding Over Loss* Megan Chan

This work focuses on the twist of what were to happen if the prey and predator parted ways with a mutual understanding that if they fight to the death they'll end up losing more than they bargained for.







# **SOCIAL SCIENCE**

# The Stained-Glass Ceiling: A Literature Review of Women's Roles in The Church of Jesus Christ of Latter-Day Saints

## Katy Halverson

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/sites/default/files/attached-files/thestainedglassceiling.pdf

There is an interesting paradox that exists for religious women. Despite religion's historical association with gender inequality, women demonstrate higher religious participation than men (Roberts & Yamane). However, women are still underrepresented in positions of religious authority-a phenomenon known as the "stained-glass ceiling" (Roberts & Yamane).<sup>1</sup> The "feminization of religion" refers to the process by which feminine traits, such as tenderness, love, and self-sacrifice, are given more religious value. This process does not necessarily mean that women themselves have become more valued in religions. John Hawley's quote in Religion in Sociological Perspective describes the essence of this phenomenon: "Theological appreciation of the feminine does not necessarily lead to a positive evaluation of real women" (Roberts & Yamane, 277). In other words, while feminine qualities are appreciated in religion, religious institutions appear to favor men over women in prominent positions.

The question is then: why do so many women remain devout, even when they face

such inequalities? It may be that they are content with the teachings of the doctrine they subscribe to. Many women find that religion serves as a place where their feminine traits are expressly valued (Hoyt). They may stay because they find fulfillment through obedience to the teachings of their faith, or that traditional female roles themselves offer a source of empowerment. In her article on the victim/empowerment paradigm, Hoyt argues that women in traditionalist faiths do not see themselves as victims of the patriarchy, but as subjects of empowerment within their own gendered theological worldviews.<sup>2</sup> Some may experience cognitive dissonance from practicing a religion that does not align with their own views on women's roles. To combat this issue, women often engage in a process known as cognitive restructuring through which they reinterpret their religious environment to maintain a sense of self-worth without forsaking their beliefs (Beaman). In other words, they reframe their behaviors to be consistent with their beliefs, and vice versa. This paper will focus on The Church

of Jesus Christ of Latter-Day Saints, referred of polygyny, or the marriage of one husband to throughout as the LDS or Mormon church. to multiple wives.<sup>6</sup> Joseph Smith taught that The Mormon church is a recent Christian plural marriage was a divine commandment sect known for having traditional values and that would ensure one's salvation in the taking conservative positions on issues afterlife. Polygynous families maintained a of sexuality and family matters.<sup>3</sup> Mormons Victorian-style household, with the husband at preach that men and women are given divine the center providing for his wives and children and separate gendered purposes by God. (Embry, Effects of Polygamy).<sup>7</sup> Despite being a Therefore, women's roles as mothers are fundamentally patriarchal structure, polygyny offered some women freedom to run their own equally essential to salvation as men's roles as providers and priesthood holders (Sumerau & households independent of their husbands who were often gone for long periods of time Cragun). Women are taught to be kind, pure, (Iverson). While many lived in poverty due to and subservient; they are told to support their husbands "in every needful thing," and the inherent strain on the husbands' to obey him as he obeys the Lord (Sumerau & resources, some were able to start at-home Cragun).<sup>4</sup> However, the Latter-Day Saints are businesses, manage their own farmland, or also one of few religions to believe in a male even form joint households with other wives God as well as a Heavenly Mother.<sup>5</sup> It would to support one another (Iverson, Feminist be reductive to say that the Latter-Day Saints Implications). The first wife was also given the are anti-woman, just as it would be to say they authority to allow her husband to marry again are completely gender-inclusive. As with some and in some other traditionalist religions, there are aspects of the Mormon church that are empowering cases select his next wife for him (Embry, Effects of Polygamy). This exercise of power allowed women a sense of control over the emotional toll of plural marriages, and to be active participants in the enactment of religious principle (Embry, Effects of Polygamy). As the Church expanded in the West, it was forced to reckon with the Perhaps one of the more controversial United States government, which prohibited polygamy. As a result, early Mormon women

for women just as there are elements which subordinate them. This paper will present a brief overview of the Church's history to explore its complex relationship with gender and women's roles. Early Mormon Women aspects of early Mormonism was the practice

3 Formed in 1830 (Cornwall), the Church of Jesus Christ of Latter-Day Saints began as a Christian new religious movement which now considers itself to be its own denomination. However, due to a general consensus by other Christian groups, the Mormons remain an entrenched sect that has branched too far off in its teachings to be considered a Christian denomination (Roberts and

4 For more on LDS doctrine on gender expectations see Sumerau & Cragun "The Hallmarks of Righteous Women: Gendered

5 While Mormons believe in the existence of a Heavenly Mother, they do not worship her or pray to her. Many scholars have theorized that her symbolic role serves to reinforce the divinity of heterosexual marriage, while others view her as a role model for LDS

6 The term "polygamy" is a broad term for having more than one spouse, whereas "polygyny" specifically refers to a marriage with

7 For more on polygamous households, see Embry, "Effects of Polygamy on Mormon Women" and Iverson, "Feminist Implications

<sup>1</sup> According to Roberts and Yamane, Mormon women make up 56 percent of total members. Overall, women make up 52 percent of all religious groups, yet are still excluded from leadership positions in many religions. For more on gender in religion, see Religion in Sociological Perspective Chapter 11, "Religion, Gender, and Sexuality."

<sup>2</sup> Hoyt offers the following examples of doctrinal sources of empowerment for LDS women: the existence of a Mother in Heaven, the divine role of mothers in the church, and the doctrine of exaltation (the belief that all people on Earth will become like unto God in the afterlife).

Yamane)

Background Expectations in the Church of Jesus Christ of Latter-Day Saints." women, evidence of their valuation within church doctrine (Heeran). multiple wives. Most scholars use the terms interchangeably when referring to Mormonism. of Mormon Polygyny."

initiated a suffragist movement to defend the practice of plural marriage (lverson, The Mormon Question). Eventually the practice was abandoned; however, it resulted in one of the first feminist movements within the Church and in the restoration of women's suffrage in Utah (Iverson, The Mormon Question). In 1842 Joseph Smith, first prophet and founder of the LDS church, established the first Relief Society as a completely women-run organization (Arrington). Its responsibilities were to attend to the sick and provide for the poor, manufacture silk and other goods, and implement food storage, among other purposes (Arrington). The Relief Societies served an important economic purpose which would lay the foundation for the future pilgrimage and settlement of the Great Basin in the 1860s (Arrington). The organization gave women space for autonomy and an important place of leadership in the Church hierarchy. Some women may have even been ordained to the highest authority offered by the Church: the priesthood. The "priesthood" refers to the power of God bestowed upon worthy men which grants them the ability to heal, to perform blessings, and other religious rites. Upon the formation of the first Relief Society, Joseph Smith is alleged to have ordained a few women with the authority to lead as well as the capability to bless and heal other women (Newell).<sup>8</sup> However, the historical record is not settled on this topic, and this account is disputed by church historians to this day. After Smith's death, this power was rescinded by his

successor, Brigham Young, who declared that only men could hold the priesthood (Newell). Once women's ordination was withdrawn. the Relief Society itself became a subjugated auxiliary within the Church, as it was now being overseen by priesthood leaders rather than operating as its own organization (Cornwall). As a result of the growth and institutionalization of the Church, women's positions were increasingly devalued. The Church was focused on professional bureaucratization, creating new administrations to manage evergrowing wards and stakes.<sup>9</sup> Greater emphasis was placed on the role of the patriarchal priesthood, and, because women were no longer being ordained, they had no institutional role other than to support their priesthoodholding leaders (Cornwall). Mormonism underwent a period of feminization during which there were more active female members than males, making the priesthood a scarcer commodity and increasing Mormon women's dependence on their male counterparts (Cornwall). This dilemma of administrative order contributed to the inflated prioritization of men's roles, leaving women with little institutional influence in church matters.<sup>10</sup> Relief Societies have remained the central sphere for women's religious participation, even in modern-day LDS congregations.

### Latter-Day Saint Women

The LDS church is just as vocal about its expectations for men and women now as it was in the beginning. In 1995, then-prophet

Gordon B. Hinckley read a statement to the General Relief Society entitled "The Family: A Proclamation to the World," which details the Church's beliefs in the ordinance of marriage between man and woman, as well as the responsibilities of mothers and fathers over their offspring. In it, the prophet emphasized traditional gender roles; fathers were to be providers and protectors; mothers were to care for and nurture their children. In 2004, Hinckley reiterated this official separation of spheres in his talk titled "The Women in Our Lives," which praises the different-but-equal spiritual characteristics of men and women. Amid modern-day discussions about gender and equal rights, the Church has adopted a culture of benevolent sexism, or the idealization of women as spiritually superior beings in need of protection (Toscano). Women are seen as being naturally pure and Christlike, necessary for men's salvation but lacking the moral agency to be independent actors on their own.

However, LDS women have made Mormon feminist movements have some strides in recent years. In October of also been on the rise, though they are not new 2012, the official age requirement for women to the Church's history. Since the days of the missionaries was lowered to 19 years old early Mormon suffragists, from 21, while men's age was lowered to 18 Mormon feminism has taken on new instead of 19. Unlike men, women are not forms as challenges arise. Many of these required to serve missions and are instead movements have been met with strong encouraged to prioritize marriage and starting pushback from church leaders, who referred a family (Embry, Oral History). While modernto Mormon feminists as "one of the three day Mormon women enjoy more of the same greatest dangers to the Church" (Finnigan & privileges as Mormon men, including serving Ross).<sup>13</sup> One characteristic of religious sects missions,<sup>11</sup> wearing pants to church, and giving is a resistance to "compromises" of doctrine, talks at General Conference.<sup>12</sup> the Church has particularly in response to secular society, remained firm in its teachings on traditional which is especially true for the Mormon

roles for women. Women are expected to prioritize childcare and domestic work over a career. Their primary role is to be a mother and a wife, and work and education are secondary. However, many families cannot afford to have one parent stay home, so some women will work; others may enjoy having a work life and pursue a career out of enjoyment. Certain traditions within Mormonism have adapted to changing social trends, which some LDS women deal with through a process of gender negotiation, where women perform acts of agency and accommodation to manage gender inequality in their religious group (Leamaster & Einwohner). They draw on gender schemas from their religion as well as the more progressive broader society to form a gendered identity that is most fulfilling to them (Leamaster & Einwohner). This negotiation is similar to cognitive restructuring in that both processes allow religious women to adapt their beliefs in order to occupy a more empowered position in society.

13 In some cases, church leaders went so far as excommunicating women like Sonia Johnson, who spoke out against the

<sup>8</sup> Emma Smith, Sarah M. Cleveland, and Elizabeth Whitney made up the first presidency of the Relief Society in 1842, and may have been ordained by the prophet Joseph Smith with the authority to preside over the organization and the spiritual power to heal the sick (Newell)

<sup>9</sup> For Latter-Day Saints, "wards" refer to local congregations, while "stakes" are conglomerates of several wards in a particular region.

<sup>10</sup> O'Dea's dilemma of administrative order suggests that as an organization grows and bureaucratizes, its rigid structure may alienate individuals who are impeded by the hierarchy (Roberts & Yamane). Policy can create a sort of red tape, preventing religious individuals from seeking the guidance they desire from those higher up in church authority.

<sup>11</sup> See Embry, "Oral History and Mormon Women Missionaries" for more on women's missionary experiences. 12 More on Wear Pants to Church Day and the Let Women Pray campaign in Finnigan & Ross, "I'm a Mormon Feminist." church's opposition to the 1970 Equal Rights Amendment (Finnigan & Ross).

church's response to social norms about gender and sexuality (Roberts & Yamane). The Church maintains a fundamentalistic theology, believing in a literal reading of the Bible and Book of Mormon and the notion that prophets are conduits for the word of God.<sup>14</sup> Thus. they often cite the eternality of God's word to explain this resistance to change. [...]

### Conclusion

Through its history, The Church of Jesus Christ of Latter-Day Saints has held strong traditionalist beliefs about gender and women's divine roles as wives and mothers. Despite being structurally undervalued, Mormon women have always found avenues for self-empowerment, be it within Relief Societies or in modern feminist movements. Many cope with conflicting messages about femininity through cognitive restructuring, a process of gender negotiation in which women in traditionalist faiths reshape their worldview to accommodate broader social ideals without sacrificing their faith. Time will tell if the Church's stance on women's roles will result in its detriment, or if it will remain an entrenched Christian sect. Being such a new religion, it is necessary to consider how they will evolve with the 21<sup>st</sup> century, specifically how LDS traditionalism will navigate an ever-progressing society, and how LDS women find new ways to negotiate their roles amid such contradictory messages.

### Works Cited

- Arrington, Leonard J. "The Economic Role of Pioneer Mormon Women." Western Humanities Review. (1955) p. 145. Beaman, Lori G. "Molly Mormons, Mormon Feminists and Moderates: Religious Diversity and the Latter Day Saints Church." Sociology of Religion (2001) 62:1 p. 65-86. Cornwall, Marie. "The Institutional Role of
- Mormon Women." Contemporary Mormonism: Social Science Perspectives. University of Illinois Press, 1994, p. 245-281.
- Embry, Jessie L. "Effects of Polygamy on Mormon Women." Frontiers: A Journal of Women Studies, (1984) 7:3 p. 56-61.
- Embry, Jessie L. "Oral History and Mormon Women Missionaries: The Stories Sound the Same." Frontiers: A Journal of Women Studies. (1998) 19:3 p. 171-188. Finnigan, Jessica and Ross, Nancy. "I'm a Mormon Feminist: How Social Media Revitalized and Enlarged a Movement." Interdisciplinary Journal of Research on Religion. (2013) 9:12, p. 3-25. Hinckley, Gordon B. "The Women in Our Lives." Spoken at the October 2004
- General Conference. https://www.lds.org/ general-conference/2004/10/the-womenin-our-lives?lang=eng
- Hoyt, Amy. "Beyond the Victim/Empowerment Paradigm: The Gendered Cosmology of Mormon Women." Feminist Theology. (2007) 16:1 p. 89-100.

- Iverson, Joan. "The Mormon Question and Women's History." The Antipolygamy Controversy in U.S. Women's Movements, 1880-1925. Garland Publishing, 1997. p. 3-18.
- Iverson, Joan. "Feminist Implications of Mormon Polygyny." Feminist Studies, (1984) 10:3 p. 505-522.
- Leamaster, Reid J., Einwohner, Rachel L. "I'm Not Your Stereotypical Mormon Girl: Mormon Women's Gendered Resistance." Rev Relig Res. (2018) 60:1 p. 161-181.
- Newell, Linda K. "The Historical Relationship of Mormon Women and Priesthood." Dialogue: A Journal of Mormon Thought. p. 21-32.
- Roberts, Keith A. and Yamane, David. Religion in Sociological Perspective. 6th ed., Sage Publications, 2016.
- Sumerau, Edward J., Cragun, Ryan T. "The Hallmarks of Righteous Women: Gendered Background Expectations in The Church of Jesus Christ of Latter-Day Saints." Sociology of Religion (2015) 76:1 p. 49-71.
- "The Family: A Proclamation to the World." The First Presidency and Council of the Twelve Apostles of the Church of Jesus Christ of Latter-Day Saints, 1995.
- Toscano, Margaret M. "Are Boys More Important Than Girls?: The Continuing Conflict of Gender Difference and Equality in Mormonism." Sunstone, June 2007.

<sup>14</sup> Sects often reject "compromises" to doctrine, believing in the original revelation as the only "authentic expression of the faith" (Roberts & Yamane, 171). For more on the church-sect typology, see Religion in Sociological Perspective Chapter 7, "Organized Religion."

# **Deconstructing White "American" Perceptions on Immigrants of Latinx Heritage**

# Caroline Heinze

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate honors theses/41687h90d

## ABSTRACT

This study documents the construction of opinions white "Americans" make about Latinx immigrants in the current political climate. Even though participants had variant political opinions and resided in two different cities, the central part of this project focuses on the general factors that influence white "American" opinions. This research builds upon the framework of Leo Chavez's work, The Latino Threat: Constructing Immigrants, Citizens, and the Nation. His research provided a basis for understanding US immigration history, the prevalence of anti-immigrant rhetoric against Latinx migrants, the social construction of "illegality," the pervasiveness of media, and the creation of a national identity. This thesis used a phenomenological research design for analysis, to bridge the gap between the literature and the experiences and perceptions white "Americans" currently have about Latinx immigration. Semi-structured interviews provided a basis for understanding the dynamics of immigration opinions and the construction of a national identity. The findings state that the social construction of "illegality," politicized media consumption, and the nativist protection of the "American" identity all

contribute to white "American" perceptions on immigrants of Latinx heritage. [...]

# CONCLUSION

### Summarv

After conducting 17 semi-structured interviews, it was clear that there are a variety of factors white "Americans" use to understand and justify their perception of Latinx immigrants in the United States. Based off my respondents, it was clear that the social construction of "illegality" is contingent on demarcating attributes of Latinx immigrants as "good" and "bad" to justify whether or not immigrants deserve to reside in the United States ---regardless of their documentation status. It was also clear that these designations are perpetrated by media sources and disseminated to the public. In terms of media consumption, there was a strong correlation between participants' political affiliation and the belief of particular sources. Dissenting views were often seen as exaggerative or sensationalized because they directly opposed the emotional establishment people had to certain truths. Overall, I found that my participants constructed an

"American" identity by both embracing an on these ideological convictions to draw ancestral, immigrant past and distancing from conclusions about social or political issues, current Latinx immigration through racist such as Latinx immigration. Oftentimes, nativism and nationalism. these individual sentiments were developed In terms of Latinx immigration, it is from a repertoire of information from media sources. Although these media sources varied, participants discussed how they trusted sources that aligned with their opinions and therefore their emotions.

clear that notions of "illegality" are contingent on the beliefs people hold. Racialized US history, personally-held experiences, and different sources of media consumption each contribute to the salience of underlying Since my participants relied heavily on their own emotional investments to draw conclusions about Latinx immigration, their "illegality" may seem valid to those in favor of lack of cognitive receptibility to dissenting opinions demonstrated deep ideological divisions. Many participants discussed their reliance on news sources that mostly corroborated their own opinions, even if they acknowledged fear-mongering or sensationalism in media. Overall, "illegality" is socially constructed based on the conversations about media revealed the relationship between media consumption and emotion-work as cyclical; world-views are shaped by particular sources of mass media, which force people to ideologically align with emotionally-charged messages that generate emotions tied to specific world-views. Also, despite my participants' reliance on media and news to gather information, they also explained their mistrust in news, as fabricated and sensationalized for political gain. This recognition highlighted the pervasiveness of media in constructing narratives, both positive and negative about Latinx immigration. Finally, the "American" identity was extremely important to many of my participants. Despite I argue that narratives used to socially their reservations about Latinx immigration to the United States today, they saw themselves as a part of a "nation of immigrants" and strongly tied to ancestral, European immigration. They invoked this rhetoric to

assumptions that are made about this population. For instance, the brand of strict immigration reform and who seek out information that corroborates this belief, but is portrayed as harsh to those in agreement with the benefits of Latinx immigration the US. These justifications of support or dismay towards Latinx immigration demonstrate how beliefs of the dominant group, which assigns labels. My participants qualified different stereotypes and characteristics that are typically associated with Latinx immigrants to designate them "good" and "bad." For instance, a "good" immigrant is constructed from qualities like being a hard worker or providing a source of labor to people in the United States. A "bad" immigrant is socially constructed from narratives that Latinx immigrants' tax the US economy, use social welfare programs, and import crime. For many of my participants, these qualifications were based off of personally-held stereotypes or generalized experiences. construct Latinx "illegality" are connected to emotional politics and media consumption. Many of my participants demonstrated a reliance on their own individual sentiments rather than empirical facts and depended construct themselves as immigrants, while

<sup>&</sup>lt;sup>1</sup> "American" is quoted because the term is often used to designate the national identity of those residing in the United States, but not those who reside in other parts of North and South America. Oftentimes, the term "American" is employed to stake US nationalistic ownership over the territory, with little regard for the same "American" identity other countries have. <sup>2</sup> Latinx is a gender-neutral alternative term for Latino or Latina. Many scholars use Latinx to be gender inclusive.

simultaneously distancing themselves from Latinx immigrants today. I attribute this rhetorical manipulation to assimilation theories and racist nativism. Theories around assimilation are used to demonstrate the "Americanness" of early European immigrants and their ability to culturally align with hegemonic ideals of the United States. This justification is used to show that European immigrants "properly" contribute to society. Alternatively, my participants' ties to ancestral immigration are used to differentiate and demonize the experiences of Latinx immigrants in the United States. They contrast the experiences to maintain the superiority of Anglo culture and oppress anything seen as "other." The hierarchy between immigration groups maintains racist, nativist ideals because it defends the power imbalance between white or Anglo natives against Latinx people. Consequently, these characteristics led my participants to call for protecting the national identity of the United States against immigrant invaders. They argued that the United States needed to be protected from the dangers of sanctuary cities or birthright citizenship. For many people, sanctuary cities and the Fourteenth Amendment directly oppose US nationalism because they are seen as loopholes that support immigrants. These responses demonstrated how the "American" identity is constructed by "cherry-picking" immigrant characteristics, both historically and today, that support Anglo-dominant culture and uphold imbalanced systems of power for white "Americans." Latinx immigrants, even when they are seen as positively contributing to society, are demonized against white "Americans" because they are viewed as racially and culturally different and therefore dangerous.

For some, the implementation of strict immigration laws over the past few decades have proven to be an appropriate response to protect the United States. Despite the penalization and stigmatization that Latinx immigrants face, those in favor of immigrant restrictions cling to the opportunity to maintain the current power structure in the United States. This has serious implications for future generations, as they are apt to face similar situations and discourses.

### Key Takeaways

Overall, my participants demonstrated that language has powerful effects on the social mobility of Latinx immigrants, as they are portrayed socially, through media, and against the white "American" identity. Many of my participants were not always aware of the implicit biases they presented, and this was informative of the idea that the United States is a "nation of immigrants" despite an overall rejection of Latinx immigrants in policy and in US integration.

Notions of "illegality" serve to degrade Latinx immigrants by demeaning their human existence to one composed only by status. This is often reciprocated in the media and can impact more widespread views of Latinx immigrants. Immigrant integration into US society is diluted by a lack "belonging" they are given. Conversations with my participants revealed how crucial structural changes are. Participants revealed the pervasiveness of false narratives, a general lack of awareness about the history of immigration and its impacts today, and how dominant hegemonies are protected and maintained. Policy Implications

My research has revealed how much needs to be done in the United States to

make people aware of the vital impact Latinx immigrants, and immigrants in general, have on the country. After interviews, it became clear that the implicit biases my participants hold about Latinx immigration are pervasive and contribute to broader conversations about immigration. For the most part, a lack of understanding past policy precedent and contributing to false narratives about Latinx immigrants have led people to permit the administration.

While analyses of public opinions passage of formal policies introduced by this have identified the characteristics associated with restrictionist immigration attitudes, Given that participants reciprocated there is very little research about how white opinions about Latinx "illegality" and shared "Americans" frame or explain their views sentiments about the threats of Latinx on immigrants or Latinx immigrants, more immigrants, political action and rhetoric specifically. This paper fills the gap through need to directly oppose and call out these a qualitative analysis of 17 semi-structured narratives. To start to correct the widespread interviews with white "Americans." Participants false narratives about Latinx immigration, there revealed the complexities of the factors needs to be active neutralization of the threat that contribute to the overall perception of narratives and antiracist work against nativist Latinx immigrants. Most participants relayed sentiments by members of the media, the conflicting narratives about the influences government and academia. Also, the rhetoric on their opinions, which demonstrated that of "illegality" needs to be eliminated because particular attitudes are constructed over time it has proven to discount the economic and and according to current rhetoric, personal social contributions Latinx immigrants have experiences and identity creation. made to the welfare of the United States. Limitations and Future Research Additionally, policies need to be implemented While this study breaks ground in that directly address labor market needs in examining current white "American" attitudes order to stop the negative labeling of Latinx towards Latinx immigrants and the factors immigrants as manipulative of job opportunity that contribute to these attitudes, the findings of this study are not generalizable to all

(Chavez 2013). Interviews also revealed participants' white "Americans." Further research would dependence on particular media sources benefit from pools of randomly-selected and opposition to dissenting sources. These participants from all over the nation. Given sources were used to corroborate previouslythat all interviewees lived in relatively middleestablished, emotionally-invested opinions. to-upper-class, urban and suburban areas, Media needs to be held more accountable in terms of employing particular frames. Oftentimes particular frames reduce the may look significantly different. Additionally, complexity of issues, such as immigration, and participants' ages had a limited range, from

makes some points more salient, while leaving out other aspects. Additionally, the repetition of false narratives needs to be stopped and called out in order to stop compelling an audience to promote their own interests by fusing messages with their preferred media sources.

