Prized Writing
2019-2020
Prized Writing

2019 – 2020

Volume 31

Dedicated to Pamela Demory, who retired from the University Writing Program in 2020.
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Cover Art by Kristen Shih
Editor's Introduction

In this strangest of academic years, our students, instructors, administrators, and staff somehow managed to pull it off. Over two-thirds of the student work represented in this year’s Prized Writing was produced after instruction moved online. Folks scrambled to adjust; burdens were multiplied, assignments modified, but excellence was expected. And excellence was achieved—as you will see here for yourself.

Welcome to volume 31 of Prized Writing.

As this year’s cover art poignantly suggests, we may write in isolation—even the anxious isolation of quarantine—but the act of writing itself carries the determined, affirmative power of the communicative act. Kristen Shih (Class of 2020) captures all of this in her original cover art.

Typically, we can only publish around two dozen of the roughly 400 submissions we receive. Each year I’m surprised anew by the diverse range of topics and consistently fine work we have the privilege of considering. Thank you to all the students who took the time to submit their work. Please see our website for details about how to submit for volume 32 (2020-2021): http://prizedwriting.ucdavis.edu.

There’s one student that I would like to thank above all: my assistant editor Krista Keplinger, whose hard work and sharp wit were especially appreciated as the job proceeded amidst plague, wildfire, and the crankiness of Zoom-induced back pain.

Now in its fourth decade, Prized Writing is the interdisciplinary showcase of what UC Davis undergraduates are learning, thinking and writing about in classrooms throughout the campus. We continue to be grateful for all of the institutional support provided by Gary May (Chancellor), Mary Croughan (Provost and Executive Vice Chancellor), Cynthia Carter Ching (Vice Provost and Dean for Undergraduate Education), and Ari Kelman (Dean, College of Letters and Science).

Thank you to the University Writing Program, in particular Dana Ferris (Program Chair), Darla Tafoya, Anita Rodriguez, Vicki Higby Sweeney, Melissa Lovejoy, Kevin Bryant, and Ron Ottman. Elliott Pollard continues to maintain our website and to provide much appreciated assistance to the editorial staff—many thanks, Elliott!

I also want to thank Tina Pfeiffer of Reprographics for overseeing
the bound book, and Morgan Liu of the UC Davis Bookstore for his flexibility.

To the judges: your patience, adaptability, discernment, and expertise continue to be invaluable. I enjoyed every moment of our collaboration.

Finally, I want to acknowledge Pamela Demory of the University Writing Program. Pam retired after the spring 2020 quarter. She’s not the type who would have wanted a big send-off, but the dystopian, socially distanced end to the academic year deprived her colleagues—and certainly myself—of sending her off with the full measure of our appreciation (let alone hugs). She has been a mentor and an inspiration. Certainly, her students these past decades have been so lucky to have her. And even amidst the chaos of adjusting to Zoom, Pam’s impact on her students remained remarkable—as evidenced by the four essays by her students selected from this academic year. Pam, we dedicate this volume of Prized Writing to you.

Greg Miller
Continuing Lecturer, University Writing Program
Honorable Mention


Viswanath Chadalpaka, “The Industrialization of Knowledge”

Nina Forest, “China and IMF Foreign Aid in Africa: Which Lender Fosters Greater Growth?”

Lauren Lee, “2,700 Liters of Water”

Sophie Murff, “Do Our Ideas Have a Mind of Their Own?”

Rogelio Ramirez, “The Diet Problem”

Emma Warshaw, “Black Lives Matter According to a Jew”

Troy Williams, “Cicer arietinum: Origins of a Prolific Legume”
Let's Talk About Sexual Harassment, Baby (Sing It)

Enhsaruul Zorigt

**Writer’s Comment:** The prompt was how a lifestyle change was implemented after a significant experience, and I knew I had to write about some of my experiences with sexual harassment. Notice that I wrote “some,” not “all.” Too many have had to deal with this, especially young girls and women, and I was tired of being just another number in a statistic. As I watching season 2 of Sex Education, Aimee’s character arc made me revisit traumatic memories that were locked away. But this time I was able to put them to use. It’s all too easy to forget the massive toll that sexual harassment and assault can have on someone. I wrote about what it was like for me during and after my worst experiences (so far) for two reasons: to educate those who haven’t experienced sexual harassment and/or assault and to let other victims know that they’re not alone. If you get angry or disgusted while reading this, good. Me too.