### **Theoretical Implications**

the emotions and behaviors of people in rural places or in areas with lower economic status 37 to 72. The attitudes and perceptions of younger people could have changed the course of the research. Furthermore, this study only examines people's attitudes towards immigrants in a politically tense time period, which is only informative of the current climate, and cannot necessarily provide insight for the unforeseeable future. However, the goal of this research was to examine what factors white "Americans" use to negotiate their perceptions of Latinx immigration, thus the research was not intended to be generalizable to all white "Americans."

Future research should examine the impacts of white "American" attitudes on Latinx immigrants currently, to understand their experiences under this unique administration and in this contentious time period. As white "Americans" continue to construct the "immigrant other," it would be informative to examine how this group conceives of their own ethnic identity during this time. Elevating the voices of immigrants from Latin American backgrounds is crucial because it would provide insight into what is going through the minds of Latinx immigrants in the midst of threat narratives and racist nativism. In addition to examining the current experiences of Latinx immigrants, it would be important to examine the immigration attitudes of people from different racial backgrounds. Although one participant in the study acknowledged their Asian biracial background, they identified as white in paperwork. Examining the attitudes of other racial groups in the United States would provide a more comprehensive understanding of the factors that contribute to perceptions of immigrants. The factors that proved to be the most impactful on white "American" attitudes were rooted in the power and privileges associated with whiteness and may vary for

other groups who do not identify this way. Researchers should investigate other impacts on perception for people with more diverse racial and ethnic backgrounds. Although white people construct dominant hegemonies in the United States, investigating the opinions of other racial groups would be informative of more general perceptions. Even though whiteness continues to be upheld in the United States, the opinions of white people are not truly representative of the factors that impact the perceptions of all people in the country. Conclusion

The future of this work with white "Americans" would be beneficial to examine over a longer period of time, to understand if the factors that contribute to opinions are uniquely shaped by this administration or for alternative reasons. Will inflammatory media coverage persist? Will notions of "illegality" continue to be seen as a threat? Will federal policies improve? Whatever the answers may be, investigating the perceptions that white "Americans" have on Latinx immigrants contributes to a deeper understanding that is necessary to structurally change the policies in place and educate the public about the restrictionist history of the United States.

## WORKS CITED

Chavez, Leo. 2013. The Latino Threat Narrative: Constructing Immigrants, Citizens, and the Nation. Stanford, CA: Stanford University Press.

# Brazil's Belo Monte Dam: A Hydropower Dilemma

# Michele Wolff

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/sites/default/files/attached-files/ brazilsbelomontedam.pdf

Throughout the Xingu river basin, foundation's missions. To determine the best Antonia Melo da Silva is seen as a tireless move forward, she decided to take a holistic warrior and beacon of hope. The Belo Monte approach into understanding Belo Monte and Dam took her home, her livelihood, and her the hydropower dilemma Brazil is facing. happiness. To this day, she still remembers the day the bulldozers arrived in her community. Hydropower in Brazil The fear that took root inside her and all her Energy is one of Brazil's greatest loved ones was incomparable, but one they barriers to development. With a rapidly soon learned to live with. Unwilling to leave growing population of 207 million, the demand for energy far exceeds production. Based on anyone behind, Silva made sure everyone had a place to go before she packed up her family current estimates, generating capacity needs and said her final goodbyes to the land of her to increase by approximately 5 to 7 GW to ancestors. She left, but she did not remain satisfy growing demand on a yearly basis silent in the face of such injustice. (Buckley, 2012). As such, Brazil is faced with a The dam brings death to the flora, the pressing energy challenge.

fauna, countless indigenous and traditional The electricity sector in Brazil is the cultures that live in the Xingu basin. Our people largest in South America and 97% of the total face increased violence, unemployment and population has access to electricity (The World misery because the government and a group Bank, 2014). In the past two decades, Brazil of investors want to exploit our land and rivers has been transitioning from nonrenewable for profit. I dedicated my life to campaigning to renewable energy sources. Currently 76% against this project, and though it has gone of its electricity is generated from renewable sources (Álvares, 2007). According to Brazil's ahead, I will keep on fighting against what Belo Monte represents: a destructive, unsustainable Ten-Year Energy Expansion Plans, the aim is and unfeasible development model. (Silva, to raise this percentage to 86.1% by 2023. 2017) Experts believe Brazil is well on its way to Silva created "Movimiento Xingu achieving this goal (Cabré, 2017).

Vivo Para Sempre" over twenty years ago. Recently, Silva was awarded the 2017 Alexander Soros Foundation Award for her activism. The question Silva now faces is how to allocate funds in order to further the

About two-thirds of Brazil's renewable electricity generation comes from hydropower. Much of Brazil's hydroelectric potential lies in the country's Amazon River Basin. According to the Associação Brasileira de Distribuidores

de Energia Elétrica (ABRADEE), Brazil has 158 hydroelectric plants in operation, 9 plants in construction and another 26 authorized to be built (Álvares, 2007). The majority of these hydroelectric plants have installed capacities between 1 and 3 MW (Álvares, 2007). However, the Itaipu Dam in the Parana River has an installed generating capacity of 14,000 MW (Fearnside, 2012). It is the second largest hydroelectric power plant in the world behind the Three Gorges Dam in China. According to the Brazilian Ministry of Mines and Energy, Brazil will aim to increase hydropower capacity by 27 GW by 2024 (Minas e Energia, 2017). With the Belo Monte Dam, this will not be a challenge.

### **Energy Challenge**

Today, the controversial hydroelectric challenge Brazil is facing regards the Belo Monte Dam that is currently under construction in the Xingu River Basin. On February 17th 2016, the Belo Monte Dam tested its first turbine (Southgate, 2016). With a planned finish date in 2019 and an installed capacity of 11,233 MW, the Belo Monte Dam is projected to not only catalyze economic growth, but to also expand access to electricity into isolated regions (Southgate, 2016). However, a host of economic, political, social, and environmental concerns associated with the construction of the dam have gained prominence.

With the future of Amazonia and all of the actors involved at risk with the continuing construction of the Belo Monte Dam, Brazil must try and find a harmonized balance between the three sustainability pillars: economic/political, social, and environmental. The dilemma is as follows:

Is the compromisation of one of

the sustainability pillars inevitable in the construction and eventual generation of the Belo Monte Dam?

If so, do any alternatives to hydropower exist?

In order to contextualize these questions, the political, economic, and social environment of the Belo Monte Dam project must be examined. As an important stakeholder, "Movimiento Xingu Vivo Para Sempre" is uniquely situated to focus attention and resources into the best approach to addressing this energy challenge.

[...]

### **Project Design**

Construction of the Belo Monte Dam began in Altamira during 2011. Although still in construction, the dam is currently composed of two parts. One portion powers the main turbine while the other diverts the course of the river into two man-made reservoirs. In total these reservoirs cover an area of 668 km<sup>2</sup> which used to be home to thousands of indigenous people (International Rivers, 2016). The dam was functional by 2015, but projected to be up and running at full capacity by 2019 (Bratman, 2014). The project is currently suspended from further construction due to legal accusations pertaining to housing inadequacy of indigenous people. Brazil's energy mogul "Norte Energia has been accused by the Federal Public Ministry of ethnocide for its wholesale destruction of indigenous culture" (Sullivan, 2017, n.p.). Construction suspension of this project is nothing new as the political influence is backing the full operation of the Belo Monte Dam. Despite costing taxpayers \$30 billion Brazilian reals (four times the initial budget),

proposed construction of additional dams upstream are in discussion to make up for the inadequacy of the dam's current energy generating capacity (International Rivers, 2016).



### Figure 1: Belo Monte Hydroelectric Project

Map of Belo Monte Hydroelectric Project. International Rivers. (2012). Map of Belo Monte Dam. https://www. internationalrivers.org/resources/map-of-belomonte-dam-4595.

### Economy

The Belo Monte Dam, when fully built, would provide a power output of 11,233 MW. However, even with this massive capacity, the dam will only produce an average of 4,571 MW yearly. A capacity factor of 40.7% is low, but not altogether terrible for large scale dams (Fearnside, 2012). The low capacity factor is due to limited water availability during the dry season.

Despite various legal setbacks, Belo Monte has the backing of the Brazilian government and is being developed by state-owned power company Eletronorte. This project was projected to cost US \$13 billion, and a majority of funding came from national development banks and government spending funds. The National Development Bank (BNDES) committed to finance up to 80 percent of the project, and elected to give a 30-year grace period on loan repayment. On the contrary, private investors have been hesitant to invest in Belo Monte due to the upheaval surrounding the project (International Rivers, 2010).

The project has the capacity to provide power to 18 million homes (Leite, 2013). Because of Brazil's heavily subsidized aluminum industry, a large portion of energy produced would be diverted into the industrial sector. This would not only fail to provide power to the people of Brazil, but also work to offset several of the proposed "green energy" benefits of the project (International

ct Rivers, 2009). Considering the high economic cost of the construction of the dam, as well as the continued struggles in the courts, the foreseen cost for Belo Monte has increased significantly. This leads to a problem in the ability of the dam to eventually generate positive profit. Based on several research models, it becomes apparent that the Belo
c., Monte project will likely have net negative profit over the next 50 years (The Economist, 2017).

[...]

## Environment

Since IBAMA's 2009 environmental assessment, the communities surrounding the Xingu River have been displaced and are now experiencing a drastic decreased quality in life. Despite the PBA (Basic environmental Assessment Plan) in which project executives agreed to fulfill 117 socio-environmental conditions within the region, locals have faced increased surges from the river, a shortage of fish, and sanitation issues. Many of these environmental concerns can be traced back to IBAMA's environmental assessment which is now under scrutiny for noncompliance with environmentalists and indigenous populations (International Rivers, 2016).

Prior to the construction of the dam, the river had a steady flow; however, villagers are now reporting random tides. This inconsistent flow is due to miscalculations regarding the holding capacity at one of the reservoirs. As a result, these surges are violent and, because they are unpredictable, children are cautioned away from playing in the river (International Rivers, 2016).

Many justify dams as a being a clean energy source; however, when built in tropical areas dams can give off levels of methane that are comparable to coal fired plants (International Rivers, 2016). High methane emissions are a result of decaying vegetation that is swept away with violent surges. When doing their environmental assessment, IBAMA failed to execute this component of the dam thus leading to 400km<sup>2</sup> of forest that has been uprooted from these surges (International Rivers, 2016).

Shortly after the dam was constructed, sixteen tons of fish died after the reservoir flooded for the first time. Despite IBAMA's environmental assessment, they failed to include the economic loss in such a large reduction of fish. Rather than taking accountability for their inefficient assessment, IBAMA fined North Electric for the loss in fish. It is unknown if the funds from this fine made it into the hands of the fishing communities; however, it is highly unlikely when reflecting upon Brazil's highly corrupt government. Not only are communities facing economic distress over the construction of the dam.

many are also flooding, and poor sanitation is a result. Giardine Indipendici-1 is a community that has suffered from the diverted river that has caused massive flooding and contamination. Video footage shows sewage backing up and high flooding in housing when the river is diverted. Whirlpools of trash and human waste are now commonly swept through communities and into houses. Many are feeling helpless without the fulfilled promise of an updated hospital in Altamira, which has seen a 50% increase in population since the construction of the dam. People are unable to receive medical treatment as a response to the poor sanitation conditions that have arisen from the dam.

# Recommendations **Recommendation 1: Diversification of** Renewables

One proposed solution in order to prevent a project such as the Belo Monte Dam from happening again is shifting the support for hydropower to other sources of renewable energies. Solar and biomass are Brazil's top primary alternatives based on the country's geography and access to resources. Due to Brazil's high levels of sunlight, 4.25 to 6.5 sun hours/day, solar energy has great potential in Brazil (Renato, 2017). According to Rodrigo Sauaia, the CEO of Brazilian Association of Photovoltaic Solar Energy (ABSOLAR), "The technical potential of solar photovoltaic energy in Brazil is immense and surprising. It is more than 28,500 GW in largescale generation and more than 164 GW in residential roofs in the distributed generation, and these are conservative estimates."

If Brazil rallies behind Sauaia's optimism and harvests more solar energy, solar could steal some of hydropower's slice in the

renewable energy pie. The country's biggest relief to the largest number of people possible. hurdles with respect to solar power will be the Furthermore, she is going to conduct a careful expensive cost and inconsistent availability. evaluation of our research to see which of our Even though the cost of solar energy has recommendations is the most tangible and substantially decreased over the past decade, beneficial for her organization and mission centralized and distributed solar power still qoals. requires the proper infrastructure, skilled labor, and storage technology, which can be **Works Cited** costly. Furthermore, the harsh reality is that solar energy generates less than 0.01% of the country's electricity demand. Solar energy becomes even more inefficient during cloudy days or non-sunny times. Solar's inconsistent availability poses an energy issue.

Biomass, specifically sugarcane, is als making a lot of headway in Brazil. According t data provided by the National Electric Energy Agency (ANEEL), the nation's installed power in sugarcane biomass plants has reached 10 GW. Brazil has over 380 plants of biomassbased sugarcane (Bayar, 2015). One potentia issue with respect to sugarcane biomass is that the crop requires vast land plantations which are often hacked out of CO<sub>2</sub>-absorbing forests. This poses its own problems in the fight against global warming.

Moreover, the support must shift away from hydropower and towards other renewable energies if Brazil wants to avoid another Belo Monte Hydroelectric dilemma.

# [...]

### Conclusion

The hydroelectric energy challenge in Brazil has no clear solutions. However, what is clear is that the economic, social, and environmental costs of large hydroelectric projects like Belo Monte are unsustainable. At this time, Silva is unsure as to the proper allocation of her award funds in order to bring

	Alvares, A. J., Tonaco, R. P., & Fernandes,
У	L. P. (2007). De Energia Elétrica-Abradee-
/	Associação, Redes. "Brasileira de
t	Distribuidores de Energia Elétrica.
	Bayar, Tildy. (2015, May 29). Biomass is
60	Booming in Brazil. PennWell Corporation.
0	December 03, 2017,
,	Bratman, E. Z. (2014). Contradictions of green
	development: Human rights and
	environmental norms in light of Belo Monte
	dam activism. Journal of Latin American
l	Studies, 46(2), 261-289.
	Buckley, T. (2012). How Brazil is Emerging as a
	Global Clean Energy Leader. Renew
)	Economy. November 27, 2017.
	Fearnside, P. M. (2012). Belo Monte Dam: A
	spearhead for Brazil's dam building attack
	on Amazonia. In <i>Global Water Forum.</i>
	International Rivers. Southgate, Todd.
	(2016). After the Flood. Brazil.
	Leite, M., Amora, D., Kachani, M., De Almeida,
	L., & Machado, R. (2013). The Battle of
	Belo Monte. Retrieved December 05,
	2017, from http://arte.folha.uol.com.br/
	especiais/2013/12/16/belo-monte/en/m/
	Minas e Energia Página Inicial. (2017,
	September 26). Brasil Governo Federal.
	November 27, 2017.
	Renato, L. (2017). The Official Event of the
	Brazilian Solar Power Sector. <i>ABSOLAR.</i>
	December 03, 2017.
9	Southgate, Todd (Director & Producer), Brent

Milikan (Producer), Christian Poirier (Producer). (2016). Belo Monte: After the Flood. [Film].

Sullivan, Z. (2017, Sept 19). Belo Monte dam installation license suspended, housing *inadequacy cited.* Retrieved from https://news.mongabay.com/2017/09/ belo-monte-dam-installation-licensesuspended-housing-inadequacy-cited/

- The Economist. (2013, May 04). The rights and wrongs of Belo Monte. Retrieved December 05, 2017, from https:// www.economist.com/news/ americas/21577073-having-spentheavily-make-worlds-third-biggesthydroelectric-project-greener-brazil
- The World Bank. (2014). Access to electricity (% of population). The World Bank Group. November 29, 2017.

# **Tree Fish**

# Anna Morgenthaler

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/sites/default/files/attached-files/treefish.pdf

Everybody is a genius, but if you judge a fish by its ability to climb a tree it will live its whole life believing that it is stupid.

The intent of this project is to make teachers more aware of all aspects and features of dyslexia, and make them more capable of educating dyslexic students. Through compiling both biography and research, I hope to reanalyze our current understanding of dyslexia and propose a new positive view and approach to it. I hope to deconstruct preconceived notions of what dyslexia is, provide a personal account to allo for a better understanding of the personal hurt and challenges the dyslexic student faces, and propose a new view of looking at dyslexia that considers not only its challenge but more importantly, its strengths. I will provide resources for how to change not only individual thinking, but collective thinking, in the hopes of impacting the future education system. With the compilation of resources I have provided, I hope to illustrate how the positive features of dyslexia can be utilized in the classroom to help the dyslexic student develop, not only academically but emotional as well, and to show how this more dynamic and integrated approach to teaching is beneficial for all students. This is not a guide understanding the language-based challenge

-Albert Einstein

	of dyslexia, and how to "correct" or "cure"
	them. Rather, this is a detailed analysis of the
	dyslexic mind, its capabilities, the emotional
	and academic experience of being dyslexic,
	and how positivity and acknowledgment of the
	strengths of the dyslexic mind can allow for
V,	academic and general success.
	I remember realizing for the first time
	that I was stupid. It was during my second
W	grade DIBELS testing. DIBELS (Dynamic
	Indicators of Basic Early Literacy Skills) is a
	short, one minute test that measures literacy
	skill acquisition (University of Oregon Center).
s,	It is a timed fluency measure that assesses
	the big ideas of reading—a dyslexic student's
У	worst nightmare. I was taken to the school
	library by a parent volunteer, who would be
	administering the test to collect data on
	my reading and comprehension skills for
	the school. We sat down at a table near the
	entrance, my pulse racing with apprehension,
-	as the test administrator removed the
lly	instructions and read a passage from the
	folder in her hands. By this point in my life, l
	understood that I was not a good reader, and
to	this was about to be proven. I was going to be
es	asked to read aloud, racing against the clock,

and I was determined to succeed.

My tester read the instructions aloud; I would read a passage while she timed me, and at the end of one minute she was going to stop me and ask me some questions about what I had just read. She placed the passage in front of me, the end of each line labeled with a number that would later be used to calculate my score, then pressed the start button on the timer. *Beep.* 

In one minute, I managed to make it about three lines or so down the page, stumbling and stuttering over the words. It was at the end of this one minute that I felt it. The thoughts and emotions of my tester poured off of her. She did not even have to say anything; I heard her thoughts, the general sentiment of which were, "Oh man, this kid is screwed." I felt her judgment, her negative analysis of me. I had been determined to prove my ability, but instead I had been dragged into the light, my challenges had been exposed, analyzed, and I had been found wanting. I felt how my performance defined me for this woman, how she understood me. I felt the weight of my performance, what it meant, its essential role in determining my intelligence and self-worth, and recognized that I had failed.

I cannot tell what the passage had been about, any more than I could have told my test administrator what it had been about on that day that I read it. However, I can still remember many of the obscure visual and poignant emotional details of that experience. I remember that the folder that the testing materials had been in was red, that the table we sat at was placed at the end of the first shelf of books in the library, and that the alphabetical label of this shelf was mounted on blue and lime-green paper. I can tell you that the table was round, the chairs incongruently square, the tabletop a light grey encased in a pale artificial wood. I can tell you that a statue of Dobby the house elf, donated to the school upon the release of the second Harry Potter film, stood to my right beside the table, his tennis ball sized eyes staring in total terror of the monster that stood before him, his fear reflecting my own.

I can tell you all of these things for the same reason that I was unable to tell my test administrator what happened in the passage beyond the third line: I am dyslexic. My being dyslexic is what allowed for this moment to exist as it did, as it does in my memory, with the combination of the challenges I faced in acquiring reading and writing skills, the negative emotional impact that resulted from having such challenges, and the strong visual strengths that my dyslexic processing style has granted me.

### [...]

Support: Recognizing Ability and the "So What?"

Fostering and supporting dyslexic students is essential in ensuring that these students' challenges with reading and writing do not become emotionally and academically disabling. Dyslexic students are constantly at risk of suffering from their apparent inferiority, as their contact with repeated failure can result in a sense of powerlessness. This constant negative emotional bombardment can lead to extreme self-deprecation and the understanding that their challenges are "permanent (or unchangeable), pervasive (affecting not only the areas where the failures occurred but every aspect of life), and personal (or due to some defect within themselves, which they believe to be inescapable or even deserving of punishment)" (Eide, 209).

To help limit the impact of these

negative emotional and psychological effects, teachers and other support structures should help the dyslexic student not only recognize, but utilize, their strengths and abilities. They should highlight the dyslexic learning style's tendencies toward lateblooming development, ensuring that the student understands that their challenges are surmountable. More than this, it is important to acknowledge how the strengths of the dyslexic mind can not only be used to cope with its challenges but also be used to open up unique and amazing opportunities for them. It is important to teach dyslexics that their "challenges are temporary and conquerable...and due to specific patterns of brain organization and function rather than to a lack of effort or merit on their part" (Eide, 209), to deter any tendency toward a fixed growth mindset. The support of teachers and parents in encouraging the "cans" of dyslexia, rather than the "can'ts" is crucial to the development of the student. The recognition and praise of hard work and strengths promotes future efforts and eventual growth.

Beyond encouraging the strengths of the dyslexic processing style, it is important to words, to an entire education; to a life; to an minimize the weight given to the weaknesses individual, their self-motivation, and their selfand challenges of the dyslexic mind-what I worth? will refer to as the. "So what?" I encountered The education system should this approach of the "So what?" in one of my encourage the placing of dyslexic students' final tutoring sessions with Kelly. I had been abilities, rather than their disabilities, at the seeing Kelly for almost four years at that point center of what it means to be dyslexic. A and had experienced exceptional growth in revision of thinking would not only impact the my reading and writing skills. I still struggled, way we educate and teach these individuals, and continue to struggle, with my spelling but also the way these individuals feel about ability. My mom asked Kelly what the next step themselves, their abilities, and their futures. should be in helping me grow in my spelling Dyslexia does not imply inevitable failure; like capability. Kelly responded simply, "Anna is anything, it comes with its challenges, but never going to be a great speller. So what?" also a set of strengths that can be utilized At that moment, Kelly took the power away to not only cope with these challenges,

- s, from my weakness, not allowing it any unjust strength, and redirected the power to me. She empowered me and lent me strength that has kept me motivated throughout my schooling, despite my poor spelling and the self-consciousness I still experience about it.
- Fast paced reading and proper spelling
  are just one part of the puzzle, and definitely not the most important pieces. There is so much more to the individual, and their abilities, than these challenges. These are challenges that one cannot only live with but thrive in spite of, as their talents and abilities exist beyond these weaknesses. Recognizing the quality of thinking that lies behind superficial errors is important for supporting the dyslexic student and correctly identifying their true intelligence and capabilities. It is not that these skills should not be worked toward or strengthened, but in most cases the dyslexic student is doing all they can to produce their best work,
- and the act of cluttering a paper with red ink
   is only detrimental. An act like this can be so
   devastating and defeating to the student, and
   yes, I speak from personal experience. What
   is one, or even twenty, misspelled or misread
   words, to an entire education; to a life; to an
   individual, their self-motivation, and their self worth?

but help individuals accomplish significant achievements in a variety of fields.