**Instructor’s Comment:** I’ve read my share of heartbreaking student essays. I would call it a hazard of the job if it weren’t such a privilege to be entrusted with students’ precious and private selves. Still, I wasn’t quite prepared for the emotional charge of Enhsaruul’s lyric-meets-slam essay on how sexual harassment led a 14 year-old to symbolically cram her kick-ass young self into a drawer and to cloak herself in layers of shapeless, colorless clothing. The emotional charge is not just because such things happen. It’s that Enhsaruul’s gift for specific detail makes each incident ping for the reader off their own experiences. I won’t give away how she realized that she should be angry and not ashamed. But the fact that she did realize is clear in every line. From the title to the final sentence, this is supercharged, confident, audacious writing. Pure kick ass. Sing it.

—Amy Clarke, University Writing Program
No combination of words thrown on an indifferent page can accurately describe the tenebrous mixture of emotions that consumes your body when you’re sexually harassed, but I can sure try. The fear that threatens to paralyze you like a deer in headlights strangles your heart until the beats are frenzied, the wave of rage at being objectified crashes over you at a breakneck speed, and the hot, prickly feeling of shame creeps up the nape of your neck. The worst part? I was fourteen when I was first catcalled (and mere weeks later, groped).

June 2014, a muggy dog day of summer, one where you could see wavy lines in the distance. I was walking along the sunlit Ohlone Greenway underneath the BART tracks, heading to my high school’s gym to sing at graduation. Bubbling over with excitement because I was one of two freshmen to have gotten into the a cappella group earlier that year, I was itching to perform, so much so that I couldn’t keep down the wide, goofy grin forming. On top of that giddy superiority high was the confidence boost from wearing my favorite semi-formal dress: a black, white, and teal mid-thigh-length bodycon with lace accents, paired with black lace sneaker wedges. Basically, I thought I was hot shit.

But then I could feel someone staring at me from inside their parked car and immediately went into no-direct-eye-contact, walk-quicker-but-don’t-make-it-obvious-you-want-to-run mode.

“You want a ride?” I heard on my right, ten feet away from me.

“No,” I forcefully replied, putting up a cold façade to combat the tears already welling up and threatening to overflow, to show weakness in front of that vile creature. I only saw his face for two seconds, and yet I still can’t forget it six years later while he probably forgot me after five minutes. You want a mental image? Think Al, the toy collector from Toy Story 2: rotund, dark balding hair, and glasses. I can’t forget that horrid upward curl of his lips, the wandering beady eyes, and the greasy lascivious tone of his proposition, the double meaning of which I was too young to comprehend. All flight and no fight, I barreled on to school while tugging my dress down every few steps, only stopping to process what had happened once I reached the safe haven of the choir room. I put on a brave face and didn’t break down before the performance.

The minute I got home I peeled off my dress and cried in the shower as I scrubbed myself raw, trying to rid myself of the filth of the world and preserve what pure remnants of childhood innocence were left. It was the dress’ fault that happened to me, I remember thinking. The dress was too
form-fitting, too short, it made me look too mature for my age. Said dress was washed and hung up, to be unworn for years, and I made up my mind to dress more conservatively. Maybe then I wouldn’t solicit unwanted attention.

Okay, so let me backtrack for a moment. For those of you not really in the know about sexual harassment, in which case lucky you, “[s]exual harassment is generally defined as unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature[.] . . . It may consist of words, gestures, touching, or the presence of sexual material” (Gutek 13987). I was catcalled, and “[c]atcalling is a form of sexual harassment . . . [and] may be accompanied by whistles, winks, or grabs. It involves brief, one-sided interactions in public places . . . [and] has no clear purpose other than to call attention to a woman’s body or sexuality” (Fisher et al. 1495).

I knew that it was sexual harassment when I was catcalled, but I didn’t realize until years later that I was intentionally groped. A few weeks after The Incident, my fellow French students and I were off on our big trip to France, chaperoned by our teachers, of course. This being my first time visiting Europe, I was wide-eyed and bushy-tailed when we finally reached Charles de Gaulle Airport, despite it being early in the morning. Walking over to security while chatting with my friends, suddenly there were two hands squeezing my breasts. The perpetrator, a fast-walking, short, bald, white man wearing a blue T-shirt, had crashed into me and muttered “Sorry, sorry” with some kind of European accent as he hurriedly rejoined the rest of the passengers who had just gotten off of the people mover.

At the time, I brushed it off as being an accidental touch because he looked as if he was running late and ended up stumbling into me because he wasn’t paying attention to his surroundings. However, I eventually came to terms with the fact that I had been targeted and groped. It happened in a wide open space and I was in the middle of the entire group, not on the outskirts, which means he had to have aimed for me. And besides, no one really walks with their arms bent at chest level and hands angled outwards like an old-timey cartoon villain, do they? I had been viewed and treated as public property, something that anyone could use and discard at any moment in time. I was objectified.

The objectification theory is where “women are constantly sexually objectified [which] socializes [them] to internalize an observer’s
perspective on their own body and, as a result, experience more body image dysfunction and mental health consequences” (Fisher et al. 1499). And objectify myself I did after those two scarring incidents.

I became more and more paranoid about how others viewed me, always feeling surrounded by unblinking eyes judging my every move and scrutinizing my outfits. I wanted to look my best so that I could be viewed as attractive in the eyes of those I was interested in and acceptable for everyone else. You know, as you do in high school. But simultaneously, I desperately wanted to hide my body so that attention wouldn't be drawn to my breasts or hips, which had developed early on during puberty. So, I came to the conclusion that if I didn’t wear clothes that accentuate those features, then I wouldn’t receive any unwanted attention. With my new mindset in place, I was ready for the next year of high school.

Sophomore year was a nothing year. In terms of outfits, I had creatively stifled myself. Having always taken pride in my sense of style, I had never really been afraid to wear some “out of the box” choices before that fateful summer. That year, the most skin I dared to show other than via knee-length dresses was my arms, upper back, and very rarely my thighs if it was too hot to wear anything other than shorts, but none of these options combined. Was I a little miserable with the mundane, basic choices I would repeat? Try really miserable. But for all intents and purposes, I hadn’t been sexually harassed again, so the plan had worked in the end. Well, it had worked until summer came around again. Man, summer is just not my season, huh?

Walking to a doctor’s appointment with my mom in the middle of July on a weekday, the last thing I was expecting was for my mom and me to both be catcalled. She was wearing jeans and a button-down shirt while I was in jeans, a t-shirt, and a jacket. The unwanted and unappreciated comment was something along the lines of “like mother, like daughter” in reference to our hips, and the fury I felt boiling inside me at that moment has been unmatched since. How dare he bring my mother into this? Why does the world tolerate this kind of uncouth, piggish behavior? I didn't feel that hot wave of shame anymore like I had that first time, not when all I could see was red.

A 2011 study conducted by the American Association of University Women found that out of the 1,965 students surveyed, 48 percent had experienced harassment but only 9 percent had actually reported the incident. They also found that women were more sexually harassed than
men: 56 percent to 40 percent (Hlavka 337-338). Sexual harassment is dishearteningly prevalent all around the world, including the United States, and being sexually harassed is terrifying, no matter what gender you identify as. Just focusing on the experience of women harassed by men, though, too often it goes unreported because of a “presumption that men’s sexual aggression is simply ‘boys being boys’” (339). We’re taught to accept that we will be catcalled or otherwise harassed at some point in our lives because it’s simply inevitable, and, pardon my language, that’s just all kinds of fucked up.