### Reshaping Education

The current structure of the education system allows students who learn differently, like dyslexic students, to be left behind. If they are to learn the skills and methods that work best for their way of thinking they are forced to learn these outside the "normal" classroom. So, perhaps it is time to consider making the classroom less "normal." The current standardized education and testing system favors students with conventional learning styles and left-brain dominance. It values logical, analytical, and verbal learners, and disregards global, visual, and creative learners. The current education system lends no value to, and provides little acknowledgment of, visual and kinesthetic learning styles (Vlachos). Curriculums should be restructured to incorporate more dynamic lessons that appeal to a larger variety of learning styles. When teaching styles are compatible with student learning styles, students retain information longer, apply it more effectively, have a more positive attitude toward their subjects and are greater achievers (Vlachos, 2). This more dynamic and integrative style of teaching has been proven to be beneficial for not only dyslexic students, but students in general, through methods that embraced both Gardner's Theory of Multiple Intelligences and Bloom's Taxonomy.

Gardner's Theory of Multiple Intelligences illustrates that all individuals learn through more than one style, in a range of intelligences, including: visual, naturalist, interpersonal, intrapersonal, kinesthetic, musical, mathematical and linguistic. Gardner argues that "a contrasting set of assumptions is more likely to be educationally effective" than simply teaching to the more linguistic and logical-quantitative modes which the educational system tends towards (Gardner, 1992). It is recognized in the field of educational psychology that intelligence goes beyond test scores but encapsulates good judgment, intuition, forming relations, adaptation, purposeful action, planning, comparing memory, problem solving, all of which are things that the dyslexic processing style allows for exceptional performance in. Gardner's approach to learning encourages the application of problem solving and creation in the classroom, which, as discussed above, is not only suited to benefit the strengths of the dyslexic learning style, but is proven by Gardner to benefit all students (Gardner and Hatch). This evidence supports the concept of not just asking students to remember, understand, and apply, but also to analyze, evaluate, and create, with their education. This concept is further supported by the structure of Bloom's Taxonomy: a multi-tiered model used to classify thinking according to six cognitive levels of complexity, which moves through the levels of remember, understand, apply, analyze, evaluate, and create (Forehand). There is a call for the differentiation of curriculum that acknowledges students' diverse strengths and abilities, rather than their deficits, and provides learning formats that cater to individual learning needs. A combination of the practices of Gardner's Theory of Multiple Intelligences, in tandem with the structure of Bloom's taxonomy, allows for a more integrative and inclusive classroom, and has proven successful, through observational study, in helping students grow and hone their own personal learning styles, and achieve academic success (Noble).

Everybody is a genius, but if you judge a fish by its ability to climb a tree it will live its whole life believing that it is stupid.

-Albert Einste

What can we change? We cannot change the fish. It is and always will be a fish, as it should be. We cannot change the tree, i is necessary and important, it is a foundation of our society and an important foundation for every individual. But we can change the verba "climb." We need to recognize that there are so many ways to get to the top of the tree, al legitimate, and this should be supported and understood by the education system. The fish may not be the best climber, but it is an excellent swimmer. Educators and society in general should recognize this; they should respect, acknowledge, encourage, and utilize the strengths of individuals to help them reach their full potential. We need to change the verb, change our understanding and approach to dyslexia within education, so we can allow all students to see the view from the top of the tree.

### Works Cited

Eide, Brock, and Eide, Fernette. *The Dyslexic* Advantage. Plume, 2011. Forehand, Mary. "Bloom's taxonomy." Emerging perspectives on learning, teaching, and technology 41.4 (2010): 47-56. Gardner, Howard. Multiple intelligences. Vol. 5. Minnesota Center for Arts Education. 1992. Gardner, Howard, and Thomas Hatch. "Educational implications of the theory of multiple intelligences." Educational

researcher 18.8 (1989): 4-10.

	Noble, Toni. "Integrating the revised Bloom's
е	taxonomy with multiple intelligences: A
	planning tool for curriculum differentiation."
	Teachers College Record 106.1 (2004):
ein	193-211.
	University of Oregon Center. "UO DIBELS®
	Data System." Dynamic Indicators of Basic
t	Early Literacy Skills: UO DIBELS Data
۱	System, dibels.uoregon.edu/assessment/
or	dibels#measures.
:	Vlachos, Filippos, Eleni Andreou, and
	Afroditi Delliou. "Brain Hemisphericity And
	Developmental Dyslexia." Research In
	Developmental Disabilities 34.5 (2013):
	1536-1540. Education Full Text (H.W.
	Wilson). Web. 23 Oct. 2016.

# "Big Prawn's" Little Pawns: Environmental Injustice in **Bangladeshi Shrimping Aquaculture**

Kela Fetters

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/sites/default/files/attached-files/ bigprawnslittlepawns.pdf

Global demand for animal-source proteins has surged in concert with world population growth and rising incomes (Hilborn et al., 2018). Consumption of shrimp has dramatically increased in Western nations in the past several decades, fueling a lucrative shrimping industry in the Global South in coastal Asian countries like Bangladesh, India, and Thailand (Brototi, 2017). According to the United Nations Food and Agriculture Organization, shrimp is the world's second most valuable seafood, after salmon (Shrimp Synopsis Report, 2015). In Bangladesh, tiger shrimp and their relatives have entered the cultural lexicon as "white gold" due to their high export value. The country's southwest coastline and warm climate are ideal for shrimp aquaculture and prawn farming is currently one of the largest sectors of the national economy (Ahmed et al., 2017). But as the price of shrimp plummets in Western supermarkets, the rural poor of producer countries like Bangladesh bear the burden of the profit margin. The price tag on a bag of our favorite frozen prawn cannot capture the full socio-environmental cost of the animal's cultivation and export. Equal parts ecosystem member and commodity good, shrimp satiate the appetite of the Global North at the expense of the environment and adjacent communities

in the Global South. In this paper, I will examine environmental injustice in Bangladeshi prawn farming, from farmer to food system, within the framework of global capitalism and political ecology.

Environmental injustices at the scale of the individual Bangladeshi include land dispossession, food insecurity, pollution of drinking water, poor working conditions, and impacts on health and education (Smash & Grab, 2003). The country's most productive resources are its warm, wet coastlands, access to which sustains poor rural communities. Shrimp aquaculture requires large salinized ponds and pumping infrastructure; consequently, cropland traditionally used for rice and vegetable farming is repossessed, often forcibly, and inundated with saline water. As of 2003, an estimated 120.000 farmers in the Satkhira region alone endured land seizures due directly or indirectly to shrimp farming. Communities dispossessed of coastal and estuarine resources are vulnerable to increased poverty and food insecurity (Smash & Grab, 2003).

[...]

Women and young girls are disproportionately affected by sexual harassment and violence in the shrimping industry. While rural women traditionally perform household-based agricultural activities like threshing, processing and storing produce, feeding and grazing livestock, and cooking and cleaning meals, shrimp farming has drawn females into new roles on shrimp depots, processing plants, and as collectors in saline ponds. Their transition into labor dominated by male superiors has been marked by sexual intimidation. In Katahali, a village in the Bagerhat district, 30 women were reported kidnapped and 150 reported rape in 1993 alone (Smash & Grab, 2003). The enervation of women's well-being is one of the most egregious social costs of Bangladeshi shrimp farming.

Hardy et al.'s 2017 investigation of Coastland conversion for intensive "racial coastal formation" contributes to the shrimp farming requires the transmogrification discourse on mangrove forest destruction. As of an entire ecosystem. Mangrove forests the authors argue, environmental disasters permeate Bangladeshi intertidal zones; the related to coastal inundations are influenced by socio-ecological formations of coastal carbon-rich trees play host to a litany of marine life. The country is home to Sundarban, regions (Hardy et al., 2017). On the Bangladeshi the world's largest mangrove forest and a coastline, poor communities are left UNESCO World Heritage site. This critical vulnerable to environmental hazards like tidal habitat is a nursing ground for hundreds of wave inundations due to the destruction of species of fish, shellfish, and crustaceans of formerly protective ecosystems. Oftentimes, value to subsistence harvesters (Ahmed et inhabitants of flood-prone areas are reliant al., 2017). Additionally, mangrove forests are on prawn farming for income. As a result, the vital refuges for endangered river dolphins practice of shrimp-seedling catching and and crocodiles (Murky Waters, 2012). Due prawn rearing is indispensable to those who to a variety of ecosystem services, some are most vulnerable to the consequences of reports suggest that the livelihoods of over 3.5 mangrove forest destruction. million Bangladeshi are directly or indirectly Where the forests are not damaged, dependent on mangrove forests (Ahmed et the ecosystem is imperiled by the harvesting al., 2017). Their destruction has implications of wild shrimp larvae, which are used to for local food security, livelihood, and stock the ponds of commercial aquaculture. global carbon emissions. Shrimp farming is A report by the Swedish Society for Nature responsible for up to 38% of global mangrove Conservation estimates that for every larva forest loss; in Bangladesh, over 10,000 caught, an average of fifty juvenile fish die in the fine-mesh nets (Murky Waters, 2012). hectares of mangrove loss is attributed to the practice (Ahmed et al., 2017). In a poignant This practice results in the decimation of fish

example of ecological devastation, smallscale fishermen in the Bangladeshi village

- of Chokoria reported 80% declines in fish catches after mangrove destruction and dike construction for shrimp farming (Smash & Grab, 2003). Mangrove forests provide the indispensable ecosystem service of shoreline stability; their destruction engenders the
- inundation of coastal communities. In 1991, thousands died when a tidal wave overtook a
- coastal area swamped by shrimp farms. The same area was razed in 1960 by a wave of comparable magnitude, but mangrove forests had absorbed its force and mitigated damage (Ahmed et al., 2017).

stocks on which subsistence fishermen and endangered species rely.

The conversion of natural ecosystems into shrimp farms exemplifies the concentration of an open-access resource into a private, single-user one, sometimes termed the "tragedy of enclosures" in the parlance of urban political ecology (Truelove, 2011). In Bangladesh, the enclosure of mangrove ecosystems disrupts their constituent elements, as both local communities and endemic animals are endangered by habitat loss. Land values decrease by approximately \$10,000 per hectare when mangroves are cleared for shrimp culture (Ahmed et al., 2017). This fact calls into question the state-sanctioned enclosure of valuable native ecology in favor of export-oriented shrimping. Lucrative shortterm profits may attract commercial shrimpers but the long-term value of the ecosystem will degrade without sustainable management.

Historical-political processes lend context to the ecology of shrimp aquaculture (Amazu, 2018). On the scale of the food system, global market forces operate to reinforce injustices to individual Bangladeshi farmers. Global neoliberal ideology holds that market dynamics of consumer demand in the Global North result in increased production in the Global South. The shrimp industry is the second largest export industry in Bangladesh, worth US \$506 million in 2016 (Al-Amin & Alam, 2016). Total operational farming areas have increased in size from 3,500 hectares in the 1980s to 276,000 hectares in 2010. The shrimp sector is a significant component of the nation's rural economy, reportedly employing over two million farmers on-site and in associated value chains (Ahmed et al., 2016).

A political ecology (PE) perspective deconstructs the politicization of ecological systems in terms of power structures and environmental decision-making (Amazu et al., 2018). In Paul Robbins' Political Ecology, one functional definition of PE is the "study of the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods" (Robbins, 2004, p. 16). An application of PE with respect to Bangladeshi shrimp aquaculture dissects the social relations of production, property, and power in the context of the global agro-food system. According to a report in the Journal of Rural Studies, themes in political ecology include global value chains, "aquarian" transitions, primitive accumulation, gendered labor, and food sovereignty (Belton, 2016). A thorough study of access and control to shrimp is necessary to apply Robbins' definition of political ecology. In Bangladesh, access and control to the resource of shrimp is not neutral, as revealed by historical analysis. In the 1980s, the World Bank, the International Monetary Fund, and other donor agencies imposed structural adjustment programs (SAPs) to incentivize export-oriented economic decisions (Adnan et al., 2007). These reforms were intended to enhance the productivity of "under-developed" countries through an economic system based on free-market values of privatization, deregulation, and liberalization. In order to obtain World Bank loans and assistance. Bangladesh was required to adopt the SAP model (Aminuzzaman et al., 1994). The World Bank and the United Nations Development Programme (UNDP) funded Bangladesh's

Shrimp Culture Project in 1986 and the Third many farmers to sell their holdings to shrimp Fishing Project in 1991 (Brototi et al., 2016). operators. One Salabunia villager reported that Pulido (2017) points to programs like these "[before shrimp farming] we always had rice in as the basis for a "neoliberalized racist state" stock so there was no tension" (Belton, 2016, in which the dynamics of global capitalism p. 46) Another Salabunia villager remarked that enable land appropriation, privatization or "[prior to the advent of shrimp aquaculture] "enclosure," and state-sanctioned violence. we could produce everything, but now we In this way, Western neoliberal policy induced have to buy every single thing" (Belton, 2016, the Bangladesh government to displace pg. 46). Bangladeshi poeple who lost access rice farmers in favor of high-value shrimp to land altogether joined the aquaculture ponds (Belton et al., 2016). With significant industry as laborers. This transition is culturally foreign backing, state powers systematically problematic as laborers are accorded much dispossessed peasants of land and enclosed lower social status than farmers (Belton, 2016). these ecosystems for export production in an Work on shrimp farms consists primarily of iniquitous example of primitive accumulation. dike maintenance, pond guarding, and weed The transition from rice paddy-dominated clearing. But as men increasingly migrate subsistence agriculture and mangrove fishing from their villages to find other labor, women to commercial aquaculture is an example of perform low-level work on shrimp aquaculture neoliberal globalization. operations. Statistics reveal the feminization On the heels of rising demand from of shrimping labor: 73% of depot workers and consumers in the US, Japan, and Europe, 65% of process plant laborers are women wealthy domestic interest groups lobbied the (Islam et al., 2003). While shrimp culture has government for prioritization in the allotment opened up new avenues of employment for of shrimping lands. Their influence prompted rural women, Truelove argues that "feminine" the 1992 Chingri Mahal ("Shrimp Zone Rules"), labor is often devalued. Indeed, women which rescinded de jure prioritization of poor employed in shrimp aquaculture in Salabunia peasants in state land allotment. Under the averaged a daily wage of just \$0.91 (Belton, new code, the state turned a blind eye to the 2016).

illegal use of force and manipulation of land [...] records by wealthy interest groups (Adnan et Shrimp is but one constituent of a al., 2007). In some cases, the state was actively global food system with externalities unknown involved in fraudulent land-grabbing. Armed or ignored by the average consumer. We are exponents of political leaders used sluice complicit in environmental injustice when gates in deltaic regions to flood cropland, we purchase food from the supermarket forcing rural landowners and fishers out and because the global food industry actively creating saline pools for shrimp aquaculture cloaks injustice in cheap price tags. The (Greyl, 2016). As communities systematically environmental impact of shrimp can be lost access to traditional food production, their considered from perspectives such as inputs self-sufficiency declined and their dependence (energy, fresh water, labor), consequences on the market for survival increased. As (greenhouse-gas emissions, land-use change, described previously, salinized soil induced habitat degradation), and, as emphasized by

an environmental justice approach, human impact (land dispossession, health violations) (Hilborn et al., 2018). The nebulousness of the environmental impacts of shrimp farming necessitates a multi-scalar, dynamic investigation. The state has operated in consonance with the global neoliberal agenda and reified a system of land dispossession and innumerable human rights violations. The nascent shrimp industry of the 1980s was touted by development agencies as an answer to Bangladesh's poverty and unemployment, but the economic benefits of the industry have accrued in the hands of wealthy operators while rural communities bear the brunt of the costs. If Bangladesh is to rely on shrimp farming as a substantial part of their economy in perpetuity, the state must regulate the industry to protect and benefit vulnerable communities. One solution might be sharecropping arrangements for shrimp ponds, which would allow farmers with limited capital to lease small shrimp aquaculture operations (Belton et al., 2016). Mangrove reforestation would improve biodiversity and enable the diversification of seafood exports, should the state government invest in sustainable fishing methods. Though the feminization of shrimp farming in the present form devalues women's labor, there is an opportunity for empowerment. If women are provided a fair income unattached to male earnings, then they will have more influence in household decision-making. Finally, there is evidence to suggest that diversified or integrated farming is a sustainable alternative to shrimp monoculture. In one Bangladeshi village, Bilpabla, farmers rotated production of shrimp with rice, vegetables, and small fish as opposed to year-round shrimp cultivation. The result was higher levels of food sovereignty as households generated both subsistence and a marketable surplus of diverse crops, high local wages, and equitable land allotment through healthy rental markets (Belton et al., 2016). To revisit the political ecology perspective, political decisions regarding shrimp aquaculture implementation and regulation have exploited and thereby perpetuated inequalities. Bilateral agencies like the World Bank and Asian Development Bank funded the rapid and poorly-regulated expansion of the shrimp farming industry, and now donor agencies have an incentive to provide financial and technical assistance in a just, humane manner. Aid requires a foundational shift to indemnify the ecosystems it has traditionally sacrificed; this may include mangrove forest restoration, long-term social benefit programs, robust stakeholder analysis, and penalties for bad actors.

## Works Cited

- Adnan, S. (2013). Land grabs and primitive accumulation in deltaic Bangladesh: interactions between neoliberal globalization, state interventions, power relations and peasant resistance. The Journal of Peasant Studies, 40(1), 87–128. <u>https://doi.org/10.1080/03066</u> <u>150.2012.753058</u>
- Ahmed, N., Cheung, WL., Thompson, S., Glaser, M. (August 2017). Solutions to blue carbon emissions: Shrimp cultivation, mangrove deforestation and climate change in coastal Bangladesh. Marine Policy, 82, 68-75. <u>https://doi.org/10.1016/j.</u> <u>marpol.2017.05.007</u>
  Al-Amin, A.Q., Alam, G.M. (2016).

Sustainability Challenges to Giant Freshwater Prawn (GFP) Firming Sector in Bangladesh: Lesson to Ensure Sustainabl Economic Growth. Asian Journal of Agricultural Research, 10: 132-143. https: doi.org/10.3923/ajar.2016.132.143.

- Amazu, D. (2018) Environmental injustice of informal e-waste recycling in Agbogbloshie-Accra: urban political ecology perspective, Local Environment, 23:6, 603-618, <u>https:// doi.org/10.1080/13549839.2018.145</u> 5155
- Aminuzzaman, S. (July 1994). Structural Adjustment Program and Its Impact on Bangladesh Public Administration. Philippine Journal of Public Administration 38(3).
- Belton, B. (2016). Shrimp, prawn and the political economy of social wellbeing in rural Bangladesh. Journal of Rural Studies, 45, 230-242. <u>https://doi.org/10.1016/i.jrurstud.2016.03.014</u>
- Brototi, R. (2017, January 30). The true cost of shrimp. New Internationalist. <u>https://newint.org/blog/2017/01/30/</u> shrimp-ecologically-unegual-exchance
- Brototi, R. (30 October 2016). Successful protests to remain a shrimpfree zone in Polder 22, Khulna, Bangladesh. EJAtlas. <u>https://ejatlas.</u> <u>org/conflict/successful-protests-to-</u> <u>remain-a-shrimp-free-zone-in-polder</u> <u>22-bangladesh</u>
- Greyl, L. (2016). Shrimp farming, Bangladesh. Environmental Justice Atlas. <u>https://ejatlas.org/conflict/</u> <u>shrimp-farming-bangladesh</u>
- Hardy, D., Milligan, R., Heynen, N. (2017). Racial coastal formation: The environmental injustice of colorblind

	adaptation planning for sea-level
۱	rise. Geoforum 87, 67-72. <u>https://doi.</u>
le	<u>org/10.1016/j.geoforum.2017.10.005</u>
	Hilborn, R., Banobi, J., Hall, S. J.,
://	Pucylowski, T., & Walsworth, T. E.
	(2018). Theenvironmental cost of
	animal source foods. Frontiers in
I	Ecology and the Environment, 16(6),
	329–335. <u>https://doi.org/10.1002/</u>
	<u>fee.1822</u>
	Islam, MS., Wahab, MA., Miah, AA., Kamal,
<u>6</u>	M. (2003). Impacts of Shrimp
	Farming on the Socioeconomic and
	Environmental Conditions in the
	Coastal Regions of Bangladesh.
	Pakistan Journal of Biological
n,	Sciences, 6, 2058-2067. <u>https://</u>
	doi.org/10.3923/pjbs.2003.2058.2067
	Murky Waters: Shrimp Farming in
	Bangladesh. (2012). Swedish Center
	for Nature Conservation. <u>https://www.</u>
	youtube.com/watch?v=JIX7nkxAqWY
	Pulido, L. (2017). Geographies of race
	and ethnicity II: Environmental racism,
	racial capitalism and state-sanctioned
	violence. Progress in Human
<u>je</u>	Geography, 41(4), 524-533. <u>https://</u>
	doi.org/10.1177/0309132516646495
	Robbins, P. (2004). Political Ecology: A Critical Introduction. Blackwell
	Publishing. Shrimp Synopsis Report. (2015). Nijera
	Kori. https://nijerakori.org/
_	Smash & Grab: Conflict, Corruption and
	Human Rights Abuses in the Shrimp
	Farming Industry (2003). Environmental
	Justice Foundation, London, UK.
	Truelove, Y. (2011). (Re-)Conceptualizing
	water inequality in Delhi, India through
	a feminist political ecology framework
	a forming pointion coology numerion

Geoforum, 42, 143-152. <u>https://doi.</u> org/10.1016/j.geoforum.2011.01.004



# **Cinderella's Perpetually Well-Earned "Happily Ever** After"

# Sharonya Battula

Though commonly perceived as a fairy tale for young children, Cinderella represents and reflects universal truths of the human condition. Cinderella embodies the underdog, surrounded by seemingly inescapable circumstances but ultimately successful in finding happiness. In doing so, she becomes a figure onto which we can project our own challenges and fears. Furthermore, we can utilize her narrative to fuel our own hope for a better future. With this in mind, it's no surprise that the tale of Cinderella is ubiquitous. Persisting across time and space, her story has managed to retain its essence while being suitable for different societal landscapes. Despite the continuity of certain plot elements, one could argue that these modifications of Cinderella based on the sociological context drastically alter the identities of the characters between retellings. For instance, in The Classic Fairy Tales, Maria Tatar lends credence to Jane Yolen's assertion that the "shrewd resourceful heroine of folktales from earlier centuries has been supplanted" by weaker women whose happiness is achieved through serendipity or sheer luck (Tater 140). Though at first glance Yolen's claim appears to be true, through further inspection of the Cinderella character in The Three Gowns, Disney's Cinderella, and Once Upon a Song, each version's socio-historical context alternatively suggests that Cinderella's "happily ever after" has always been a product of her own actions and internal strength.