We can’t change the world instantaneously and my honest opinion is that objectification and sexual harassment aren’t going away anytime soon, but we can try to decrease the prevalence of these incidents, starting with better sex education in schools. Education that doesn’t just focus on the scientific aspects (although those are still topics of the utmost importance), but the emotional and psychological aspects of consent, going through puberty, et cetera. All of us benefit from having a more educated world, especially when it comes to big societal issues like these. We cannot sweep this problem under the rug—we need to discuss it and then take steps to change.

I was enraged when my mother was catcalled because I felt that she deserved so much more respect, and that she shouldn’t be treated as an object. Then, a couple of weeks later when I was fuming over it again and thinking of retorts I should have made, a moment of epiphany sprung into existence: I didn’t deserve to be treated like that either. I was blaming myself for being harassed because of how I dressed and how my body was naturally developing, instead of blaming the deplorable and indecent actions of those men. In short, I had victim-blamed myself. I had become ashamed of my own body and hid it to avoid attention, but I got it anyway, because catcallers and skeevy perverts don’t care about you. All they care about is the feeling of domination and satisfaction they experience when objectifying people.

And so, a month before junior year started, I decided to go back to wearing whatever I wanted after a year of subduing my appearance, but with a few boundaries if I was headed somewhere I’m not fully comfortable. Part of me is still a little paranoid that my body is going to be used against me, because unfortunately it could still happen anytime, but there’s no point in living in fear. I’m still aware of how I look in other people’s eyes because objectifying yourself is a hard habit to knock, but
I’ve become less ashamed of my body as the years pass by. I’ve gotten comfortable in my own skin again, and a good part of that comes from loving what I wear and being able to experiment with my style.

Now as a junior in college, I’m still going strong with wearing whatever makes me feel confident and happy. Those crusty cretins may have taken a year away from me, but they’re not taking away my entire life because I refuse to let them still have that power. In fact, as my metaphorical middle finger, I wore that pivotal dress outside again a couple of months ago, after five-and-a-half years of it hanging in my closet. It was time.

**Works Cited**


Writer’s Comment: Enrolling in UWP 104E during my senior year was perhaps an ambitious decision, as I was simultaneously scrambling to finish my senior thesis. The workload for both was considerable, and the amount of writing daunting, that is until Dr. Herring made a suggestion: write about something you already know. Well, deep in my thesis work as I was, a study focused on the behaviors of greater sage-grouse, a bird which gathers on communal breeding grounds called leks to duke it out with other males and win over female mates, I certainly knew animal behavior. Recalling the many times I had explained my thesis to a family member or friend, to be met with general confusion—spare the outdoorsy few who themselves had seen a grouse lek in action—I was gripped with the urge to write about my research in a way that was approachable for those outside of my discipline. I discovered, in this, a passion for scientific writing I didn’t realize I had, and this specific piece became the first step in what I hope will be a long career of writing in the sciences.

Instructor’s Comment: Spend enough time in the outdoors, and you will eventually blunder into a lek. In the western United States, when it happens, you will likely find yourself surrounded by handsome mottled-brown sage grouse who will regard you with surprising nonchalance. When it happens to me, I have always felt embarrassed, but still read the first version of Annabelle’s winning essay with the pleasure of recognition. This reaction alone is a testament to its extraordinary readability. The essay came from the final assignment in my Writing in the Professions: Science class (UWP 104E), in which the students were asked to explain some feature of a science they know, and to write the explanation as if for the education of fellow scientists. The students thus have to write at the level of working profession-
als. Anna knows leks well, having worked in them, and would never allow herself to be as flustered as I have been by the accusatory glances of the birds. She knows them well enough that the result is an essay of a clarity that makes it seem in places less like a piece of technical writing than an article in a popular magazine.

—Scott Herring, University Writing Program

lek mating systems are some of the most prolific in nature, and appear across biomes and taxa with remarkable structural consistency. The ubiquity of such systems has made them the subject of widespread research and discussion spanning decades. A lekking system is generally defined as any mating system which utilizes a common area for male display, termed a lek. This lek involves display efforts by multiple males, aggregating in a common area to engage in direct and indirect competition for female attention. Though leks may vary in size, location, and proximity of attending individuals, males must be grouped such that female mate comparison and choice is facilitated. A primary assumption of all lek systems is that females choose male mates based solely on male phenotypic traits—frequently display quality—as opposed to associated benefits such as territory, access to food, etc. Although lekking systems are not confined solely to Aves, studies of avian lekking systems have provided a strong baseline for the studies of similar systems across diverse taxa.