In The Three Gowns, Rosa (an early manifestation of Cinderella) was shown to be overtly clever and independent. In order to deter her father from marrying her, she requested three impossibly extraordinary dresses: "a gown the color of the all the stars in the sky," " a gown the color of all the fish in the sea," and a gown "the color of the all the flowers on the earth" (Tater 163). As noted by Donald Haase in his book The Greenwood Encyclopedia of Folktales and Fairy Tales, there is a "pronounced identification" and relationship with the natural world prevalent in Latin American folklore: nature is employed in this Puerto Rican story as a means for Rosa to escape the Oedipal desires of her father. When this was unsuccessful, she immediately decided to escape "along with a magic wand she happened to have" (Tater 163). This scene demonstrates Rosa's willpower and initiative, determination to control her own life, and lack of need for divine intervention (in the form of a witch) to resolve her problems. Additionally, the phrase "along with a magic wand she happened to have" appears to be haphazardly thrown in, nearly lost syntactically among a series of commas within a long compound sentence, suggesting that little importance or power should be attributed to this "magical assistant" in relation to the character of Rosa herself. The seemingly nonchalant mention of her killing a lioness only furthers the impression of Rosa as a strong female heroine to the audience. Haase explains this

unexpectedly feminist narrative by claiming aftermath of World War II and in turn sought that the reversal of traditional gender roles was "luxury and elegance...as if the war hadn't fairly common in folk tales, perhaps stemming intervened at all" (Chrisman-Campbell). from the tendency of female storytellers As a result, Cinderella was perceived as a to inject a stronger female point of view. representation of the hardworking American: Regardless of reasoning, ultimately The Three a message to the masses that years of Gowns minimizes or subverts the need for a slaving away had finally paid off and that they supernatural entity to rescue Rosa, (as Yolen deserved to treat themselves. In this way, would emphasize) thereby enabling her own Cinderella inadvertently became a champion actions and fortitude to dictate her life: she of consumer culture. In fact, Cele Otnes sought out the prince and ultimately revealed argues that though Cinderella has certainly herself to him on her own terms, resulting in been "an object of scorn for feminists [like their marriage. Yolen] who interpreted the 1950 Disney Disney's 1950 Cinderella is typically version as a paradigmatic statement of female characterized similarly to how Yolen views her: passivity and the belief that women are in need a passive protagonist, requiring assistance of male rescue," the story of Cinderella was from her Fairy Godmother in order to escape undeniably instrumental in propagating the the oppressive reality of her stepfamily. In fact, advertising and consumer culture rampant in the iconic scene where her Fairy Godmother in the 1950s, a lifestyle that could finally be materialized, Cinderella initially responds with, supported by the booming US economy "The ball...but I'm not going," only to be met and peacetime (Otnes 29). Hence, from this with the Godmother's insistent, "Oh, of course point of view, though Cinderella was relatively you are." This interaction elucidates how passive, her "Disney princess ending" was the Fairy Godmother is indeed responsible nonetheless earned; it was the product of for driving the plot forward as opposed to Cinderella's years of toil and perseverance in Cinderella herself, creating the luxurious gown the face of tragedy, mirroring the struggles that inevitably captures the Prince's attention. endured by America through war and poverty, However, Disney's "passive" princess and more so than a simple "bippity boppity boo" or emphasis on the "superficial" symbolize handsome prince to the rescue. incredibly important aspects of the cultural However, because Disney's 1950 landscape of America post World War II. Cinderella is frequently criticized for its After decades of war and economic passive princess, 2011's Once Upon a Song depression, forced frugality, and rationing, noticeably strived to separate itself from "audiences of 1950 dreamed of not its predecessor. The contemporary telling just postwar recovery, but complete starred a teenage girl determined to leave transformation: throwing off the tattered the confines of the domestic sphere and remnants of the past and diving headfirst into become a successful musician. Accordingly, a world of long-denied comfort and beauty" the movie contained a few songs, most of (Chrisman-Campbell). The American public, which blatantly conveyed ambition, personal having sacrificed and endured so much for strength, and independence. In fact, the

years on end, was left feeling bereft in the movie opened with Katie (the main character)

performing her song "Run This Town" in her dream. This beginning sequence showcased her dressed in all black, singing bold lyrics including the line "I'm gonna rock this town," directly juxtaposing the gentle, hopeful yet docile song that occurred near the start of the 1950s movie about waiting for a dream to fulfill itself. By contrast, Katie took initiative to realize her career aspirations. Surreptitiously slipping her CD demo into the record producer's suitcase in hopes of jump-starting her career, Katie made evident her sense of independence and strong will to the audience, effectively disproving Yolen's statement that more contemporary versions of Cinderella contain weaker females. Throughout the rest of the movie, Once Upon a Song further distinguishes itself from Disney's original characterization of Cinderella. At one point, Katie found herself literally wearing nothing but a doormat, but soon wound up wearing a blazer over the mat, metaphorically asserting her superiority over the complacent Cinderella archetype. Additionally, the movie's last song "Bless Myself" contained the following lyrics: "look inside not around," "there's no need for someone's help," "there's no one to save you but yourself," and "I have blessed myself." These words effectively criticize and undermine the dependence on a Fairy Godmother for success presented in Disney's original, sharing a similar perspective to The Three Gowns. The 2011 narrative more closely aligns with today's perspective on gender equality, a direct contrast to 1950s feminist Betty Friedan's outlook on gender roles. As response to the 1950s cultural landscape, Friedan boldly commented on the state of suburban housewives in America, drawing attention to "a sense of dissatisfaction, a yearning that women suffered in the middle

of the twentieth century in the United States" (Friedan 1). With her book The Feminine Mystique, Friedan highlighted an underlying discontent shared by suburban women who wanted a life beyond tending to the family and taking care of the house, thereby galvanizing millions of suburban women to fight for their rights and effectively establishing the second wave feminism in America. Once Upon a Song's emphasis on a woman's professional aspirations, over a high school love interest, reflects and validates the social progress made as a result of Friedan's movement, and in doing so refutes Yolen's claim. Katie's talent, grit, and drive culminated in her getting signed by a famous music producer and ditching her wicked step family for a bright future in the music industry.

Rosa, Cinderella, and Katie are "Cinderellas" from three different time periods, yet all three successfully earned their "happily ever afters" through their own actions. Rosa escaped her father, killed a lion and adopted it as a disguise, and sought out the prince, eventually revealing herself on her own terms. Cinderella remained kind, tolerant, hardworking, and hopeful (which arguably demands great mental strength) in the midst of domestic abuse until she was ultimately rewarded by her Fairy Godmother. Katie used her talent, drive, and willpower to pursue her career aspirations, resulting in her very own record deal.

Though Yolen dismisses or condescends subsequent Cinderellas after The Three Gowns, particularly the 1950's Cinderella for not actively embarking to win her happiness, this perspective fails to consider the sociological context that differentiates each protagonist's success. The Disney Cinderella, an extension of the American public post 1945, had already chosen to withstand so much misfortune that she was entitled to a Fairy Godmother. Therefore, her passivity should not be disrespected or misunderstoo as weakness or lack of action/decision/ strength. The salient sense of feminism in Once Upon a Song, expressed through Katie fierce personality and ambition (in addition to the symbolism of Disney's Cinderella), is yet another counter to Yolen's original claim. All three "Cinderellas" are inspirational in their own right; all three underwent a Hero's Journey (though some journeys look more conventionally "heroic" than others with the idea of strength manifesting itself in different ways) and successfully secured their happiness. Consequently, Rosa, Cinderella, and Katie all represent the type of underdog we can identify with, seek comfort in, and utilize to propel our own dreams of happines We aspire to be our own Rosas or Cinderella or Katies, pushing forward in hopes that our inner strength will earn us a "happily ever afte of our own.

### Works Cited

- Chrisman-Campbell, Kimberly. "Cinderella': The Ultimate (Postwar) Makeover Story." The Atlantic, Atlantic Media Company, 9 Mar. 2015, https://www.theatlantic.com/ entertainment/archive/2015/03/cinderellathe-ultimate-postwar-makeoverstory/387229/.
- Geronimi, Clyde. Cinderella. Walt Disney Studios, 1950.
- Haase, Donald. The Greenwood Encyclopedia of Folktales and Fairy Tales. Greenwood Press, Westport, Conn, 2008.
- Horowitz, Daniel. Betty Friedan and the Making of The Feminine Mystique: The American Left, the Cold War, and Modern Feminism.

	University of Massachusetts Press, 1998.
	Jensen, Margit. "Dreaming of Suburbia -
	Postwar Idealization of the 'Golden Era'
d	Traditional Family." Academia.edu, https://
	www.academia.edu/11303572/Dreaming_
	of_SuburbiaPostwar_idealization_
'S	of_the_Golden_Era_traditional_
)	family?source=swp_share.
	Otnes, Cele C., et al. Cinderella Dreams :
	The Allure of the Lavish Wedding,
	University of California Press, 2003.
	ProQuest Ebook Central, https://
	ebookcentral.proquest.com/lib/ucb/detail.
	action?docID=224208.
	Reagan, Leslie Jean. When Abortion Was a
ir	Crime: the Legal and Medical Regulation of
	Abortion, Chicago, 1880-1973. University
	Microfilms, 1992.
	Santostefano, Damon. Once Upon a Song.
S.	Warner Premiere, 2011.
S	Tatar, Maria. Classic Fairy Tales: Texts,
	Criticism; Ed. by Maria Tatar. W W
er"	NORTON, 2017.

# **American Abject: A Psychopolitical Reading of The** Comedian

# Caleb Wexler

Alan Moore's Watchmen uses its characters to present a dark vision of mid-twentieth century America. Of these characters, one of the more memorable is Edward Blake, also known as the Comedian. Indeed, the most recognizable symbol in the graphic novel<sup>1</sup> is Blake's pin. Blake is such a notable and puzzling character because amongst the cast of erstwhile, would-be, and anti-heroes, Blake is almost (if not entirely) villainous. The enigma posed by this character can be reduced to a single question: If all of the Comedian's brutality and cruelty is a joke, what's the punchline? By reading the Comedian in the context of the "abject",<sup>2</sup> we understand that the punchline is America itself.

To understand the function of the Comedian, it is important to also understand the character of the Comedian. The key to this begins with page 69 of Watchmen. On this page, Rorschach is visiting the grave of the recently interred Comedian and depicts key scenes from earlier in the chapter, accompanied by Rorschach's journal. In this journal entry Rorschach recalls a dark, but illuminating joke:

Man goes to the doctor. Says he's depressed. Says life seems harsh and cruel./ Says he feels all alone in a threatening world

where what lies ahead is vague and uncertain./ Doctor says "Treatment is simple. Great clown Pagliacci is in town tonight. Go and see him. That should pick you up."/Man bursts into tears./Says "But doctor.../"I am Pagliacci."3

It is also worth noting the name of the clown in Rorschach's joke. Pagliacci is an Italian opera about Canio, an actor who dresses up as Pagliacci—a Pierrot, or sad clown. At the end of the first Act. Canio is preparing to perform in a comedy when he finds out that his wife has been unfaithful, and despite this news he must still perform, and sings the aria, fittingly titled, Vesti la giubba, "Put on the costume"<sup>4</sup>. Like Pagliacci, Edward Blake saw a harsh, cruel world, and reacted by putting on a costume. However while he jokes about it, he can't unsee it. He is a clown who cannot laugh at his own joke.

However, understanding Blake as the sad clown still leaves us with the question: what's the joke? This question is best answered through Julia Kristeva's psychoanalytic concept of the abject. In her book, Powers of Horror, Kristeva describes something which is not an element of the psyche in the way that the *I*, or the repressed, are integral parts of the self. Rather, the abject is the negative space against which the / is

drawn. It is all the horrible, unconscionable material which the "I" defines itself against. This is what Kristeva calls the "abject"5.

Edward Blake is a military agent, and he needs to be understood in relation to the country he serves. Nations, like individuals, form identities, and in doing so, they also engage in abjection. The rhetoric of the American identity, especially in the context of the Cold War, can be understood in opposition to the specter of communism, and the attendant fears of totalitarianism, violence, and inhuman cruelty. All of this is what we might call the abject of the American identity.

While Rorschach's journal delivers Blake's eulogy, Gibbons's illustrations deliver of it. a retrospective, and the scenes chosen for In both of these scenes, Blake appears this retrospective guide us towards specific visually as a symbol of American ideology, scenes which deepen the analysis of the a soldier armored in the stars and stripes. Comedian. To begin with, the second panel of However, rather than acting like the idealized this page shows Blake's Vietnamese girlfriend American freedom fighter (in the mode of the cutting his face. Returning to this scene Marvel hero, Captain America) he embodies leads us to consider the American abject in the worst, most violent aspects of humanity. relation to the Vietnam War. While America Thus, the Comedian operates as an ironic was ostensibly there to "save" the Vietnamese criticism of America, implying that it operates from a communist threat, the American army according to its own abject rather than its itself committed brutal acts of violence. ideals.

This violence is evoked here by Blake's This criticism is applied to America's remorseless killing of his pregnant girlfriend. domestic behavior as well. Another of the Michael Prince explains: images in the Comedian's retrospective His extreme response to his comes from the scene where he and Dan are Vietnamese girlfriend's cutting his face suppressing protests. America is supposed exemplifies a knee-jerk, violent reaction to be the land of freedom and free speech symptomatic of the brutal byproducts of and its oppression is something it ostensibly and constitutionally defines itself against, but intrusive American foreign policy. The coldblooded murder is positioned as a My Lai in Watchmen, when citizens protest against massacre in miniature.<sup>6</sup> the vigilantes' lack of accountability, they

Blake's role in the Vietnam War is again explored later in the graphic novel as Dr. Manhattan recalls his time with Blake in Vietnam:

I have never met anyone so deliberately amoral./He suits the climate here: the madness, the pointless butchery.../as I have come to understand Vietnam and what it implies about the human condition, I also realize that few humans will allow themselves such an understanding./Blake's different./He understands perfectly...<sup>7</sup>

The key word is "deliberately." Blake understands the pointless brutality of the war, and he chooses to make himself into a parody

<sup>6</sup> Prince, Michael J. "Alan Moore's America: The Liberal Individual and American Identities in Watchmen" The Journal of Popular

<sup>&</sup>lt;sup>1</sup>While the classification of this work as a graphic novel is a matter of debate, this debate falls beyond the scope of this paper. It should be noted that while I will be referring to it as a graphic novel this is not to set this work apart from or above other works of the graphic medium.

<sup>&</sup>lt;sup>2</sup> Julia Kristeva, Approaching Abjection, Powers of Horror, Columbia University Press, NY, 1982. pp. 1–31

<sup>&</sup>lt;sup>3</sup> Moore, Alan. Watchmen. Illus. Dave Gibbons. Burbank: DC Comics, 1986. p. 69.

<sup>&</sup>lt;sup>4</sup>Wikipedia contributors. "Pagliacci." Wikipedia, The Free Encyclopedia. 19 Oct. 2018. Web. 2 Nov. 2018.

<sup>&</sup>lt;sup>5</sup>Kristeva, Powers of Horror.

Culture, vol. 44, no. 4, 2011, p. 819. <sup>7</sup> Moore, Watchmen, p. 129.

are met with violent force. While America is supposed to stand against such oppression, the Comedian happily embraces it. As he tells Dan, "I kinda like it when things get weird, y'know? I like it when all the cards are on the table."<sup>8</sup> The Comedian's purpose is to embrace what he sees as the true face of America and reflect it back upon itself, so his ideal situation is one, like this, where the abjection is out in the open. When Dan asks, "What's happened to America? What's happened to the American dream?", implying that what is happening is a departure from the "real" America, which the Comedian refutes by answering, "It came true. You're lookin' at it,"9 further emphasizing that these riots and their suppression are America showing its true face.

Like the scenes set in Vietnam, this scene is not without its historical context. The details of the scene, especially the use of tear gas on protestors evokes protests and riots of the mid-twentieth century, especially the People's Park Riots when protestors, angry at infringements on their right to organize by Governor Reagan, began throwing debris at police and were met with teargas and shot from behind with buckshot.<sup>10</sup> Except for the absence of Reagan, all these details are replicated in Watchmen.<sup>11</sup> Additionally, many of the police at the People's Park Riots were, like the Comedian, veterans of the Vietnam War.12 By visually calling back to this event, and pairing it with the Comedian's commentary that this is in fact the true face of America, Watchmen deepens its criticism of mid-

twentieth century America. Furthermore, the fact that the Comedian embraces this violent oppression so readily deepens his role as the ironic pairing of the American identity and the American abject.

Each of these scenarios can be placed in opposition to the identity of America. The violence of Vietnam exists in opposition to the role of America as a savior and the peacekeeper of the world. The suppression of protests exists in opposition to America as the champion of freedom. These events are so antithetical to their respective ideals that they can have no place with them, either as correlative or as repressed ancillary. They are so starkly opposed that each is defined by being the absence of the other. The savior is the opposite of the killer, and freedom is the opposite of the oppressor. Thus, we can understand these phenomena, concretely now, as elements of the American abject. That America at once believes and disproves of its identity is precisely the farce that the Comedian attempts to expose. However, unlike journalists or whistle blowers, the Comedian sees the situation as inescapable. As he explains to Dr. Manhattan, "Once you figure out what a joke everything is, being the Comedian's the only thing makes sense."13

The Comedian does this by becoming the violent, grotesque embodiment of everything America believes that it isn't, while proudly serving his country in patriotic garb reminiscent of a more militaristic Captain America. Therefore, he shows that America

has abased itself, becoming the very thing it claims opposition to, to a degree that is radically irreconcilable with its identity. That America continues to operate as normal in spite of this radical contradiction is the absurdity that the Comedian is laughing at, and is exactly what the comedian parodies. Thus the role of savior is inverted. America becomes the monster to be saved from. So too is the role of liberator inverted. America becomes the despot whose people need freeing.

This presents a critique of America, not only as violent and oppressive, but as hypocritically so. After all, the Comedian isn't fighting violence, he's laughing at violence that refuses to recognize itself. This critique is lent credence by setting the Comedian against the background of real historic events, such as the Vietnam War and the People's Park Riots (there's even a brief implication that he killed J.F.K.<sup>14</sup>).

Through the character of the Comedian, Moore deconstructs the American identity and represents it as a grand farce. In his journal, Rorschach reflects that "Blake understood. Treated it like a joke, but he understood...He saw the true face of the twentieth century and chose to become a reflection, a parody of it."15 The Comedian embodies the American abject while proudly wearing the stars and stripes of the American flag on his shoulders. He is at once the champion of the American people and a threat to them. He is at once the hero and the villain. He is an accusation that America is exactly as brutal and self contradictory as he. He represents a vision of reality as something so brutally hypocritical that you can only ignore it,

# weep, or put on a costume and laugh.

137 | Humanities

<sup>&</sup>lt;sup>8</sup>Moore, Watchmen, p. 60.

<sup>&</sup>lt;sup>9</sup> Ihid

<sup>&</sup>lt;sup>10</sup> "Flashback: Ronald Reagan and the Berkeley People's Park Riots". Rolling Stone. www.rollingstone.com May 15, 2017. Web. Nov. 1,

<sup>2018.</sup> <sup>11</sup> Moore, Watchmen, pp. 59-60.

<sup>&</sup>lt;sup>12</sup> Wikipedia contributors. "People's Park (Berkeley)." Wikipedia, The Free Encyclopedia. 11 Aug. 2018. Web. 2 Nov. 2018.

<sup>&</sup>lt;sup>13</sup> Moore, Watchmen, p. 55.

<sup>&</sup>lt;sup>14</sup> Ibid., p. 300. <sup>15</sup> Ibid., p. 69.

# Alban Berg's Piano Sonata, Opus 1

# Sophia Zervas

At the turn of the 20<sup>th</sup> century, Sergei Rachmaninoff was writing his lush 2<sup>nd</sup> Piano Concerto after therapy in which a hypnotist helped him overcome depression. Meanwhile, his one-time classmate, Alexander Scriabin, was composing transitional piano sonatas that would push him towards emancipated dissonance, the mystic chord, and the abandonment of key signatures by 1911. In France, Claude Debussy established himself as an innovator while Maurice Ravel wrote with meticulous classicism in form and harmony. In Vienna, Gustav Mahler was writing massive symphonies with rich orchestration and "progressive tonality." In the operatic realm, Richard Strauss was working on his groundbreaking modernist operas Salome and Elektra that combined biblical and mythical themes, eroticism, and violence in a daring new musical language that built on Wagner's legacy.

In this shifting world of musical innovation and tradition, young Alban Berg met Arnold Schoenberg. Reflecting on their first meeting years later, Schoenberg said, "When Alban Berg came to me in 1904, he was a very tall youngster and extremely timid. But when I saw [his] compositions...[songs in a style between Hugo Wolf and Brahms] I recognized at once that he was a real talent" (qtd. in Carner 10). Berg possessed an innate aptitude for lyricism since the beginning of his career, so much so that Schoenberg grumbled that his student "could not work on anything

but lieder. Even the piano accompaniments to them were songlike" (Jarman). Prior to studying with Schoenberg, Berg was self-taught and had a background in literature rather than in music. However, three years after beginning his lessons, 25-year-old Berg published his formidable Opus 1 that demonstrated the talent Schoenberg praised. Berg's singlemovement piano sonata was his apprentice piece and is a tribute to his mentor in its application of Schoenberg's concepts of Grundgestalt and developing variation. At the same time, the early work is not a clean break from late Romanticism and reflects the influence of Wagnerian opera. Berg's natural gift for lyricism, combined with his adoration for Wagner, produced an apprentice piano work that is almost a microcosmic opera in and of itself.

Berg wrote the Piano Sonata during the years leading up to his engagement and marriage to soprano Helene Nahowski. Janet Schmalfeldt points out that the pitch class set of the opening sonority in the Sonata, [0 1 5 7], is the exact same pitch class set that appears in *Wozzeck* to represent Marie's "endless waiting" (93). Alban and Helene met in 1906 and began corresponding by letter in 1907. Their relationship was riddled with difficulties because of their separation, Alban's poor health, and the strong objections of Helene's parents to the marriage. Alban's letters to Helene exude deep longing, as evidenced in this letter excerpt from Autumn 1908 (the very time he was drafting the sonata): Now everything is working to separate us, I want you to know how this wish has been secretly growing within me...I know better than anyone that my wish is all the more beautiful because like all ideals it is unattainable. But it's a question of whether my love for you is merely the conventional "young love" which stops, because it has to, when it meets an insurmountable obstacle, like your father's will. And now...I [have] to tell you that [my love] is... the highest and holiest anyone can offer to anyone else: no longer just love, but a growing into the other person, beyond all obstacles, beyond space and time. (Berg 51)

The Piano Sonata seems to encapsulate the *Liebesschmerz* ("love pain") expressed in these letters. The anguished lyricism, outbursts of dynamic hysteria, "endless waiting," and spinning out of the *Grundgestalt* head motive through nebulous key areas with no promise of closure, all suggest musical analogies that poignantly reflect the life experience of Alban Berg at the time of its composition.

One of Arnold Schoenberg's seminal ideas was that of *Grundgestalt* ("basic shape"). While Schoenberg never defined *Grundgestalt* in musical terms, in his paper "Linear Counterpoint" (1931), he describes a closely related idea: "Whatever happens in a piece of music is the endless reshaping of the basic shape...There is nothing in a piece of music but what comes from a theme, springs from it and can be traced back to it; to put it more severely, nothing but the theme itself" (Schoenberg 8). In other words, everything in a piece of music could be extracted from the "basic shape." The Grundgestalt was not the same as a motif, which in Schoenberg's definition was "the smallest musical form.

consisting of at least one interval and one rhythm" (Caplin Chap. 3). However, *Grundgestalt* was the "next sized form...as a

- an rule 2 to 3 bars long" (Caplin Chap. 3). Further, this cell could be reshaped and varied to avoid the potential monotony of exact repetition. Schoenberg called this "developing variation," and explained that "variation of...a basic unit produces all the thematic formulations which
- ill. provide for fluency, contrasts, variety... unity... character, mood, expression, and ever needed
- differentiation—thus elaborating the idea of
- the piece" (qtd. in Thompson). These ideas,
  while not the same, are indelibly linked. In her
  essay "Berg's Path to Atonality, The Piano
  Sonata, Op. 1," Janet Schmalfeldt explains that
  "for Schoenberg, the technique of developing
  variation provides the means of realizing
  a *Grundgestalt*. Thus, neither of these two
  concepts can be examined without reference
  to the other" (84). Schoenberg himself
  acknowledged that these ideas weren't his
  own; instead, he attempted to give credence
  to them by linking them back to Bach, Brahms,
  and other masters.

Steeped in this philosophical and compositional ideology, Alban Berg set to work composing his Opus 1, and both the idea of *Grundgestalt* and developing variation feature heavily in the piano sonata. The opening fourmeasure phrase contains three motivic ideas from which Berg derives the rest of the sonata. While some scholars view the microcosmic opening gesture as the *Grundgestalt*, given Schoenberg's distinction between the relative size of motif and *Grundgestalt*, I choose to adopt the view that it is the entire opening four-measure phrase. The score

below, adapted from Janet Schmalfeldt's essay, provides a visual of the three motivic components. Berg incorporates both melodic and harmonic elements of the *Grundgestalt* in the piece.



Each of the three motives has salient traits. The incomplete opening measure consists of a dotted rhythm which permeates the movement and the rising 7<sup>th</sup>, broken into a perfect 4<sup>th</sup> and a tri-tone. Combined with the C# in the bass, these intervals create a quartal harmony, the so-called "Rite" chord, or atonal triad, that is featured heavily in atonal literature as a substitute for the major and minor triads. While Berg features the major 7<sup>th</sup> here, both the major and minor 7<sup>th</sup> play important roles in the piece. The second motivic unit is the descending augmented triad that appears in bar 2. Theodor Adorno explains the augmented triad as "an inversional, or even, if you will, retrograde-like variant of (a)" (42). Berg views the augmented triad as a "self-standing sonority," not requiring resolution, and explores its possibilities in the development with developing variation. Finally, the chromatic descending line is motivically important to Berg and permeates the lower voice of the opening line. In m. 3, it appears in both the soprano and alto line (the dotted rhythm also occurs twice in the alto). In fact, the alto chromatic descent can be traced all the way back to the opening chord (perhaps even the second C, if one considers it as voice leading to both the F# and the B), where

the B-natural slithers down by half-steps and ultimately lands on F#. A final appearance of the chromatic descent is in the bass line, which moves from C# to A# in parallel minor 7<sup>ths</sup> with the alto. The vertical appearance of the interval of a 7<sup>th</sup> is also notable.

From a harmonic perspective, the opening progression can also act as a Grundgestalt, particularly in the ways it foreshadows the harmonic language Berg will use in the rest of the piece. The piece is written in B minor: however, rather than starting in tonic, Berg opens with an altered ii<sup>07</sup> harmony. The embellishing tone F# resolves up the G in the first measure, giving an incomplete ii<sup>07</sup> or half a beat. He moves through a series of chromatic chords in m. 1 and then lands on V<sup>7</sup> before resolving to i with an imperfect authentic cadence. Janet Schmalfeldt explains that, "in the absence of an initiating, tonic-prolonging gesture, the cadential progression of the Grundgestalt has the apparent effect of placing this initial phrase outside the movement proper....[it] presents itself as...an epigraph, or 'motto'" (90). The only other authentic cadence that occurs in the sonata is in mm. 175-176, at the end of the piece. Throughout the sonata, Berg wanders chromatically and shifts through many key

areas, using recognizable harmonies but not employing them in a functional sense. Thus, on a small scale, the opening progression represents the harmonic arc and language of the piece.

The series of chords that carry the shift from ii<sup>D7</sup> to V are of interest as well. The vertical harmony that appears in the third beat of m. 1 consists of a four-note subset, while the harmony in the first beat of m. 2 is a four-note subset of the complementary whole-tone collection. This is significant because it foreshadows Berg's use of whole-tone collections in key transitional points in the sonata—for example, at the climactic point of the primary theme (mm. 23-26), a whole-tone succession appears in the highest voice in three-fold augmentation (Adorno 44). Additionally, the codetta features alternating whole-tone collections (mm. 48-49). In summary, the unusual harmonic progression, heavy chromaticism and whole tone sets in the opening phrase serve as a kind of harmonic *Grundgestalt* for the rest of the piece.

In a letter to Helene Nahowski, dated summary, the unusual harmonic progression, heavy chromaticism and whole tone sets in the 1907 at the beginning of their relationship, opening phrase serve as a kind of harmonic Berg began: "Adored Helene, 'High time to Grundgestalt for the rest of the piece. tell you again how very much I love you.' That I would like to highlight examples of is the beginning of one of Richard Wagner's developing variation to show how this concept most beautiful letters...so let me begin the same way. It is a kind of Leitmotif which has differs from *Grundgestalt*. As mentioned earlier, Grundgestalt is the "basic idea" of a been sounding all through the turmoil of piece, whereas developing variation is the these past days" (Berg 22-23). The legacy of elaboration of this idea. Take, for instance, the Wagner loomed over many composers of the descending augmented triad. Starting in m. early 20<sup>th</sup> century. Though he was a polarizing 74 in the development, Berg transforms this figure—some composers revered him, while structure and then puts two altered versions others deplored the man and his music—his in dialogue with each other. In measure 76 influence, particularly in his innovative work (see example on the next page), he puts the of Tristan and Isolde, is uncontested. Wagner was one of Berg's idols, and his importance to augmented triad in the right hand. He presents the chord in diminution (16<sup>th</sup> notes versus 8<sup>ths</sup> Berg can be seen in the Piano Sonata. in the first statement) and continues to rotate In some ways, Grundgestalt can be it down on itself. In the left hand, Berg presents viewed as a familial relation to the Leitmotif a conglomerate of three motives. This ("leading motif"), a concept associated with the triplet-based motive combines the rising 7<sup>th</sup>, operas of Richard Wagner, although Wagner

rearranged augmented triad (now ascending), and augmented 4<sup>ths</sup>. Placed on top of each other, these developed versions funnel into one another in contrary motion. Berg reuses this figure and presents it in canon throughout the development. While not identical to the original Grundgestalt, its developed form adds interest and builds tension. This is just one example of Berg's use of developing variation in the development.

141 | Humanities

did not coin or use the term himself. In an operatic setting, a particular Leitmotif—a short musical idea that can be melodic, harmonic. rhythmic, or all three—represents and is used to identify a character throughout the opera. In terms of the Piano Sonata, motives like the dotted rhythm or the descending augmented triad could be seen as quasileitmotifs. Although the Opus 1 Sonata is not a programmatic piece, in the famous "Open Letter" to Schoenberg, written in 1925, Berg hinted that he sympathized with program music and spoke of a "Romantic" inclination (Floros 77). Although any programs that were watermarked into his music were left concealed, it would behoove the performer of the Piano Sonata to examine these motivic cells and allow them to guide his performance. Additionally, Berg makes heavy use of the Tristan chord (often spelled enharmonically as a half-diminished 7<sup>th</sup> chord) in the Piano Sonata, notably in the development section.

Not surprisingly, a Wagnerian sense of lyricism also permeates the development. The extended buildup of the development lasts for two full pages, reaching three progressively higher peaks. Theodor Adorno describes the expansiveness and climactic buildup of the development this way: "the themes, once having passed through the discipline of the exposition, are allowed to breathe and sing out...the expressive gesture of the first bars of the development drifts by with the same deathly sorrow as later in the beginning of the *Wozzeck* interlude, which appears to be dawning here even motivically" (Adorno 45). Alban Berg's Piano Sonata, Opus 1, bears the influence of several figures, most notably his teacher Arnold Schoenberg. In a 1914 letter to Schoenberg, in which Berg dedicates his Orchestral Pieces, Opus 6, to his mentor, he

says, "For years it has been my secret but persistent wish to dedicate something to you.

The works composed under your supervision, the Sonata, songs and Quartet, do not count for that purpose, having been received directly from you" (Schmalfeldt 80). The compositional tutelage of Schoenberg appears throughout the sonata, most notably in Berg's use of Grundgestalt and developing variation. These principles allow him to take a succinct idea that is less than four measures long and compose a dense and deeply emotional Opus 1. The legacy of Wagner, one of Berg's idols, factors heavily into the sonata, as well as in the composer's use of operatic lyricism and Wagnerian harmonies. Finally, while the work is not programmatic, it is of musicological interest to examine a link between the sonata's expressive language and Alban's relationship with his future wife, Helene Nahowski.

## Works Cited

- Adorno, Theodor W., et al. Alban Berg: Master of the Smallest Link. Cambridge Univ., 1994.
- Berg, Alban, and Bernard Grun. Alban Berg: Letters to His Wife, St. Martin's Press. 1971.
- Caplin, William E. Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven. Oxford University Press, 2000.
- Floros, Constantin. Alban Berg: Music as Autobiography. Lang, 2014.
- Jarman, Douglas. "Berg, Alban (Maria Johannes)." Grove Music, 22 Dec. 2017, www.oxfordmusiconline. com/grovemusic/view/10.1093/ gmo/9781561592630.001.0001/omo-

9781561592630-e-0000002767#omo-9781561592630-e-0000002767div1-000002767.2.

- Schmalfeldt, Janet. "Berg's Path to Atonality." Alban Berg: Historical and Analytical Perspectives, by David Gable and Robert P. Morgan, Clarendon Press, 1991, pp. 79-109.
- Schoenberg, Arnold, et al. Fundamentals of Musical Composition. Faber and Faber, 1999.
- Thompson, Marcus. "Brahms and Developing Variation." Bostonchambermusic.org, 12 Nov. 2014, www.bostonchambermusic. org/brahms-and-developing-variation/#. XBKgt2hKj6Q

143 | Humanities

# Myth, Power, and the Other: The Shared Rhetoric of **Empire Between the Classical Mediterranean and Victorian Britain**

# Cara Redalen

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate\_honors\_theses/vx021f62v

After the fall of Rome, the next most famed empire to rise in the Western tradition is that of Britain. Britain acculturated the classical tradition and embodied the power rhetoric held through its association to the grandeur of Greece and Rome. The societal pillars of art, literature, and architecture were the platforms on which Britain built its selfimage. A careful manipulation of classical rhetoric, stylistic conventions, and forms of political representation in the arts tied Britain to a glorious past, turning it into the natural successor of the next age of empire. Britain wielded this image to define Britishness, bolster its power, legitimize its conquest, demonize the Other to validate subjugation, and perpetuate its political myth. British identity became so fused with the classical tradition that the two became seemingly synonymous in the eyes of its people and much of the world. Therefore, I argue that the classical tradition has given shape to nations, empires, and entire frames of thought, making it a formidable instrument of power over the course of history.

To conduct my study, I broke the thesis into two main areas of focus: The Creation of the Other and Myth. Focusing first on the Creation of the Other, I conduct a thorough examination of literature and art from both

the ancient Mediterranean and Victorian Britain to unpack notions of Otherness and its representation in the arts. I begin by looking at small scale group dynamics where I uncover the tendency for human groups to define themselves with reference to the Other while simultaneously distancing themselves from the Other. I then broaden my focus to include discussions of the Other on a societal and national scale, showing the significance of Otherness for the creation of empires. From this, I move to explore concrete examples of the creation of the Other in both ancient Mediterranean and modern British texts. I start by examining ancient Greek conceptions of the Other and its manifestation in ancient epic, then transition into the Roman view. The bulk of this portion of my study focuses on Homer's *Odyssey*, Virgil's *Aeneid*, Rudyard Kipling's "The White Man's Burden" and J.A. Cramb's historical lectures forming his Reflections on the Origins and Destiny of Imperial Britain. Within each of these texts I closely investigate the language and imagery used to represent the Other as well as the Self, finding a pervasive commonality of rhetoric between the texts.

My study specifically focuses on theories of myth that unpack the purpose of myth, looking at texts like Bruce Lincoln's

Discourse and the Construction of Society: Comparative Studies of Myth, Ritual, and Classification and Raphael Patai's Myth and Modern Man. They expose the pervasive nature of myth and the way metaphors help structure human existence and societies.... From the discussion of ancient myth, I move to Britain, looking at the way Britain mythologized its past, turning the classical Mediterranean into its societal ancestor. Within this discussion I explore how creating a glorious origin myth empowers the present through association with a fantasized past and the way an illustrious heritage can be used to validate claims of superiority. I also look at the way the classical past contributed to the myth of West and East and how this fed into Britain's conception of its Self and the Other. This historical myth and myth of the Other coalesce to form the British imperial myth, a myth that cast Britain as the apex of civilization and the pinnacle of a longstanding tradition of empire.

## The Other

This act of creating an Other has a long-standing tradition in human societies, describing the Other. helping to organize group dynamics from those between disparate tribes and hunterhave proven to be incredibly influential on conceptions of the Other for centuries, gathering peoples to entire nations. However, the period of classical antiquity has had quite contributing to an enduring rhetoric of a lasting and influential impact on how Self and Otherness that has helped shape societies Other are defined and conveyed for Western that came after Greece. In his book titled Inventing Western Civilization, the historian societies up until the present. Classicist Edith Hall studies the creation of the barbarian and Thomas Patterson examines the notion of cultural Otherness in Greece and notes that in civilized and uncivilized and comes to define the eighth to sixth centuries, Greece created a civilization as "the refined institutions, moral new Hellenic consciousness that emphasized values, and cultures of states and their elites" a burgeoning sense of a singular Greek (1997, 21). He then goes on to suggest that

ethnicity that went beyond the individual citystates (1989, 6).... However, prior to the fifth century, Greeks were already engaging with notions of the Self versus the Other. During the eighth century, the myths of this early period were concerned with most of the "oppositions" later assimilated to the cardinal antagonism of Greek versus barbarian—civilization against primitivism, order against chaos, observance of law and taboo against transgression" (Hall 1989, 51). The abstractions of Greek civilization later considered ethnically Other were often embodied as monstrous or stereotyped, or as entirely barbaric in order to explain the intense sense of difference the Greeks felt between themselves and the Other.<sup>1</sup> This presentation of difference in the form of the monster or savage expressed a sharp divide between the world of the Greeks, making manifest their sense of order versus chaos, civilization versus primitivism and so on. A clear notion of Self and Other was not just the product of their worldview, however, but also came to shape their worldview through the perpetuation of a new rhetoric for Greek representations of the barbarian

<sup>1</sup> Mythical beings like the Cyclopes, Harpies, Laestrygonians, and so on embody this sense of the monstrous Other and provide

hyperbolic metaphorical representations of the uncivilized from the Greek perspective.
"uncivilized peoples represent the primary (primitive) or unrefined states of the human condition which, depending on how the civilized (ruling) classes portray their own history, they either avoided altogether or passed through at an earlier time" (1997, 21).

#### The Odyssey

With the theoretical and historical framework of the creation of the Other now established, I turn to examine concrete examples of the employment of this rhetoric in ancient Mediterranean literature and later 18th and 19th century British literature. Over two millennia ago people began to explore their surroundings, encountering new societies and conveying their experiences in the arts. Homer's Odyssey, written some time in the eighth century BCE, stands as the primary example of burgeoning thoughts about new peoples and differing ways of life, as it is one of the first textual sources to engage with notions of exploration and colonialism. Being deeply embedded in the Western canon, arguably the foundation of the entire canon itself, The Odyssey works to shape texts and contexts that follow, and establish a fundamental language for examining and discussing the Other.

The middle sections of the epic engage most directly with encounters with the Other and the principle of xenia. In Book 6, after being battered by storms and washing ashore on the coast of an unknown land, Odysseus awakes to the land of the Phaeacians. After his years of dangerous wandering through violent seas and lands, Odysseus finally stumbles upon a civil, hospitable community. However, ignorant of the civility of the land at the onset of his encounter with the Phaeacians. Odysseus immediately questions the nature

of the land, asking; "What kind of land have I come to now?/ Are the natives wild and lawless savages,/ Or godfearing men who welcome strangers?" (Od. 6.118-120). Though a small moment, it directly points to an "us" versus "them" binary that circles around notions of civilized versus savage. Based on past experiences he is left questioning whether the new land will be one with a recognizable form of civilization, predominantly marked by an adherence to the Greek notion of xenia, or an unrecognizable form of society, viewed as uncivilized due to its uncouth treatment of guests. While Odysseus automatically assumes the role of the civilized, as he comes from a refined Greek origin, those he meets inherently hold the potential of savagery.

Though this is rather ironic given that Odysseus shows up battered and beaten by the storm, looking more like a ragged vagrant than a civilized noble. And yet, because he is Greek and the hero of the tale, his own civilized nature is never questioned. The diction of this moment, particularly the words "native," "wild," "lawless savages," and "godfearing" all point to dominant trends in the rhetoric used in discussions of the Other as they serve to debase and devalue the encountered people. They indicate what Greeks valued as markers of civilization—laws, religion, and a domination of the wild—while typecasting the Other as lacking any of the integral elements of the civilized.

Their lack of progress is emphasized in Odysseus' tale in the way that the Cyclopes do not pursue industry in any form and do not engage in trade. He notes, they "do not sail and have no craftsmen/ To build them benched, red-prowed ships/ That could supply all their wants, crossing the sea/ To other cities, visiting each other as other men do" (Od.

9.120-126). The Cyclopes show interest in the Other to both legitimize their dominion but neither ship building nor exploring across the also to reflect an inherent belief concerning sea, or engaging with foreign peoples as other the nature of their society. They used the Mediterranean societies were doing during this dichotomy between "us" and "them" in the era. Instead, they choose to remain isolated service of political power, helping them to and developmentally stunted. Being as they conquer territories and opposition. Britain then do not follow the same arts as the Greeks and spread the ideology and rhetoric of it to such illustrate no desire for progress, their society a great degree that it turned into an integral is viewed as inadequate and only through element of Britishness, both defining and developing the arts of the Greeks could they creating their culture and view of themselves turn "the island into a good settlement" (Od. and the world in a self-perpetuating, cyclical 9.127). This definition that focuses strictly on process. what they lack suggests that there is nothing This notion of Otherness, supported by productive about the society of the Cyclopes. the examination of the ancient Mediterranean, Therefore, they exhibit little to no value in the does not just reside with theoretical and eyes of the Greeks and are perceived as an political thought, but becomes an element inferior and uncivilized group. of imperial validation and influential on the

#### Britain

The rhetoric and creation of Otherness thus far explored, crops up much later in culture and approach to imperialism (Larson history within one of the largest empires the 1999, 207). Ancient history was deliberately world has ever seen, the British Empire.... interpreted and used to legitimize the imperial With the possession of such a vast empire, pursuits of Britain and support the claim that the British came into contact with a plethora they were following the precedent of some of of peoples and cultures, exerted control over the most studied and glorified empires of the them, and amassed one of the geographically past. largest empires the world has ever seen. The power they gleaned from this territorial The White Man's Burden and political dominance led them to see Rudyard Kipling, one of the dominant themselves as distinct, special, and greater writers of the Victorian Era, infused many of than the alien peoples they ruled. Because of his works with the theme of Otherness and a these encounters with the Other, the British similar diction to what is seen in the political "could contrast their law, their standard of discussions examined above. Perhaps one living, their treatment of women, their political of the most evocative and influential of his stability, and, above all, their collective power works that fully embraces the British imperial against societies that they only imperfectly ideal and representation of the Other is "The understood but usually perceived as far less White Man's Burden," published in 1899. This developed" (Colley 1992, 324). Within this poem, crafted as a response to America discussion of their own superiority, the British assuming control over the Philippines after the often aggrandized themselves while debasing Spanish-American War, relates what it is to be

development of British culture; classical studies therefore became part of the cultural hegemony of Britain, profoundly shaping its

147 | Honors Journal 2020

a colonizer from a colonial perspective. Despite not being directed specifically at Britain, the poem nonetheless illustrates British imperial thought by acting as a guideline for other nations to take up the imperial role.

The politically and socially laden rhetoric suffuses the work from start to finish. Titled "The White Man's Burden," this work ties itself to the tradition of imperial rhetoric and literature at the onset, before the body of the poem is read. The inclusion of the notion of the "white man" in the title brings a new element to the discussion of Otherness and imperial power as it highlights a differentiation in race. In the ancient Mediterranean, race was not the defining feature of the Other and therefore not a significant element of their imperial discourse. While the ancients did discuss "savage races," it was more of a discussion of other peoples and their supposed savage customs rather than the color of their skin. Much later in history, however, race does largely figure itself in imperial discussions. The color of one's skin, or more specifically non-white skin, became highly prominent because it served as an emblem of Otherness and the symbol of a people deemed different and lesser than white races, classified as uncivilized within this imperial British mindset.

Reminiscent of previously explored representations of Otherness, both ancient and modern, the conquered peoples deemed "half-devil and half-child" are represented as savage, uneducated individuals, incapable of independent care or success (Kipling 2000, 8). The notion of "half-devil" adds an otherworldly and sinister angle that pulls from the realm of the fantastic evoking a monstrous image much like the monsters of ancient epic. The conquered peoples are not considered entirely human, but rather presented as a semimonstrous fusion of evil and naivety. Much like a child or wild beast, they are believed to need taming by the guidance of a superior force, here automatically assumed to be the imperializing nation. Through this representation of Other and guidance, Britain assumes the role of the apex empire, coaching other nations how to follow in its path and conquer debased Others. [...]

#### Works Cited

- Colley, Linda. 1992. "Britishness and Otherness: An Argument." Journal of British Studies 31, no. 4 (Oct.): 309-329, https://www.jstor.org/ stable/175883.
- Hall, Edith. 1989. Inventing the Barbarian: Greek Self-Definition Through Tragedy. Oxford: Clarendon Press. Homer. 2000. The Odyssey. Translated by Stanley Lombardo. Indianapolis: Hackett Publishing Company.
- Kipling, Rudyard. 2000. "The White Man's Burden 1899." In Selected Poetry of Rudyard Kipling, 128-130. Cambridge: Chadwyck-Healey. ProQuest.
- Larson, Victoria Tietze. 1999. "Classics and the Acquisition and Validation of Power in Britain's 'Imperial Century' (1815-1914)." International Journal of the Classical Tradition 6, no. 2 (Fall): 185-225, https:// www.jstor.org/stable/30222544.
- Patterson, Thomas C. 1997. Inventing Western Civilization. New York: Monthly Review Press.

## "If neurotic is wanting two mutually exclusive things at one and the same time, then I'm neurotic as hell": The Fight Against Fragmentation and Reduction in the 1960s Female Bildungsroman: O'Brien, Plath, and Lessing

## Lauren Ogg

#### The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate honors theses/z603qz316

Introduction: Literary Context and Definition of With the conflict of individual autonomy Terms and social integration at the core of the I. The *Bildungsroman* Origins form, the role of the protagonist is not to be understated. The youth of the protagonist [...] Moretti defines the *Bildungsroman* is central to the form, as Moretti defines the most simply as the "novel of formation,' of bourgeois youth as the following: "Rather than initiation,' 'of education'....in all of the major a preparation for something else, it [youth] literary traditions."1.... [In the Bildungsroman,] becomes a value in itself, and the individual's norms are rebelled against in order to take greatest desire is to prolong it, [emphasis a stand, but in order to understand such original]"<sup>4</sup> thus prompting the creation of the aversion and rebellion, Moretti notes that "the "adolescent" category in the twentieth century ideal reader of the classical Bildungsroman is, and the explosion of the socially rebellious in a broad sense, a bourgeois reader."<sup>2</sup> This Bildungsroman.<sup>5</sup> The novel revolves around reader is educated and cultured, giving him or this youthful character, but "everything takes her the education necessary to understand place around him, but not because of him [emphasis original]."6 This character's actions the relevance of the social commentary present in the novel. The bourgeois reader and behavior advance the plot, and the text is is able to relate to what Moretti defines as read from his perspective, but he appears as a the "bourgeois' dilemma: the clash between passive figure who is facing various trials (that individual autonomy and social integration,"<sup>3</sup> he must see as opportunity)<sup>7</sup> in order to reach which is the conflict at the core of the full social formation.

Bildungsroman novel and essential to its A form of relatability, "the [Bildungsroman] novel organizes and 'refines' purpose. this form of existence, making it ever more

1Moretti, Franco. The Way of the World: the Bildungsroman in European Culture. London: Verso, 1995, 15. 2 Moretti, 65. 3 Moretti, 67. 4 Moretti, 177. 5 I.e., Joyce. 6 Moretti, 20. 7 Moretti, 48.

alive and interesting."8 The novel's interest in the everyday is complemented by the need for a "happy ending." This happy ending often exists in the form of a social contract and is "why the classical Bildungsroman 'must' always conclude with marriages....[it is a] 'pact' between the individual and the world."9 If not marriage, the character must present as fully socialized and therefore functioning adult, a contributing member to society. Full socialization equates to a proper happy ending.

#### [...]

Despite the differences in the characters' ages and location, the Bildungsroman form ties all three novels in question together. Specifically, each novel is a female Bildungsroman, and thus presents an urgent need to break from the traditional, male, conformist, form that is dictated by Moretti. The breakdown of the classic *Bildungsroman* form exists on a continuum, and the experimentation escalates in correspondence with the order in which I have placed the individual chapters relating to each novel. The progression begins with Edna O'Brien's The Country Girls (1960), followed by Sylvia Plath's The Bell Jar (1963), and culminates with Doris Lessing's The Golden Notebook (1962). In a parallel structure, the progression of these novels also corresponds with the age of the protagonists—as the novels become more mature (in both form and content) and experimental, so do the characters.

#### The Female Bildungsroman

Moretti's and Freese's definitions of

the Bildungsroman, which have influenced my own working definition, are heavily gendered. When one examines the language used in each author's definition, it is evident that the genre has traditionally been malecentric. "Him," "he," and "his" are the preferred pronouns, and the women that are depicted in the form are most often expected to marry... Thus, the traditional *Bildungsroman* form is insufficient in representing the lives of females. Women's struggles do not dissipate upon nuptials, nor does every woman find her problems solved with an abundance of money. Women, as human beings, are far more complicated and deserve their own form that explores the struggle of what it is to exist as a female in a patriarchal world. This lack of a proper female account created the space for the female Bildungsroman, a term whose coining coincides with the advent of second-wave feminism: "In the 1970s, feminist critics used the term 'female Bildungsroman' to describe coming-of-age stories featuring female protagonists."<sup>10</sup> The cluster of novels in question, published 1960-1963, pioneer a modern movement in creating a female version of the form that properly explores the female experience.