Historical Context

Avian breeding systems have long provided models for theories on mating behavior across the animal kingdom. From long-term monogamy to extreme polygyny to brood parasitism, avian species display a remarkable diversity of mating strategies, aiding in research and classification of broader mating trends across other taxa. Classically, avian breeding systems were catalogued by the number of matings per individual male or female (Lack 1968). Traditionally, systems were defined as monogamous, with one mating per individual, polygynous, with multiple matings per one male, polygynandrous, with multiple matings per one female, and so on. However, these definitions have fallen out of use as modern studies utilizing genetic analysis have revealed more complex mating trends than previously estimated. Contemporary
studies suggest that the incidence of multiple female matings, especially on lek systems initially thought to exclude polygynandry, is in fact much higher than previously estimated (Gowaty and Karlin 1984, Bird et al. 2013). Accordingly, modern definitions emphasize parental investment as a defining factor for avian mating systems, coupled with spatial analysis specific to the distribution of males and females in a given system (Ligon 1999). Under this updated definition, lekking species are defined as those having no male parental care, and involving geographically concentrated incidents of males performing display or aggression. Additionally, selective pressures on leks are generally understood to be imposed by female mate choice, essentially meaning males compete for female copulations, with females gaining no fitness other than matings from attendance (Jiguett 2000). The discussion of female fitness benefits has been disputed in recent years as predator evasion has been proposed as a possible mechanism for lek evolution, which would confer equal direct benefits to both attending males and females through a decrease in predation risk (Boyko et al. 2004).

**Technical Qualities**

Lek systems are broadly grouped into two categories: classic leks and exploded leks (Alonso et al. 2012). Classic leks involve single mating centers and high concentrations of competing males. Technically, classic leks require males to be within visual and auditory range of one another; more broadly, concentric rings of males may exist around a single center without direct visual or auditory communication between central and peripheral groups.

Exploded leks may involve multiple mating centers, with looser overall organization (Merton et al. 1984). Exploded leks require only auditory communication between mating centers, thus allowing for a larger overall lek area. Additionally, exploded leks may exist in conjunction with resource-defense mate displays, wherein dominant males defend high quality, food-rich mating centers, and females choose mates through an analysis both of display and location quality (Alonso et al. 2012). Recent studies have attempted to parse the exact interplay between exploded leks and resource defense, however results are largely variable, and the importance of food and resource defense appears to vary across avian species. Lek organization, as well as many other avian mating systems,
is thought to be primarily determined by a phenomenon colloquially termed “choosy females.” In lek systems, females exhibit high specificity in their selection for certain traits, even if these traits confer only a very small or even indistinguishable fitness benefit to the female and her offspring. Female “choosiness” often and most notably manifests through sexual dimorphism, with many lekking species displaying significant size and plumage differences between sexes. Extreme examples of sexual dimorphism in accordance with strong female preference may result in Fisherian runaway selection, commonly exemplified by dimorphism in peacocks. However, despite this distinct possibility in systems with defined female preferences, leks rarely exhibit runaway selection in this manner, a discordance known as the Lek Paradox. Additionally, it is important to note that female preference may focus on behavioral traits, with several examples of monomorphic lekking systems involving complex male song displays rather than plumage or size displays. Lek systems may also display extreme differences in mating success across males. In the most extreme cases, leks with as many as a hundred birds may see only one or two high-quality males enacting 99% of copulations. In Greater Sage-grouse (*Centrocercus urophasianus*) a single high quality male may dominate the copulations on a lek, with mid- or low-quality males instead engaging in male-male aggression or display without female attention. Generally, high quality males are marked by the frequency of display behavior and by species-unique quality markers defined by the specific display model. High-quality males generally engage in more vigorous,
faster, or more frequent displays when females are present, creating a visual or audio quality gradient along which visiting females may judge male displays. Though the exact mechanism of female choice is not understood for all lekking species, it is generally accepted that females compare male phenotypes to choose their mate on any given lek. Additionally, while lek systems involve geographic concentration of displaying males, the specific number and pattern of lekking males may vary. In some leks, specifically those of prairie species like *Centrocercus urophasianus*, there does not appear to be a hard upper limit to lek attendance; rather, males socially enforce hierarchical spacing within the lek, concentrating low-quality males in the periphery. Black grouse (*Lyrurus tetrix*) may display in leks of between ten and twenty individuals, with significant variation, while the Kakapo (*Strigops habroptilus*), a critically endangered species which utilizes exploded leks, may congregate with only a few adult males (Merton et. al 1984). Lek fidelity may also vary, with some grouse species experiencing dispersal of sub-adult males to new leks, while many tropical bird species display lifetime male fidelity to single lek locales.