[...]

### III. Second-Wave Feminism, Reduction, and Fragmentation

[...]

For the purpose of this project, I have deduced two terms that I believe best describe the status of women in this time period, in all three countries: fragmentation

8 Moretti, 35.

9 Moretti, 22.

and reduction. The terms are related and Women were seen as symbols rather work together, but each serve a specific than functioning members of society. To purpose. Fragmentation represents women exist as a woman in the era of "the repressive 1940s"<sup>11</sup> was to exist as mother (both both individually and collectively. Collectively, women were fragmented in the feminist biological and figurehead) for the country movement, as supported by research done of Ireland. In pushing back against these on both the second-wave feminist movement norms, O'Brien's The Country Girls (1960) in both the United States and Britain. This was censored and banned from Ireland. resulting in O'Brien's choice to leave the fragmentation acts as a meta-narrative that lends itself to the individual female experience country... O'Brien's chosen exile represents that is represented in the formal elements of her unwillingness to be subjected to such each of the novels-fragmentation is at the controlling structures, an attitude that is root of women's struggle for identity. Expected expressed in her novel. In opposition to the stifling Irish community, O'Brien's novel offers to fit a certain mold, women had to break off parts of themselves that served an extraneous an alternative: the ability to choose. These purpose. For a contextual example, consider liberties concern a woman's sexuality, religion, Esther Greenwood. A character that will be clothing, education, family structure, body, and mind (a few of many). O'Brien's stance more carefully examined in Chapter Two, it is worth noting that she struggles with having concerning personal liberties was provocative to define herself as either a good girl or a bad and embraced sexuality-themes which caused the aforementioned censorship. girl, a mother or a career woman. The "or" is [...] essential to the definition, as it represents a woman's inability to fulfill multiple roles in Caithleen "Cait" Brady, develops from society. She cannot perform both actions adolescent to woman within the duration simultaneously or to their full potential, a sort of the novel. Cait's journey to maturity is of behavior that is unacceptable and unheard characteristic of the *Bildungsroman*, and the of for a woman of this time period. This novel is considered to be one of "the most fragmentation causes a woman to struggle celebrated *Bildungsromans* of the early with defining herself and creating an identity, 1960s."<sup>12</sup> Within this categorization, O'Brien as she is subject to ignore a part of herself in has changed the form subtly in order to order to fulfill the single role that society has create a proper representation of the female allowed for her. protagonist. This change from the classic [...] form is more apparent in theme than structure, Chapter 1: "I'll drink Lysol or any damn as O'Brien takes a provocative stance thing to get out of here": Edna O'Brien's The concerning women's rights in a genre where Country Girls "the implications of gender are conveniently ignored."<sup>13</sup> O'Brien refuses to ignore these

11 Cahalan, James M. 1995. "Female and Male Perspectives on Growing Up Irish in Edna O'Brien, John McGahern and Brian 12 Cahalan, 55. The novel takes place in the 1940s but was published in 1960, the beginning of the revolutionary period of wom-

<sup>10</sup> Pressman, Laura. "The Frauenroman: a Female Perspective in Coming-of-Age Stories." The Bildungsroman Project. The University of North Carolina at Chapel Hill, April 2013.

<sup>[...]</sup> 

Moore," Colby Quarterly: Vol. 31: Iss. 1, Article 8., 56. en's liberation.

implications, and the consequences of being female are highlighted rather than dismissed. O'Brien's manipulation of the Bildungsroman is a way in which she can showcase her demand for women's social liberties in Ireland. Cait's anxieties at the end of the novel are palpable, and her ever-present anxiety contradicts the fully-developed character that one often sees at the end of the classic Bildungsroman. To be a functioning member of society a character must experience "development of the whole personality...[and] the conflicts of life [are] seen as necessary growth points on the road to maturity."<sup>14</sup> Cait has many "conflicts of life" throughout the novel, yet she ends the novel no more hopeful than she began it. The last line of the novel is indicative of this lack of change: "I came out to the kitchen and took two aspirins with my tea. It was almost certain I wouldn't sleep that night."<sup>15</sup> At the novel's beginning she is anxious over her father, at the end, Mr. Gentleman. Her anxiety over Mr. Gentleman is quite different, as she desperately wants to run away with him and experience intimacy, actions that have a positive connotation for Cait, yet her state of being still depends on the presence or absence of men. Despite Cait's "conflicts of life" and flirtation with rebellion, she fails to develop in a way that allows her to bypass the need for a domineering male figure and overcome the power that men hold over her, a conditioning that has roots in a convoluted mother/daughter relationship.

[...]

To be forced to conform to such a role takes away a woman's sense of identity

and autonomy, and in a world with limited options, Cait chooses to reclaim her identity and autonomy through the act of impulsive, abortive decision making. However, these decisions are not without consequences. The ability to make autonomous decisions would seem to give Cait a sense of identity, but her lack of life experience, i.e, her youth (a traditional component of the Bildungsroman) coupled with a limited amount of societal support instead leaves her without foresight and overwhelmingly anxious at the novel's end. Her attempt to create a self that is more than a fragment results in instability of mind, an unfortunate situation that reaches its peak in Cait's suicide at the end of the trilogy. However, the decisions that Cait and Baba make in the first novel, the focus of this chapter, are not without a glimmer of hope. [...]

O'Brien's text gives young girls the opportunity to explore their sexuality in a way that was independent of men, provocative, and empowering: "Baba and I sat there and shared secrets, and once we took off our knickers.... and tickled one another. The greatest secret of all. Baba used to say she would tell....[so] I [would give] her a silk hankie....or something."<sup>16</sup> What has been denounced as explicit content is merely sexual exploration, yet the shame that accompanies the girls' actions is as an inherent barrier to accepting this exploration. Lazzaro-Weis writes that "indeterminacy is part of the genre's [Bildungsroman] theme and purpose, which is the representation of conscious human self-formation."<sup>17</sup> In terms of sexual exploration, the privilege of

13 Brown, Penny. The Poison at the Source: the Female Novel of Self-Development in the Early Twentieth Century. St. Martin's, 1992, 2. 14 Brown, 1.

15 O'Brien, 175. 16 O'Brien, 8.

confusion and lack of clarity is imperative to discovering one's personal and sexual Jar Critics have often discussed Sylvia Plath's The Bell Jar (1963) in the context of "secret" will be exposed presents a stringent its apparent autobiographical influence. While there are many similarities between Sylvia Plath and protagonist Esther Greenwood, I would argue the text was not created to be merely an autobiographical account; the There are various instances through novel's larger purpose is to draw attention to the various social and cultural epidemics that plagued women of the time period. The connection between Sylvia Path and Esther is well-established and has an abundance of commentary, but it is overstated and will not be analyzed in this chapter. Instead, the arguably more important, pervasive, problems of women's reduction and fragmentation will be discussed in the context of protagonist Esther Greenwood's struggle with mental health.

identity, and this is a practice that Irish society castigates. Cait's increasing worry that the social conditioning that has resulted in shame surrounding sexual exploration, a natural process in one's adolescent development. [...] the novel where Cait's body is scrutinized by Baba or other women. When at the dressmaker, Cait is told that she "ha[s] a bit of pot belly," and Cait's automatic reaction is that the woman "wanted to get some dig at me."<sup>18</sup> Despite Cait's distaste towards the woman's comments on her body, she feels confident because she has Mr. Gentleman's approval: "he took his hand down from his eyes and looked shyly at my stomach and thighs....he kissed me all over."<sup>19</sup> Cait is concerned with the opinion of men, not the opinion of women, [...] an idea that has been ingrained in her mind Defined as a Bildungsroman, it is from the beginning of her adolescence due to reasonable to suggest that The Bell Jar the ogling boys in the town hall. does in fact offer the basic tenets one often

[...] expects when reading literature from this Cait's lack of growth and everparticular genre: "Both the aim and the object increasing anxiety contradicts the traditional of the search are moved from the outer Bildungsroman form and reminds the reader to the inner world, and a chronologically that gender cannot be ignored. However, unfolding teleological plot with one strand O'Brien's novel plays an imperative role in depicts a young man's gradual growth into liberating Irish women, because it provides a well educated...and functioning member potential. She embodies rebellion and of society."20 However, as one may notice harnesses its power, qualities that are in the language used, the *Bildungsroman* is invaluable in liberation and serve as an traditionally a male dominated genre, a form that does not accurately depict a woman's example. Chapter 2: "A girl who was crazy journey from adolescence to adulthood,

enough to kill herself": Sylvia Plath's The Bell

20 Freese, Peter. 2013. "The 'Journey of Life' in American Fiction." Hungarian Journal of English and American Studies (HJEAS)

<sup>17</sup> Lazzaro-Weis, Carol. "The Female 'Bildungsroman': Calling It into Question." NWSA Journal, vol. 2, no. 1, 1990, 26. 18 O'Brien, 113. 19 O'Brien, 164.

innocence to maturity.... The scholarship on the Bildungsroman seems muddled, as Freese's analysis centers around midtwentieth century novels. Regardless, for Esther Greenwood, the presence of social cohesion is in question by the end of the novel. The novel instead presents "a woman struggling to become whole, not a woman who ha[s] reached some sense of stable self,"<sup>21</sup> and one may suggest that to be a stable self was a privilege afforded to men, as Freese proposes in his definition. To mitigate the traditional sexism of the form itself, as it has been traditionally male-centric, and to draw attention to its limitations, The Bell Jar's narrative is fragmented in order to represent women's struggle in society.

### [...]

Traditionally, most women were expected to be mothers and only mothers. Motherhood is a fate that Esther despises. Her introduction to the process of human birth is alarming, as she is forced to observe a live birth with her boyfriend, Buddy, a medical student. Her sole focus during the ordeal revolves around the mother's pain during labor and delivery, and she becomes fixated on the morphine that is used to assuage the pain. She remarks on the patriarchal conditioning of the drug, stating that it "sounded just like the sort of drug a man would invent....[the woman] would go straight home and start another baby, because the drug would make her forget how bad the pain had been."22 The birth scene forces Esther to recognize the reproductive priority of a woman's role in society and she is repulsed by the inherent fragmentation of the role.

#### [...]

since the publication of The Bell Jar, but it remains a novel that is both relevant and unconventional. Breaking the Bildungsroman form and challenging the realist representation of women was revolutionary at the time of publication, and the novel is still a jarring text that engenders valuable discussion about gender normativity and the slowness of historical change. Plath's prose is provocative and meaningful, giving it staying power and resonance with a twenty-first century audience. Esther Greenwood would be delighted to know that today she could be both a mother and successful career woman but holding both of those demanding iobs does not come without biases and judgements.

More than half a century has passed

#### [...]

Conclusion: The Intersection of Culture and History

#### [...]

The novels are categorized as feminist, and with that, the expectation is that men are depicted as the source of evil and corruption, while women are perfect and the solution to the world's problems. This hyperbolic formula is problematic in itself, and the novels in discussion recognize that assumption. This is not to say the men are depicted in a flattering light-the majority of them are not. However, neither are the women. Cait's character frustrates the reader when she succumbs to Mr. Gentleman's desires, Esther's behavior is immature and problematic at the end of her novel, and Anna's consciousness is so blurred that she allows parts of Paul, Ella, Molly, Tommy, and Saul to influence her decisions and thinking, behavior that is troublesome and

should not be emulated. Yet, I would venture to say that is the purpose of challenging the typical Bildungsroman form. The simplistic nature is not representative of the reality of human existence. It is not a straightforward trajectory from A to B, but rather a journey that goes from A to D to Z and back to A again. The account is often messy and not easily categorized, but it represents reality—an accessible narrative that provides a worthy addition to the complicated nature of social theory.

155 | Humanities

<sup>21</sup> Wagner, Linda W. 1986. "Plath's The Bell Jar as Female Bildungsroman," Women's Studies, 12:1, 55-68, 59. 22 Plath, Sylvia. 2013. The Bell Jar: a Novel. Harper, 66.

156 | Honors Journal 2020

# **NATURAL SCIENCE**

## Impacts of *Hymenolepis diminuta* (benign helminth worm) colonization on chronic pain and the central nervous system in Sprague Dawley rats

### Haley Lippman

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate\_honors\_theses/8s45q932q

#### Abstract

Over the last century, members of post-industrial societies have experienced a significant depletion of gut microbiota in terms of parasitic "old friends." Consequently, the ability of the remaining microbiota to modulate immune responses has been drastically limited. Reduced immunoregulation causes the immune system to be overactive due to an improper balance between T helper 1 (Th1) and T helper 2 (Th2) immunity. Th1 immunity is used to fight intracellular pathogens, and it is mediated by inflammatory effector T cells. Th2 immunity fights extracellular pathogens through a humoral response that upregulates antibody production. It has been demonstrated that intestinal helminth worms, such as Hymenolepis diminuta, are responsible for a shift away from Th1 cell immunity and towards Th2 cell immunity, which promotes an anti-inflammatory phenotype through suppression of inflammatory effector T cells. A helminth-induced anti-inflammatory shift could potentially be used to counteract inflammatory disorders such as chronic neuropathic pain. Neuropathic pain is responsible for an upregulation of pro-inflammatory cytokines and a shift toward Th1 immunity. This study explored the use of helminthic therapy as a

treatment for neuropathic pain in the periphery and both neuropathic pain and cognitive dysfunction in the central nervous system through increased immune regulation.

We investigated the effects of H. diminuta on neuropathic pain development and cognition in male Sprague Dawley rats following chronic constriction injury of the sciatic nerve. Rats were colonized with Hymenolepid diminuta cystercercoids (HDCs; larval stage) prior to CCI surgeries. Von Frey testing measured levels of mechanical allodynia, Pavlovian fear conditioning measured declarative memory, and juvenile social exploration measured levels of anxiety. Inconsistent results from Von Frey and fear conditioning suggest that helminth worm therapy most likely does not improve mechanical allodynia or hippocampaldependent learning and memory cognition. Neither CCI surgery nor helminth colonization impacted anxiety levels. Additionally, impacts of H. diminuta on molecular regulation of cytokine levels in the hippocampus were assessed using qRT-PCR. Hippocampus analysis demonstrated a shift toward an anti-inflammatory cytokine milieu following helminth treatment. These studies indicate that, although helminths did not consistently

impact behavior following CCI surgeries, *H. diminuta* therapy is a promising treatment for neuroinflammation in the brain.

#### Introduction

Chronic pain is a world-wide crisis that impacts more than 50 million people in the United States alone, and it has been connected to anxiety and depression, opioid addiction, and limited mobility (Dahlhamer, 2018). Because neuropathic pain has become an incredibly widespread issue, the neuroimmune causes of chronic pain are of great interest to the research community. [...]

According to the Center for Disease Control and Prevention, approximately 20% of the United States population is affected by chronic pain (Cragg, 2018), and this may be due, in part, to overactive effector CD4<sup>+</sup> T cells that are not being adequately suppressed by T<sub>rea</sub> cells. The presence of certain beneficial microbiota within the gut microbiome have been linked to increased numbers of regulatory T cells (Hewitson), so it is possible that exposure to these specific microbiota could be a potential treatment for chronic pain. Though humans coevolved with these microorganisms, humans within post-industrialized countries no longer serve as hosts to many of these microorganisms. It has proposed that the use of antibiotics, clean water, and sterilized medical techniques have caused the gut microbiome of humans living in post-industrialized countries to become a hostile environment for many commensal microorganisms (Bilbo, Wray, Perkins, & Parker, 2011; Ege, 2017; A. H. Liu, 2015; Villeneuve et al., 2018). This decreased microbial diversity correlates with decreased immunoregulatory functions of the host, and

the proposed link between these two factors is referred to as the hygiene hypothesis. More specifically, the hygiene hypothesis states that the depletion of microorganisms within the gut microbiome of a human can cause the immune system to be poorly educated, which in turn, can cause the immune system to be overactive in response to inappropriate stimuli. The positive correlation between the presence of microorganisms and improved immunoregulation can be supported on a molecular basis by the promotion of an antiinflammatory phenotype of animals that host microorganisms.

An example of one of these microorganisms is Mycobaccterium vaccae (M. vaccae), M. vaccae restores the immune balance between T helper 1 (Th1) and T helper 2 (Th2) responses. Th1 responses harness effector Th1 and Th17 cells to fight intracellular pathogens, and Th2 responses use antibody-mediated responses and suppression of inflammatory effector T cells to fight extracellular pathogens. M. vaccae modulates immunity of the infected animal by activating Th1-mediated responses and suppressing Th2 responses (Akkoc et al., 2008; Grange, Bottasso, Stanford, & Stanford, 2008: Hernández-Pando et al., 2008: Stanford, Stanford, & Grange, 2004; L. Zhang et al., 2016). This is the natural response of the body to attempt to attack and destroy the pathogen. [...]

Depending on the microorganism, upregulation of Th1 responses or upregulation of Th2 responses can be utilized to enhance immunoregulation and benefit host immunity, because both of these techniques can be used to restore the Th1/Th2 balance. For instance, parasitic microbes, such as helminth tapeworms, can regulate the immune system by shifting the immunophenotype of their hosts from primarily mediating Th1 responses to facilitating Th2 responses (Villeneuve et al., 2018). Helminth tapeworms, called Hymenolepis diminuta, were used in this study because they are able to restore the Th1/Th2 balance of the host organism by promoting T<sub>rag</sub> activation and effector CD4<sup>+</sup> T cell suppression. These factors contribute to promoting an anti-inflammatory phenotype in the host. In addition to promoting immunoregulation, *H. diminuta* also avoid piercing the epithelial wall of the small intestines of their hosts, so they are considered benign helminths (Smyth et al., 2017). These two features make treatment with benign helminth parasites a very attractive research subject in regard to alleviating immunological disorders without causing tissue damage to the host.

#### [...]

In previous studies, *H. diminuta* have been proven to alleviate neuroinflammation, decrease cognitive disorders (Williamson et al., 2016), and decrease risks of autoimmune diseases (Fairweather & Cihakova, 2009). Additionally, the life cycle of *H. diminuta* offers a benefit that makes it an ideal candidate for the colonization of rats and mice in a laboratory setting. These helminths require a secondary, intermediate host for reproduction (Smyth et al., 2017; M. Zhang, Mathew, & Parker, 2018), which prevents these helminths from transmitting directly from rat to rat or from rat to human unintentionally. Common grain beetles can be used to allow H. diminuta eggs to mature into Hymenolepis diminuta cysticercoids (HDCs) that can be directly fed to rodents. The HDCs then colonize their hosts and grow into full helminth worms within the small intestines of the rodents. At this point,

the helminth worms produce eggs that are secreted in the fecal matter of the rodents: grain beetles eat the eggs, and the life cycle starts again (M. Zhang et al., 2018). The antiinflammatory properties of *H. diminuta*, along with the benefits of laboratory use, make this species of helminth an ideal candidate for research in neuroinflammation and chronic pain.

This following set of experiments conducted are aimed at answering two questions concerning the effects of the introduction of the benign helminth worm H. *diminuta* into the gut microbiome of Sprague Dawley rats. The first goal of this experiment was to determine whether helminthic treatment was able to counteract the negative behavioral effects of a chronic constriction injury (CCI) on the left sciatic nerve of Sprague Dawley rats.

#### [...]

The second goal of this set of experiments, analysis of the hippocampus, showed a significant difference in the mRNA levels of several cytokines in rats that were colonized by H. diminuta. There was an increase of the anti-inflammatory cytokine, IL-10, along with a decrease in the IL-10 receptor. Additionally, there was a decrease in the expression of IL-13. Though this Th2-induced cytokine has been linked to several antiinflammatory processes, it is also associated with allergen-induced asthma (Corren, 2013). Since treatment with H. diminuta causes an increase in immunoregulatory Th2 responses and a reduction in airway inflammation, this result was expected (McKenney et al., 2015). Colonization by H. diminuta generated an anti-inflammatory cytokine milieu within the hippocampus of Sprague Dawley rats, which suggests potential therapeutic uses for benign

helminthic treatment.

#### Methods

#### Subjects

Pathogen-free Sprague Dawley rats aged 10-12 weeks upon arrival were used for [...] Tissue Preparation and Bradford Assay every experiment (Envigo). Rats were housed in pairs in Plexiglas cages with food and An extraction buffer solution water available ad libitum. The Vivarium was (Invitrogen) and protease inhibitors (Sigma) temperature controlled at 23 ± 3°C and lightwere added to hippocampal tissue, and the controlled with a 12 hour light-dark cycle. All samples were sonicated. Samples were methods were approved by the Institutional centrifuged for 10 minutes at 14,000 x g and Animal Care and Use Committee of the 4°C, and the supernatants were pipetted out University of Colorado Boulder. and placed in new tubes (Frank, Fonken, Annis, [...] Watkins, & Maier, 2018). A Bradford assay was Experiment 7: Analysis of Hippocampus mRNA performed in order to analyze total protein concentration in each sample.

# Hippocampus Extraction

Six weeks after colonization with H. *diminuta* eggs, rats were euthanized using i.p. 65 mg/kg sodium pentobarbital (Abbott Laboratories, North Chicago, IL, USA). Transcardial perfusion was performed using cold 0.9% saline. Following decapitation, the brain was removed, and the whole hippocampus was isolated. The hippocampus was flash frozen in liquid nitrogen and stored at -80°C.

#### Total RNA Extraction

The phenol:chloroform extraction method was used to isolate samples of total RNA from hippocampus tissue (Chomczynski & Sacchi, 1987).

### [...]

#### cDNA synthesis

SuperScript II First Strand Synthesis System for RT-PCR (Invitrogen) was used to reverse transcribe total RNA into cDNA.

### [...]

*Quantitative Real-Time Polymerase Chain* Reaction (aRT-tPCR)

The Quantitect SYBR Green PCR Kit

(Quiagen, Valencia, CA) was used for PCR amplification of cDNA. Protocols for total RNA isolation, cDNA synthesis, and gRT-PCR can be found in previous publications (Frank, Fonken, Dolzani, et al., 2018).

#### [...]

Enzyme-Linked Immunosorbent Assay (ELISA) A rat IL-10 Quantikine ELISA kit

(R&D Systems, Minneapolis, MN) was used to determine the protein levels of IL-10 in whole hippocampus tissue (García-Miguel et al., 2018). Absorbance data was used to determine levels of IL-10 protein in each sample. Data are not shown because the levels of IL-10 protein were too low to be detected. [...]

#### Results

The purpose of this experiment was to determine whether colonization with H. diminuta altered the cytokine expression in the brain. Relative levels of mRNA expression were measured using gRT-PCR. Data were analyzed using the  $2^{-\Delta\Delta CT}$  method. There were 8 animals in each group. Figure 19 shows mRNA expression of IL-10, IL-10 receptor, IL-13, TGF-B, IL-4 and IL-4 receptor. Levels of IL-10 mRNA were significantly increased (P < 0.0001), while levels of the IL-10 receptor were

#### significantly decreased (P < 0.02).

Upregulation of IL-10 expression contributes to an anti-inflammatory cytokine milieu, and the downregulation of IL-10R expression may be reflective of an increased release of IL-10. There was also a significant decrease in levels of IL-13 mRNA (P < 0.0001). Though IL-13 is typically an anti-inflammatory cytokine, it has also been linked to airway inflammation, which is characteristic in asthma, and *H. diminuta* have been known to decrease the risk of asthma. Levels of TGF- $\beta$ , IL-4 and IL-4R mRNA showed no significant differences between helminth-colonized and control animals.

#### Discussion

These current results suggest that *H. diminuta* may not be an effective therapy for chronic pain; however, they are a promising treatment for neuroinflammation in the brain. [...]