Figure 2. An example diagram of an exploded lek from a study of Capercaillie grouse (*Tetrao urogallus*). Note the distinct, non-overlapping individual display territories surrounding a lek center. Exploded leks overall exhibit larger distances between displaying males, and looser overall lek organization. Image provided by Wegge et al. 2013
Selective Pressures / Evolutionary Mechanisms

Two main mechanisms have traditionally been proposed to explain the structures of lek systems: female preference and hotspot models. The female preference model posits that males congregate on leks for display because females prefer to mate with aggregated males (Queller 1987, Bradbury 1981). Females may show this preference for a number of reasons, the most prominent of which is the lower cost of mate searching when males are aggregated, reducing the time and resources required for females to compare potential mates. Conversely, the hotspot model posits that males form leks in areas of high female concentration, so-called “hotspots.” In this model, female preferences either for aggregated males or male quality is generally disregarded as a factor in the formation of lekking systems, instead crediting female population centers as the impetus for male aggregations.

In the past few decades, these two models have been synthesized into what is termed the “hotshot” model (Beehler and Foster 1988). Leks often form in concentric patterns, with more experienced, higher performing, and more successful males occupying the lek center, and lower quality males occupying the lek periphery. The hotshot model posits that leks form because high quality males gain more copulations from
displaying together, while low-quality males increase their probability of mating by displaying as near as possible to high-quality males. This model synthesizes both male and female preferences, inferring that leks are a product of behavioral selection on both sexes. Notably, the hotshot model does not imply female preference for clustered males in general, but specifically for aggregates of high-quality males, termed an “indirect” preference for aggregation.

Modern discussions of leks hybridize these theories, and investigate the more complex male-male interactions which drive the formation and overall structure of any given lek. Territoriality, male-male as well as female-female aggression, and the differential benefits between long and short term mating strategies for males of differing quality, all interact with female population size and preference to explain the size, structure, and operation of lekking systems. Direct benefits of lekking systems have also been proposed as evolutionary drivers, for example, protection from predators conferred by large group aggregations (Boyko et al. 2004). This theory notably ascribes benefits other than mate choice to female lek attendance, challenging some classic definitions of lekking. Some species of lekking birds may also benefit from kin selection due to high levels of interrelatedness among males on a given lek (Concannon et al. 2012). Current research attempts to parse out specific fitness benefits for males and females on leks, and points to a high degree of variability among lekking species, moving towards species-specific investigations of lek evolution.

The Lek Paradox

Much of the research into lekking species centers around what has been termed the Lek Paradox. Because of the unilateral selective pressure on displaying males imposed by females with distinct preferences for certain traits, Darwinian evolution would predict a reduction in overall genetic diversity. Essentially, if females select for a single trait, they should enforce a selective pressure towards homogeneity of males in this trait, effectively eliminating choice, and yet in lek systems this choice persists. Hypothetically, specific female preferences should lead to runaway selection for these traits, while in reality genetic diversity is preserved on leks.

Proposed explanations for this maintenance of diversity focus mainly
on the idea of imposed handicaps on male display quality (Kotiaho et al. 2001, Lebigre et al. 2013). Essentially, female preference is centered on traits which are mediated by male body condition, health, fitness, etc. This prevents cheating as well as runaway selection, as low-quality males are unable, due to either external or internal handicaps, to produce high quality displays.