In order to explore the molecular basis of helminth immunoregulation, qRT-PCR was performed to quantify the relative cytokine mRNA expression in the hippocampus (Figure 19). *H. diminuta* treatment upregulated mRNA expression of IL-10 and downregulated IL-10R, and both of these contribute to an



Figure 19: All qRT-PCR was performed on hippocampus tissue. IL-10 mRNA expression increased significantly in helminth-treated animals (\*\*\*\*P < 0.0001). IL-10R (P = 0.02) and IL-13 (P < 0.0001) mRNA decreased significantly in helminth-treated animals compared to control animals. There were no significant differences in IL-4, IL-4R, and TGF-β mRNA levels between groups (\* P < 0.05, \*\*\*\*P < 0.0001). Real time PCR data were analyzed using the 2<sup>-MC1</sup> method. anti-inflammatory cytokine milieu. Levels of IL-10 protein were undetectable in all samples of whole hippocampus tissue. IL-13 mRNA was downregulated, and this was expected, because IL-13 is responsible for airway inflammation and asthma (Corren, 2013). Though IL-13 can also play a role in anti-inflammatory processes, helminths are known to promote immunoregulation, which prevents the development of asthma and allergies (Parfrey et al., 2017; Graham A. W. Rook, 2012). TGF-β, IL-4, and IL-4R mRNA levels were not significantly impacted by *H*. diminuta treatment. IL-4 has been implicated in improved hippocampal-dependent memory (Chen et al., 2004, p. 4; Derecki et al., 2010). There was no consistent improvement in learning and memory behavior, and there was no significant upregulation of IL-4 or downregulation of its receptor in the hippocampus, so both behavioral results and molecular analysis support that H. diminuta colonization does not improve memory. [...]

The results from this project partially support the tenets of the hygiene hypothesis. Though behavioral results following CCI surgeries were inconclusive, molecular investigation of cytokine levels in the hippocampus showed promotion of an anti-inflammatory cytokine milieu due to the upregulation of IL-10 and downregulation of its receptor. These promising results guide future research toward investigation of cytokine levels in other brain regions, such as the amygdala. Additionally, the absence of consistent behavioral effects and presence of molecular changes in the brain suggest that the immunoregulation induced by *H. diminuta* may primarily influence the brain. This supports further research that investigates the effects

of helminth colonization on neuropsychiatric disorders. Finally, the potential unintended effects of *H. diminuta* colonization, such as increased carcinogenesis, must be examined in order to avoid the side effect of tumor growth and metastasis when establishing helminth immunotherapy.

[...]

#### Works Cited

Akkoc, T., Eifan, A. O., Ozdemir, C., Yazi, D., Yesil, O., Bahceciler, N. N., & Barlan, I. B. (2008). Mycobacterium vaccae Immunization to OVA Sensitized Pregnant BALB/c Mice Suppressed Placental and Postnatal IL-5 and Inducing IFN-γ Secretion. *Immunopharmacology and Immunotoxicology, 30*(1), 1–11. https://doi. org/10.1080/08923970701812159

- Bilbo, S. D., Wray, G. A., Perkins, S. E., & Parker, W. (2011). Reconstitution of the human biome as the most reasonable solution for epidemics of allergic and autoimmune diseases. *Medical Hypotheses*, 77(4), 494–504. <u>https://doi.org/10.1016/j.</u> mehy.2011.06.019
- Chen, L., Grabowski, K. A., Xin, J., Coleman, J., Huang, Z., Espiritu, B., ... Huang, H. (2004). IL-4 Induces Differentiation and Expansion of Th2 Cytokine-Producing Eosinophils. *The Journal of Immunology*, *172(4)*, 2059–2066. <u>https://doi.org/10.4049/</u> jimmunol.172.4.2059
- Chomczynski, P., & Sacchi, N. (1987). Singlestep method of RNA isolation by acid
   guanidinium thiocyanate-phenolchloroform extraction. *Analytical Biochemistry*, *162*(1), 156–159. <u>https://doi.</u>
   org/10.1006/abio.1987.9999
- Corren, J. (2013). Role of interleukin-13 in

asthma. Current Allergy and Asthma Reports, 13(5), 415-420. https://doi org/10.1007/s11882-013-0373-9

- Cragg, J. J. (2018). Prevalence of chronic pain among individuals with neurological conditions. Health Reports, 29(82), 8.
- Dahlhamer, J. (2018). Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016. MMWR. Morbidity and Mortality Weekly Report, 67. https://doi.org/10.15585/mmwr. mm6736a2
- Derecki, N. C., Cardani, A. N., Yang, C. H., Quinnies, K. M., Crihfield, A., Lynch, K. R., & Kipnis, J. (2010). Regulation of learning and memory by meningeal immunity: a key role for IL-4. The Journal of Experimental Medicine, 207(5), 1067-1080. https://doi. ora/10.1084/jem.20091419
- Ege, M. J. (2017). The Hygiene Hypothesis in the Age of the Microbiome. Annals of the American Thoracic Society, 14(Supplement\_5), S348–S353. https://doi. org/10.1513/AnnalsATS.201702-139AW
- Fairweather, D., & Cihakova, D. (2009). Alternatively activated macrophages in infection and autoimmunity. Journal of Autoimmunity, 33(3-4), 222-230. https:// doi.org/10.1016/j.jaut.2009.09.012
- Frank, M. G., Fonken, L. K., Dolzani, S. D., Annis, J. L., Siebler, P. H., Schmidt, D., ... Lowry, C. A. (2018). Immunization with Mycobacterium vaccae induces an antiinflammatory milieu in the CNS: Attenuation McKenney, E. A., Williamson, L., Yoder, A. D., of stress-induced microglial priming, alarmins and anxiety-like behavior. Brain, Behavior, and Immunity, 73, 352–363. https://doi.org/10.1016/i.bbi.2018.05.020

García-Miguel, M., Riquelme, J. A., Norambuena-Soto, I., Morales, P. E., Sanhueza-Olivares, F., Nuñez-Soto, C., ... Chiong, M. (2018). Autophagy mediates tumor necrosis factor-αinduced phenotype switching in vascular smooth muscle A7r5 cell line. PLoS ONE, 13(5). https://doi.org/10.1371/journal. pone.0197210

- Grange, J. M., Bottasso, O., Stanford, C. A., & Stanford, J. L. (2008). The use of mycobacterial adjuvant-based agents for immunotherapy of cancer. Vaccine, 26(39), 4984-4990. https://doi.org/10.1016/j. vaccine.2008.06.092
- Hernández-Pando, R., Aguilar, D., Orozco, H., Cortez, Y., Brunet, L. R., & Rook, G. A. (2008). Orally administered Mycobacterium vaccae modulates expression of immunoregulatory molecules in BALB/c mice with pulmonary tuberculosis. Clinical and Vaccine Immunology: CVI, 15(11), 1730-1736. https://doi.org/10.1128/ CVI.00286-08
- Hewitson, J. P., Grainger, J. R., & Maizels, R. M. (2009). Helminth immunoregulation: The role of parasite secreted proteins in modulating host immunity. Molecular and Biochemical Parasitology, 167(1-9), 1–11. https://doi.org/10.1016/j. molbiopara.2009.04.008
- Liu, A. H. (2015). Revisiting the hygiene hypothesis for allergy and asthma. Journal of Allergy and Clinical Immunology, 136(4), 860-865. https://doi.org/10.1016/j. jaci.2015.08.012
- Rawls, J. F., Bilbo, S. D., & Parker, W. (2015). Alteration of the rat cecal microbiome during colonization with the helminth Hymenolepis diminuta. Gut Microbes, 6(3), 182-193. https://doi.org/10.1080/194909 76.2015.1047128

Parfrey, L. W., Jirků, M., Šíma, R., Jalovecká,

- Rook, Graham A. W. (2012). Hygiene Hypothesis and Autoimmune Diseases. Clinical Reviews in Allergy & Immunology, 42(1), 5-15. https://doi.org/10.1007/ s12016-011-8285-8 Smyth, K., Morton, C., Mathew, A., Karuturi,
- S., Haley, C., Zhang, M., ... Parker, W. (2017). Production and Use of Hymenolepis diminuta Cysticercoids as Anti-Inflammatory Therapeutics. Journal of Clinical Medicine, 6(10), 98. https://doi. org/10.3390/jcm6100098
- Stanford, J., Stanford, C., & Grange, J. (2004). Immunotherapy with Mycobacterium vaccae in the treatment of tuberculosis. Frontiers in Bioscience: A Journal and Virtual Library, 9, 1701–1719.
- Villeneuve, C., Kou, H. H., Eckermann, H., Palkar, A., Anderson, L. G., McKenney, E. A., ... Parker, W. (2018). Evolution of the hygiene hypothesis into biota alteration theory: what are the paradigms and where are the clinical applications? Microbes and Infection, 20(3), 147-155. https://doi. org/10.1016/j.micinf.2017.11.001
- Williamson, L. L., McKenney, E. A., Holzknecht, Z. E., Belliveau, C., Rawls, J. F., Poulton, S., ... Bilbo, S. D. (2016). Got worms? Perinatal exposure to helminths prevents persistent immune sensitization and cognitive dysfunction induced by early-life infection. Brain, Behavior, and Immunity, 51, 14–28. https://doi.org/10.1016/j.bbi.2015.07.006
- Zhang, M., Mathew, A. J., & Parker, W. (2018). Production of Hymenolepis diminuta in the Laboratory: An Old Research Tool

J.	with New Clinical Applications. Methods
	in Molecular Biology (Clifton, N.J.), 1799,
na	27–38. https://doi.org/10.1007/978-1-
<u>1/</u>	4939-7896-0_3

165 | Natural Science

## Examining the Glacial Mass Balance of the Arikaree Glacier, Front Range, Colorado Using GIS and Degree Day Methods

#### Kevin Knopp

The following is an excerpt from a longer piece. For full text, please visit https://www.colorado.edu/honorsjournal/sites/default/files/attached-files/ examiningtheglacialmassbalance.pdf

#### ABSTRACT

The health of glaciers around the world is threatened by anthropogenic climate change as rising temperatures and changing precipitation patterns affect mass balance of glaciers. The manifestations of global climate vary at the regional level, in both magnitude and direction of temperature and precipitation changes. For this reason, glacier response is not expected to be uniform across different seasons and in different places. Based on precipitation totals and wind patterns, there is evidence that alpine glacier mass balance might actually be positive in some locations. This study focuses on the Arikaree Glacier in the Front Range of Colorado, USA. I use snow depth measurements taken on the glacier at peak accumulation and measured air temperatures to derive a degree day calculation of ablation and to produce a plausible mass-balance for each year from 1997 to 2017. I found that the Arikaree Glacier has experienced a negative mass balance each year since 1997. Future research should utilize a more detailed approach to this form of mass balance calculation and assess other small mid-latitude glaciers to see if they are experiencing the same results.

#### INTRODUCTION

Mass balance studies of glaciers are

good indicators of climate change, particularly small cirque glaciers (Barreto, 1994). This is because there is no distinct accumulation and ablation areas, so the entire glacial surface is more responsive to changes in surface mass balance. Increasing temperatures from anthropogenic climate change are causing many glaciers to melt and experience negative mass balance (Gregory, Stocker, Lemke, & Bindoff, 2007). This is particularly noticeable in higher latitude, maritime environments where small changes in temperatures are causing lower elevation snow to melt out or even fall as rain in the winter season. [...]

The Indian Peaks receive roughly 35-60 inches (~89-152 cm) of precipitation each year, well above the average of 15.47 inches (~39 cm) for the state of Colorado (National-Atlas, 2005). Winter weather is generally cold and windy, with some gusts reaching above 20 m/s in velocity (Barreto, 1994). Summers are typically mild and much less windy than winters. Temperatures can get above 60 °F (~15.5 °C) on the high peaks and afternoon thunderstorms are notorious (Barreto, 1994). Inconsistencies in weather also occur during summer. Some summers can be wet and stormy, and others hot and dry. These climate factors heavily influence the mass balance of the Arikaree Glacier (Barreto, 1994; Johnson,

1979). to changes in synoptic weather patterns Two major mass balance studies have across North America and changes in already been done on the Arikaree Glacier. precipitation generation from mesoscale The first was done by James Johnson in 1979 interaction of synoptic circulation with local and the other was done by Henrique Barreto in topography. They found increases of 21-1994. These mass balance studies involved 126% monthly winter time precipitation totals stake methods to measure the ablation and at the D-1 site. It was concluded that a shift were conducted using data collected over from southwesterly to northwesterly winds multiple years: 1969-1974 (Johnson, 1979) favored more orographic uplift and increased and 1992-1993 (Barreto, 1994). Both revealed precipitation on the windward side of the that the overall swings of positive or negative Continental Divide, as well as the areas just mass balance are largely influenced by how east of the divide due to a "spillover" effect. stormy the ablation (summer melt) season Southwesterly winds favor precipitation in the is. If the ablation season is stormy, there is lower elevations and northwesterly winds favor increased cloud cover, which inhibits the precipitation in high elevations (Kittel et al., amount of incoming direct solar radiation on 2015). the glacier (Johnson, 1979). Due to the high [...] variability in net mass balance of the Arikaree Glacier, some years can yield large positive data, a mass balance can be calculated mass balances and others can be large over twenty-one years. The health of the Arikaree Glacier can then be determined and negative mass balances.

#### [...]

Despite increasing temperatures globally, there is reason to believe that the Arikaree Glacier might actually be gaining size due to recent findings that indicate greater precipitation totals in winter and small increasing trends in precipitation during summer (Kittel et al., 2015). The increasing trends in precipitation are observed at nearby climate station D-1 (Fig. 2), which show large increases in winter precipitation over a long period indicating that more snowfall is occurring on average. There is also a slight increase in precipitation during summer, giving reason to believe that summers are stormier as well. Stormier summers would indicate more cloud cover to limit the ablation on the glacier. Kittel et al. (2015) conclude that the D-1 site experienced significant increasing trends in winter precipitation due

By obtaining accumulation and ablation give insight into the fate of other glaciers in Colorado's Front Range and potentially see if there are other small mid-latitude alpine glaciers around the world experiencing the same results as the Arikaree Glacier. It might also provide further research opportunities to study how areas are experiencing increased levels of precipitation and gains in snow accumulation.

#### BACKGROUND

The Arikaree Glacier is nestled in between Arikaree Peak and Navajo Peak in Colorado's Front Range Indian Peak Wilderness Area (Fig. 2). The location coordinates of the Arikaree Glacier are 40°3'10"N 105°38'20"W (Johnson, 1979). The majority of the glacier sits at the base of Arikaree Peak but extends out toward Navajo Peak in a half moon shape. The glacier is

located within the Green Lakes Valley as part of the upper Boulder Creek watershed. The northern boundary of the watershed is Niwot Ridge, where alpine research occurs as part of the Niwot Ridge Long-Term Environmental Research (LTER) program within the University of Colorado's Mountain Research Station. [...]



Figure 2. Obligue aerial Google Earth image of the Arikaree Glacier and surrounding Green Lakes Valley. The Arikaree Glacier sits at the head of the Green Lakes Valley beneath the north side of Arikaree Peak. Image is viewed looking southwest. Green line indicates Continental Divide.

#### METHODS

Temperature and Precipitation

Data collection in order to determine the mass balance of the glacier involved field measurements on the glacier as well as data from the Niwot Ridge LTER website. This data is part of the LTER program through the Institute for Arctic and Alpine Research (INSTAAR) and the University of Colorado. Temperature data for the D-1 site on Niwot Ridge was used to evaluate temperature trends (Losleben, 2006a). This data was used to assess temperature changes on Niwot Ridge since the completion of Barreto's study in 1993. Air temperature at the D-1 site was analyzed from November 1, 1993 to present. The data used in this study was selected to start on November 1, 1993 in order to correspond with the start of the next glacial accumulation-ablation season following the completion of the study of Barreto (1994). [...]

For recent precipitation tends, precipitation data was collected at the D-1 site and sorted to obtain days that recorded a value for precipitation. In other words, the dates with 'no data' or a '0' were filtered out. Next, the data was broken up into winter months (October-May), assuming that all of this precipitation fell as snow and contributed to accumulation on the glacier. The values were summed for each winter to give a precipitation total for that season. [...]

#### Accumulation

For accumulation data on the Arikaree Glacier, a snow pit was dug on the east side of the glacier near the moraine and glacial pool. The total snow depth as well as snow density were measured in order to calculate the snow water equivalent. As part of the annual Snow Survey, conducted at peak SWE, around 500 other point samples (some on the glacier) were recorded throughout Green Lakes Valley to help with estimating the depth of snow on the glacier for the winter year accumulation. For each year, the snow depth measurements and coordinates were put into the ArcGIS program. I ran the Inverse Distance Weighting tool to help estimate the different snow accumulation totals on different parts of the glacier.

[...]

Ablation

RESULTS A degree day method was used to estimate summer ablation for each season Over the study period, a linear based on the average air temperature values. regression shows a -0.0002 °C/day slope in Temperature index degree day methods are a the air temperature at the D-1 site, suggesting very common way of measuring ablation due that the average air temperature is actually to the wide availability of air temperature data, getting colder in the alpine environment on relatively easy interpolation and forecasting Niwot Ridge. Precipitation data revealed that possibilities of air temperature, generally good there is an increase in winter precipitation at model performance despite simplicity, and site D-1 by an amount of 1.94 mm per year. the simplicity of computation (Hock, 2003). [...] Temperature index degree day methods Accumulation estimates on the Arikaree Glacier vary significantly from year to have a high correlation with air temperature because both sensible and latent heat fluxes year. The average snow accumulation for a are heavily affected by air temperature. [...] t-test revealed that there is a significant

given year was about 3.90 meters. A statistical Days above 0 °C are assumed to trend in the negative direction of snow water have melting occurring. The positive air equivalent accumulation. Total ablation for temperature days were then summed up for years 1997-2017 yielded an average of 3.9 each ablation season and then multiplied by meters of water equivalent (w.e.) being melted a degree day factor. The degree day factor each year. After conducting a t-test for snow is a coefficient that the days above 0 °C sum water equivalent ablation, I found that there is multiplied by and is based on a range of is also a significant negative trend. Each year factors including latitude, humidity, maritime or of the study yielded a negative mass balance. continental climate, etc. However, the negative value for net balance [...] varied considerably from year to year (Figure 7). Some years were very close to reaching Once there were accumulation and equilibrium while other years were largely negative. The largest negative year occurred in 2007 with over 5 meters of water equivalent loss and the smallest negative year occurred in 2014 with a 0.3-meter loss in water equivalent. A t-test showed that the positive trend in net balance is significant.

[...]

#### Mass Balance

ablation estimates for the glacier, the annual mass balance was calculated by subtracting the total ablation from the total accumulation (accumulation - ablation). If this value was positive, then the glacier gained mass for the year. If the value was negative, then the glacier lost mass for the year. By doing this over the course of the study (years 1997-2017), one of three different scenarios could be concluded: either the glacier is gaining size overall, losing size overall, or the mass balance varies from year to year and there is no overall trend in the data.

[...]



Figure 7. Graph showing net mass balance for the Arikaree Glacier from 1997-2017. There has been a negative net mass balance each year; however, in recent years, the net mass balance has been nearing equilibrium. Most notable is the large negative year in 2007 which had over 5 meters of water equivalent loss.

[...]

#### DISCUSSION

Despite an increase in global mean temperatures, the Arikaree Glacier is actually getting colder. Believed to be due to shifts in wind patterns, this change is also leading to increased precipitation levels (Kittel et al., 2015). Both of these factors provide evidence for favorable conditions for glacier growth or positive mass balances.

[...]

It can be concluded that the mass balance of each year is heavily determined by the ablation season. The winter year of 2016-2017 was considered to be a large snow year for Colorado statewide, yet the mass balance was still negative due to a large ablation season. The same pattern can be seen in the year 2009.

#### [...]

Despite the overall positive trend in the net mass balance toward equilibrium, the

overall health of the Arikaree Glacier is poor since every year of the study produced a negative net mass balance. The temperature and precipitation conditions are favorable for a positive net mass balance, but heavy ablation during the summer months are prohibiting this, especially when certain years contain large ablation factors, such as the one seen in 2007. This could be attributed to decreased cloud cover in summer months allowing for more direct incoming sunlight to hit the glacier and/ or impurities such as dust and soot deposition lowering the albedo of the surface and resulting in faster melting. [...]

#### CONCLUSION

The overall health of glaciers around the world are being threatened by climate change. However, due to micro-climate variability and changes in precipitation and wind patterns, there is evidence to believe that some glaciers may be experiencing positive mass balances. My study calculated the net mass balance for the Arikaree Glacier, Front Range, Colorado, USA to assess the overall health of the glacier over the course of 21 years. Over the course of 21 years, the Arikaree Glacier has had a negative mass balance each year, but the negative value varies considerably from year to year. These results provide incentive for further research of the Arikaree Glacier in order to achieve a more detailed and accurate study of the mass balance as well as further research of other high alpine, mid-latitude glaciers in order to see if they are experiencing similar results as the Arikaree Glacier.

#### WORKS CITED

- Barreto, H. (1994). An Investigation of the 1991-1993 Mass Balance Arikaree Glacier, Front Range, Colorado. University of Colorado-Boulder.
- Gregory, J., Stocker, T., Lemke, P., & Bindoff, N. (2007). Climate Change 2007: The Physical Science Basis.
- Hock, R. (2003). Temperature index melt modelling in mountain areas. Journal of Hydrology. https://doi.org/10.1016/ S0022-1694(03)00257-9
- Johnson, J. (1979). Mass Balance and Aspects of the Glacier Environment, Front Range, Colorado, 1969-1973. University of Colorado-Boulder.
- Kittel, T. G. F., Williams, M. W., Chowanski, K., Hartman, M., Ackerman, T., Losleben, M., & Blanken, P. D. (2015). Contrasting long-term alpine and subalpine precipitation trends in a mid-latitude North American mountain system, Colorado Front Range, USA. Plant Ecology and Diversity, 8(5–6), 607–624. https://doi.org/10.1080/17550874.201 6.1143536
- Losleben, M. (2006a). Air Temperature data for D1 chart recorder. 1952-ongoing. Retrieved from https://doi.org/10.6073/pasta/ c241a710028b578ac62ddec47eb0d5e9.
- Losleben, M. (2006b). Precipitation data for D1 chart recorder, 1964-ongoing. Retrieved from https://doi.org/10.6073/

171 | Natural Science

## Accounting for Confinement Shifts on the Binding **Energies of <sup>39</sup>K Feshbach Molecules**

Jared Popowski

The following is an excerpt from a longer piece. For full text, please visit https://scholar.colorado.edu/concern/undergraduate\_honors\_theses/5m60qs924

#### Summary

Ultracold atomic gases have many fascinating and unintuitive properties, as their extremely low temperatures bring out their inherent quantum nature. One such property is the phenomenon of a Feshbach resonance, in which an applied magnetic field of a particular strength allows for fully tunable interactions between particles in the gas. Near a Feshbach resonance, one can form two-particle bound states called Feshbach molecules, and measurements of these molecules' properties such as their binding energies can tell us important information about the behavior of the gas. We consider here a correction to our recent <sup>39</sup>K Feshbach molecule binding energy data, which takes into account the magnetic trap used to hold our gas up against gravity in our experimental system. The presence of this trap shifts the binding energies that we measure in the lab slightly away from their "true" free-space values, and calculating this so-called confinement shift requires an understanding of two-particle quantum mechanical scattering theory. After briefly reviewing the relevant physics, as well as our experimental setup and procedure for producing Feshbach molecules, we develop a MATLAB program to numerically simulate the confinement shift for different atomic

species and magnetic trap configurations. The program is first used to replicate the confinement shift for <sup>6</sup>Li Feshbach molecules calculated recently by another group, before finally applying it to correct our own measurements of <sup>39</sup>K Feshbach molecules. The correction of these measurements is necessary for our determination of the Feshbach resonance location with unprecedented accuracy.

#### Abstract

Ultracold <sup>39</sup>K gases provide an ideal platform to study quantum few- and many-body systems, due to the high degree of control present in these systems. In particular, Feshbach resonances facilitate a magnetically tunable interaction strength between the atoms in the gas, and allow the formation of two- and three-body bound states, called Feshbach molecules and Efimov trimers respectively. Radio-frequency dissociation spectroscopy of weakly bound Feshbach molecules is one of the most precise ways to characterize the properties of a Feshbach resonance. We apply a numerical method to our Feshbach molecule binding energy data to compute the shift in the molecule's binding energy due to the presence of a confining potential. These simulations are first used to replicate the confinement

shift found for <sup>6</sup>Li Feshbach molecules by another group, and then to correct our measurement results for the binding energy of <sup>39</sup>K Feshbach molecules. The correction of these measurements is necessary for our determination of the Feshbach resonance location with unprecedented accuracy.

#### [...]

#### Chapter 2

Two-Particle Scattering and the Theory of **Feshbach Resonances** 

#### 2.2 Basic Physics of Feshbach Resonances and Feshbach Molecules

Imagine an atom with two molecular potentials  $V_{ha}$  and  $V_{c}$ , which represent two different scattering processes between a pair of the atoms (see Figure 2.2). The molecular potentia  $V_{ba}(R)$  (where r = R is the radial separation of the atoms) is the potential that two free atoms encounter when coming in from  $R \rightarrow \infty$ , and it is hence the energetically open channel for a collision process having the near-zero energy  $E \rightarrow 0$ . This is why we call  $V_{ha}$  the open channel



Figure 2.2: A simple two-channel model of a Feshbach resonance. Image obtained from [8] Hence it is clear that in order to have a is approximated by Feshbach resonance, we need some way to control the energy difference between the Therefore, in the limit of large positive, molecular bound state and the collision energy depends guadratically on the detuning. This

	in the open channel. In most cases (including our specific case with <sup>39</sup> K), this is obtained by ensuring that the potentials $V_{bg}$ and $V_c$ have different magnetic moments: this allows the energy difference between the two channels to be controlled via a magnetic field. Feshbach resonances in these cases are referred to as <i>magnetically tuned Feshbach resonances</i> . If is varied so that it passes through a Feshbach resonance, the scattering length
	a changes dramatically, increasing or
S	decreasing to , jumping discontinuously
	to , and then returning to a value close to
ls,	its original off-resonant value [4]. One can
	describe a magnetically tuned Feshbach
	resonance by a simple equation for the s-wave
ial	scattering-length as a function of the applied
	magnetic field <b>B</b> [20],
IS	(2.9)
	where is the background scattering length,
а У	denotes the <i>resonance position</i> where the scattering
el,	length diverges (), and is the resonance width,
	measured in units of the magnetic field.
	Equation (2.9) is plotted as a function of in
	panel (a) of Figure 2.3.
	The coupling of the bound state to the open
3	channel threshold creates a coupled state with
	energy E. On the $<$ 0 side of the Feshbach
	resonance, E is positive and the coupled
	state is "virtual," meaning that it influences the
	scattering but is not an accessible state. For $>$
	0, the coupled state is a real molecular state,
	because E is below the continuum. We call
	such a molecular state a Feshbach molecule,
<b>•</b> ]	or a Feshbach dimer. The binding energy of a
8].	Feshbach molecule for large positive values of
	is approximated by

(2.10)

results in the bend seen in the inset to panel (b) of Figure 2.3, where we have plotted the dressed state energy as a function of near a magnetically tuned Feshbach resonance.



Figure 2.3: A plot (a) of the s-wave scattering length a and (b) of the dressed state energy E near a magnetically tuned Feshbach resonance. The binding energy is defined to be positive, Eb = -E.

The inset shows the universal regime near the resonance position where a is very large and positive.

Image obtained from [8].

[...]

#### Chapter 3

# Apparatus and Measurement of Feshbach Molecules

#### 3.3 Production and Measurement of Feshbach Molecules

We use magneto-association [14,23] to create a macroscopic population of Feshbach molecules for our binding energy measurements. This technique has historically resulted in the largest molecular populations; in 2005, a JILA lab measured atom-dimer conversion efficiencies of around 50% for the magneto-association of a <sup>85</sup>Rb Bose gas system [15]. However, our current setup is more challenging, and a significant amount of our <sup>39</sup>K atoms (> 80%) remain unpaired after the sweep. Since we need 10<sup>3</sup>-10<sup>4</sup> Feshbach molecules for an adequate signal for RF spectroscopy, the atomic samples required before the sweep are on the order of ~10<sup>5</sup> atoms.

Magneto-association is generally accomplished with a time-varying magnetic field near a Feshbach resonance. A slow adiabatic sweep of the magnetic field through the resonance into the region where bound molecules exist causes the association of atoms into very weakly bound Feshbach molecules [14,15]. This makes intuitive sense when we consider that the bound molecular state becomes degenerate with the free atom continuum at the location of the Feshbach resonance. In our experiment, we begin by producing a thermal sample of atoms far from the resonance on the > 0 side, before rapidly ramping to the < 0 side of the resonance (dashed red arrow on the top in Fig. 3.5). We then form our molecules by slowly sweeping the magnetic field back to the positive side of the resonance, depicted in Fig. 3.5 by the dashed red arrow on the bottom. Finally, we apply a sequence of cleaning pulses to blast away unconverted atoms, leaving behind a pure molecular gas.



Figure 3.5: A diagram of magneto-association of Feshbach molecules near the  $B_0 = 34$  G resonance

in the <sup>39</sup>K hyperfine state  $|F = 1, m_F = -1>$ . Two unpaired atoms are adiabatically transferred to the molecular state with magnetic field ramps, which are depicted by the dashed red arrows. Image obtained from [6].

After a pure molecular gas is produced, the magnetic field is ramped to various values, corresponding to different binding energies, where we perform RF dissociation spectroscopy. From these measured binding energies, we can very precisely determine the position and the width of our Feshbach resonance of interest [8].

[...]

Due to the stability of our magnetic field and high degree of control over other experimental sources of error, our binding energy data has unprecedented precision, and an accurate determination of the Feshbach resonance location requires consideration of additional sources of error. The biggest systematic error affecting our molecular spectra arises from the confining potential, used to hold the atoms up against gravity. To accurately determine the binding energy of the molecules, we have to subtract the effects of the confining potential from the dissociation frequency [30]. The shift on our measured binding energies due to the confining potential is referred to as the confinement shift. Both the initial and final states for the RF dissociation have confinement shifts associated with them, and the total confinement shift is the difference between the final state shift and the initial state shift.

[...]

Chapter 4

Confinement Shift for Feshbach Molecules in a Trap 4.1 Intuition

- We can understand the confinement shift intuitively by building up a qualitative picture of the effects of confinement on Feshbach molecules. We introduce the relevant physics step-by-step in Figure 4.1. Part a of the figure depicts the continuum of scattering states available to two free atoms, since they are allowed to have any nonnegative value for the relative motional energy. In free space, where a confining potential is not required to keep the atoms in place, dissociation of a Feshbach molecule with binding energy would involve dissociation into these free atom continuum states. This is represented in part b of Figure 4.1, where we use a van der Waals tail to represent the molecular potential (ignoring the short-
- s range repulsive part of the potential for visual simplicity). However, on Earth we need a way to prevent the atoms from falling out of our system under the influence of gravity, and so
- or we introduce a confining potential to hold up the atoms. In part c of Figure 4.1, we show
- ns the potential energy and first three energy levels for a harmonic trap . Once the trap is introduced, the continuum of free atom scattering states that was previously present
- 0]. becomes the discrete energy levels of the trap. However, we note that in practice the experimental resolution may be insufficient to resolve the trap levels, in which cases the final state of dissociation can be well-described by
- a continuum [30]. Adding together the effects of the molecular potential and the confining ate potential, we end up with the potential curve
- depicted in part d of Figure 4.1. In the figure, the dashed navy blue curve gives the original form of the confining potential, and the dashed light blue curve gives the original form of the
- molecular potential. The binding energy of a Feshbach molecule with free-space binding

energy is perturbed to the new value by the harmonic trap, and similarly the energy levels in the trap that the dissociated atoms occupy are perturbed by the molecular potential.



Figure 4.1a: The scattering state for two free atoms can have any nonnegative value for the relative motional energy with the minimumenergy scattering state occurring for . This means that for two atoms in free space, there is a continuum of scattering states, represented in the plot by a shaded region for U > 0. Here r is the interparticle separation.



Figure 4.1b: The dissociation of a Feshbach molecule with binding energy in free space,

where the blue curve is a van der Waals tail representing the molecular potential and the final states are the free atom continuum states from the previous part of the figure (r is the interparticle separation). The black arrows illustrate the fact that the molecule does not necessarily have to dissociate into the state, since there is some probability of dissociating into a higher energy continuum state for a higher frequency RF pulse. This is evidenced by the long tails on our measured dissociation spectra in Figure 3.7.



Figure 4.1c: The introduction of a confining potential (here a harmonic potential ) takes the continuous energy spectrum of the scattering states for two free atoms and restricts it tothe discrete energy levels of the trap, the first three of which are given in the plot.



Figure 4.1d: The full story of Feshbach molecule dissociation into a trap, where the molecular potential in part b and the confining potential in part c have been added together. The dashed navy blue curve gives the unperturbed form of the confining potential, and the dashed light blue curve gives the unperturbed form of the molecular potential. The confining potential perturbs the binding energy of a Feshbach molecule from its free space value to the new value (the difference on this plot is exaggerated for clarity), and the molecular potential perturbs the discrete trap states for the final dissociated free atoms. [...]

### 4.3 Theory of the Confinement Shift for Two Atoms in a Harmonic Trap

While Equation (4.1) for the final state shift and our perturbation theory approach for the initial state shift provide good intuition for the confinement shift, they are only approximations, and do not describe the true energy spectrum of an interacting twobody quantum system in a trap. To obtain the accurate confinement shift on our measurements of <sup>39</sup>K Feshbach molecules, we require some more theory.

#### [...]

Following this procedure, a 2006 PRA paper by Zbigniew Idziaszek and Tommaso Calarco [17] found the following expression determining the energy levels for ,

(4.8)

where

#### (4.9)

Here is the aspect ratio of the system and denotes the energy shifted by the zero-point oscillation energy . This is the main result that we were interested in, as this gives us the shifted energy levels due to confinement in an axially symmetric harmonic trap. The validity of the integral representation (4.9) is limited to < 0, which is sufficient for our purposes, but this result can be extended to energies > through

### Chapter 5

# Testing and Results of My Confinement Shift Program

To calculate the confinement shift to the measured binding energies of our Feshbach molecules, I wrote a MATLAB program that

- e numerically solves Equations (4.8) and (4.9).
- In the following sections, I describe how the program works, what I did to test the program, and the final results for the confinement shifts
- to our measured <sup>39</sup>K binding energies.
  [...]

We are not the first experiment to reach the level of precision where the effect of the confinement shift must be accounted for: a 2013 work detailed in reference [30] used the method of RF dissociation to measure a Feshbach resonance location in <sup>6</sup>Li with unprecedented precision, and included the effects of the confining potential by solving

- we Equations (4.8) and (4.9) for their system, just as we aim to do. Hence a good test for my MATLAB program is whether it reproduces
- by the results that the authors of reference [30]7] obtained for the confinement shift, when I
- give the program all of the necessary trap parameters () and constants for <sup>6</sup>Li. [...]

In short, my program successfully reproduced the confinement shifts found in [30] for all values of the measured binding energies, with discrepancies much smaller than the

t experimental errors on the measurements. [...]

# of our <sup>39</sup>K Feshbach Molecules

- < After verifying that my program was able to
- is reproduce the confinement shifts found for
- h the <sup>6</sup>Li binding energy data, we needed to do

the same procedure to find the confinement shifts for our own <sup>39</sup>K binding energy data. Our trap is axially symmetric with a radial trap frequency Hz in the (, )-plane and an axial trap frequency of Hz, so the trap aspect ratio is n=. Using this value and the relevant constants for <sup>39</sup>K, we obtained the free space and confined binding energy curves displayed in Figure 5.3.



Figure 5.3: The computed free space and confined <sup>39</sup>K Feshbach molecule binding energies. The energy units are and the length units are the oscillator length

### [...]

For the final state  $|F = 2, m_{E} = 0$  after dimer dissociation, the associated scattering length is very small compared to the harmonic oscillator length (corresponding to very far out to the right in Figure 5.3), so the confinementrelated energy shift of our final state is essentially equal to the zero-point energy of our trap, Hz.

Therefore, the total confinement-related shift is similar for all of our measurements and is approximately equal to the zero-point energy Hz, to within 1.4 Hz uncertainty on our trapping frequencies. We subtract the total confinement shift from the measured dissociation threshold frequency to extract the dimer binding energy in free space; see Figure

5.6 for our final binding energy results.

#### [...] Chapter 6 **Conclusion and Future Directions** [...]

There are still many open questions left to explore in the realm of few-body and universal physics with ultracold Bose gases. In particular, this thesis focused only on our work characterizing the two-body physics that arises from Feshbach resonances, but there is a rich spectrum of three-body and four-body physics tied to Feshbach resonances which has yet to be fully and precisely characterized. Common problems with previous work in this area include failing to account for systematic effects such as finite temperature effects, incorrect density calibrations, and so on. Just as we have accounted for the confinement shift in this work, our lab aims to account for these systematic effects to obtain precision data that can serve as a benchmark for comparisons with theories. Such careful measurements are vital towards the goal of building a "ground up" understanding of quantum many-body physics through precise characterizations of quantum few-body physics.

Works Cited

- [1]MA Baranov, Klaus Osterloh, and M Lewenstein. Fractional quantum hall states in ultracold rapidly rotating dipolar fermi gases. Physical review letters, 94(7):070404, 2005.
- [2]Hans Bethe and Rudolf Peierls. Quantum theory of the diplon. Proceedings of the Royal Society of London. Series A-Mathematical and Physical Sciences, 148(863):146-156, 1935.

- [3]Immanuel Bloch. Quantum coherence and entanglement with ultracold atoms in optical lattices. Nature, 453(7198):1016, 2008.
- [4]Eric Braaten and H-W Hammer, Universalit in few-body systems with large scattering length. Physics Reports, 428(5-6):259-390, 2006.
- [5] Thomas Busch, Berthold-Georg Englert, Kazimierz Rzaz<sup>•</sup>ewski, and Martin Wilkens Two cold atoms in a harmonic trap. Foundations of Physics, 28(4):549-559, 1998.
- [6] Roman Chapurin. Precise Measurements of Few-Body Physics in Ultracold 39k Bose Gas. PhD thesis, University of Colorado Boulder, 2019. Physics Graduate Theses & Dissertations. 289. https://scholar.colorado.edu/phys
  - gradetds/289.
- [7] Roman Chapurin, Xin Xie, Michael J Van de Graaff, Jared S Popowski, Jose P D'Incao, Paul S Julienne, Jun Ye, and Eric A Cornell. A precision test of the limits to universality in few-body physics. arXiv preprint arXiv:1907.00729, 2019.
- [8] Cheng Chin, Rudolf Grimm, Paul Julienne, and Eite Tiesinga. Feshbach resonances in ultracold gases. Reviews of Modern Physics, 82(2):1225, 2010.
- [9] Cheng Chin and Paul S Julienne. Radiofrequency transitions on weakly bound ultracold molecules. Physical Review A, 71(1):012713, 2005.
- [10] Jean Dalibard, Fabrice Gerbier, Gediminas Juzeliu<sup>-</sup>nas, and Patrik O hberg. Colloquium: Artificial gauge potentials for neutral atoms. Reviews of Modern Physics, 83(4):1523, 2011.
- [11]Chiara d'Errico, Matteo Zaccanti, Marco Fattori,

b	Giacomo Roati, Massimo Inguscio,
	Giovanni Modugno, and Andrea Simoni.
	Feshbach resonances in ultracold 39k.
	<u>New Journal of Physics</u> , 9(7):223, 2007.
ty	[12]Richard J Fletcher, Raphael Lopes, Jay
ıg	Man, Nir Navon, Robert P Smith, Martin W
	Zwierlein, and Zoran Hadzibabic. Two-and
	three-body contacts in the unitary bose
	gas. <u>Science</u> , 355(6323):377–380, 2017.
IS.	

179 | Natural Science

# **MEET THE BOARD**

#### 2020 Honors Journal Editorial Board

#### Samantha Bartolo, Social Science Editor

Sam is a senior double-majoring in Speech, Language, and Hearing Sciences and Sociology with a minor in Linguistics. As a Social Science Editor, she has enjoyed reading the unique voices and ideas of her peers. Outside of the Journal, Sam is writing an honors thesis on the relationship between reading skill and components of socioeconomic status. In the fall, Sam will begin working towards a Master's degree in Speech Language Pathology.

#### Zoe Boiarsky, Social Science Editor

Zoe is a sophomore double-majoring in Spanish and Portuguese Literature and Culture and Geography with an Environment Society emphasis with a Studio Art minor. She is also pursuing a certificate in Latin American Studies. As an editor, she has enjoyed reading all of the different submissions from her peers. Outside of the Journal, Zoe is a research assistant for the Natural Hazards Center and the Wildfire Research Team (WiRē). She is also a CU Student Ambassador and is a member of the Honors Program Student Advisory Board.

#### Kaila Coleman, Humanities Editor

Kaila is a senior majoring in English, with a minor in journalism and linguistics. As the Humanities Editor, she has loved learning about literary and historical theories and outlooks from each author. Outside of the Journal, she works full-time at BDT Stage as the crew chief for Ragtime and is defending her thesis on the universality of Shakespeare's female characters. After graduation she is taking time to find her way in the career world and in the spring will be pursuing her Masters in English with a focus on the Renaissance.

#### Kelly Dinneen, Editor-in-Chief

Kelly Dinneen is a senior studying Philosophy, Neuroscience, and Mathematics. Outside of her work with the Honors Journal, Kelly runs CU's Women of philosophy club, works with the Provost's Office to build open-access courses, and does research on psychology and science ethics education. Kelly is especially interested in issues at the intersection of ethics, behavior, education, and human health. After graduation, she hopes to work on psychology-based solutions for environmental resilience.

#### Jordana Levine, Creative Nonfiction Editor and Publicity Director

Jordana Levine is a big fan of admiring compelling creative nonfiction work and, also, of finding clever ways to publicize a group's mission. Further, she loves everything about the Honors Journal. Ergo, she is a big fan of being creative nonfiction editor and publicity director of the Honors Journal. All syllogisms aside, Jordana is currently a junior majoring in Spanish for the Professions with a minor in Leadership Studies. Outside of the Honors Journal, she serves as a Senior Resident Advisor for Residence Life and is a scholar of the Presidents Leadership

Class. Jordana's passions lie in creative and/or human-centered pursuits, such as copywriting, translation, video production, poetry writing, mentoring, and the like.

#### Noah Mahoney, Associate Managing Editor

Noah is a freshman studying English on the Literature track and Spanish Language and Culture. As the associate managing editor, he has enjoyed communicating editorial suggestions from the board to the submitters. Outside of the Honors Journal, Noah is a member of Theta Pi Sigma (a co-ed fraternity based on principles of social justice and intersectionality), the English Undergraduate Student Advisory Council, and Lit Buffs Creative Writing Club.

#### Austin Nash, Natural Science Editor

Austin Nash is a Junior in the Ecology and Evolutionary Biology Bachelor's/Accelerated Master's degree program. His research focuses on how wildlife respond to environmental change, focusing on climate change and human development. In his free time, Austin enjoys trail running, fly fishing, and alpine climbing in the beautiful mountains surrounding Boulder.

#### Meredith Nass, Gender & Ethnic Studies Editor

Meredith Nass studies Ethnic Studies and Women and Gender Studies and finds daily inspiration in both these disciplines from her professors and her peers alike. She spends her free time doing improv comedy and organizing in her community for various social justice organizations. She believes in the power of story-telling and hopes the Honors Journal can be a platform for people whose stories are less often heard.

#### Alex Nguyen, Poetry Editor

Alex Nguyen is a senior studying International Affairs and Japanese. Their poems have been published in Journal TwentyTwenty, Walkabout, and the Honors Journal, amongst other journals and zines. Alex is one of the General Directors for Queer and Transgender People of Color at CU. They are currently in the process of completing their honors thesis, which investigates the experiences of multiple-minorities on predominantly homogenous campuses. Alex aspires to start their own consulting agency aimed at decolonizing and queering public and nonprofit work and supporting existing nonprofits currently doing such labor.

#### Aisha Ozaslan, Poetry Editor

Aisha is an artist, poet, and fledgling writer. Her works largely remain scattered around her room (and mind) and are yet to be published formally, but she hopes to one day get around to gathering them together and sharing them with the world. She is an undergraduate majoring in English Literature and, more importantly, a lover of stories in all the shapes, colors, and voices they come in.

#### Julia Smith, Publicity Director

Julia Smith is a junior studying English, journalism, and secondary English education. She spent

#### Summer Taylor, Art Editor

Summer Taylor is completing her double-bachelors in Ethnic Studies and Journalism. When she is not working on the Journal, Summer has been focused on her thesis They Rage: A Documentation of Release and Resistance which is a photo-series focused on womxn and anger and how identity influences this relationship. Summer also works with the Climbing Grief Fund, which provides grants and assistance to family members and loved ones of climbers who have died while hoping to evolve the conversation of grief and loss in the community. She is currently heading CGF's online campaign and working on the documentary The Color of Mourning. Summer loves working with artists and hopes to continue finding projects in this world while focusing on highlighting voices that are often less heard.

#### Sallie Tucker, Natural Science Editor

Sallie Tucker is a senior studying Ecology and Evolutionary Biology. She works in the arid-lands ecology lab and conducts independent research in the mycology lab doing whole-genome analysis on fungi. She will continue her studies on soil biogeochemistry in graduate school next year. Outside of school, Sallie works as a whitewater raft guide on the Arkansas River and loves to hike Colorado's 14ers, cycle, and rock climb.

#### **Benjamin Vernon, Open Media Editor**

Benjamin Vernon is graduating with a BS in Technology, Arts, and Media. Apart from that, he has a passion for making (and playing) tabletop and digital games, creating wildly abstract typography, and baking sourdough, among other things.

#### Evan Watt, Creative Nonfiction Editor

Evan is a sophomore double-majoring in Speech, Language, and Hearing Sciences and Humanities, with an emphasis on writing and art history. He was recommended to apply to the editor position through an honors program professor, and ended up loving working on the board. This year he most enjoyed seeing the viewpoints and stories contained in CU students who might not normally have a voice, as well as being part of the process to get those stories published and put out into the world. Evan is also a Resident Advisor on campus and is excited to take what he has learned from both positions and put them to good use.

#### Luke Weaver, Fiction Editor

Luke is a junior at the University of Colorado Boulder and is majoring in English Literature and minoring in Business Innovation. Aside from being a Fiction Editor for the CU Honors Journal, he is also a blogger for the Honors Program Student Advisory Board and a circulation employee

the past semester in Washington D.C. working for Voice of America as a video editor. She enjoys writing third-person biographies about herself while attempting to sound as casual as possible. She wants to work in production, possibly creating movie trailers, while road-tripping around with

at the Howard B. Waltz Music Library. As for personal interests, Luke enjoys mountain biking, travelling, and simply socializing with friends. He is looking forward to building more connections and enjoying a vibrant college life before becoming a literary editor and/or screenwriter after graduation.

#### Tasia Wormser, Managing Editor

Tasia Wormser is currently a junior at the University of Colorado Boulder majoring in Strategic Communications with an emphasis in Advertising. Additionally, she is pursuing minors in Business and TAM (Technology, Arts, and Media). Aside from the Journal, Tasia is the Marketing and Publicity Director for Her Campus CU Boulder. In her free time she enjoys traveling, collage art, and skiing. In the future, Tasia aspires to be a creative director for a magazine.

#### Kat Yeneza, Art Editor and Graphic Designer

Kat Yeneza is a junior majoring in Strategic Communications with minors in T.A.M. and leadership studies. She has an emphasis in creative advertising where she wants to pursue a career in art direction and design. Outside the journal, Kat works for Program Council and enjoys art, music, and being outdoors.

#### Abby Hickcox, Faculty Advisor

Dr. Hickcox is the Associate Director of the Arts and Sciences Honors Program at the University of Colorado Boulder. She holds a PhD in geography and an MS in Environmental Studies. Her expertise is in human geography and focuses on the relationship between people and the environment. Her areas of research and publication include environmentalism, environmental justice, racism, and the politics of belonging. It is a privilege for her to support the students on the journal's editorial board in the selection and publication of the University of Colorado Honors Journal each year.

185 | Honors Journal 2020