Another explanation for the Lek Paradox focuses on gene flow, or the movement of genetic traits between populations. As long as populations are large, gene flow is maintained between leks, allowing for genic capture (selection for high genetic variance to improve overall condition). Research has been done to explore both of these hypotheses, with studies showing strong correlations between mating success and body quality in many lekking species, indicating that displays are indeed condition-dependent.

References


Figures 5 and 6. Graphs showing the relationship between body mass changes and male dominance from a study of Black grouse (Tetrao tetrix). According to the handicap theory, display traits must be energetically costly, and in many grouse species male body mass significantly decreases over the mating season as fat reserves are utilized to meet the metabolic cost of display. These graphs indicate that centrality of a male (left) and mating success (right) are correlated with smaller decreases in body mass, suggesting that dominant males are better able to mediate the costs of display and maintain energy stores over time.

Images provided by Lebrige et al. 2013.
23(6): 1296-1307. https://doi.org/10.1093/beheco/ars121


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Killing Khashoggi Under International Law

Kaitlin Araghi

W R I T E R ’ S  C O M M E N T : I remember Jamal Khashoggi dominated headlines in October 2018 because of the circumstances surrounding his death. Each day new details emerged about who may have been involved and how the act was carried out—it was like something straight out of a spy movie. Then, after a few weeks, the news moved on, but I was left to continue wondering how such a brutal attack could take place with seemingly no tangible consequences for those involved. The final essay assignment for POL 122 was the perfect opportunity to revisit this topic from a legal point of view and to answer my lingering questions about the attack. The assignment challenged me as a writer to structure my essay in a way that would be logical to the reader but would still keep track of the many different aspects of this case. Ultimately, it gave me an opportunity to put what I learned from class into practice and to examine and unpack the various components of international law as they applied to the killing of Jamal Khashoggi.

I N S T R U C T O R ’ S  C O M M E N T : The final essay assignment for POL 122 asks students to explain how international law applies to a recent global event. Despite this simple prompt, students quickly discover that many political events—and especially the important events—involves a variety of competing legal standards. Kaitlin’s essay on the highly controversial killing of Jamal Khashoggi untangles these standards in a clear, analytical fashion. She cleverly distinguishes between laws that protect the victim and those that might protect the perpetrators. This setup allows her to contrast the body of treaty and customary law on torture with long-established principles of diplomatic immunity. The essay further observes, rightly, that even when legal standards are clear, the available mechanisms for enforcing compliance with international law are fragmentary and unreliable. By combining extensive
background research with careful attention to detail and a strong grasp of the relevant concepts, Kaitlin has authored an essay that renders this highly complex topic accessible even to those with little knowledge of international law.

—Brandon J Kinne, Department of Political Science

On October 2, 2018 a Saudi Arabian citizen, Jamal Khashoggi, was murdered in the Saudi Arabian consulate in Turkey. Khashoggi was born in Saudi Arabia and had a successful career as a journalist. He was the Editor-in-Chief of Al-Watan, a liberal paper in Saudi Arabia, and he utilized that platform to express his criticisms of the Saudi Crown Prince, Mohammad bin Salman. Part of bin Salman's strategy to consolidate power is to have a zero-tolerance policy towards dissent, so his regime ran a campaign to silence critics. As a critic of the regime, Khashoggi was in danger in Saudi Arabia, so he self-exiled to the United States and continued to write against the crown prince as a columnist for The Washington Post (Helal 37-40).

On the day of his murder, Khashoggi was visiting the Saudi Arabian consulate in Turkey to obtain documentation needed for his coming wedding. Khashoggi entered the consulate; he never left. After many hours, his concerned fiancée contacted the Turkish authorities, but there was little they or anyone could do because the incident took place in a Saudi Arabian consulate. Even now, it is not completely known what happened to Khashoggi inside the consulate, but leading reports speculate he was met by a group of Saudi Arabians, strangled, and dismembered, after which his remains were transported back to Saudi Arabia on a private jet (Helal 37-40).

In what follows, I will break down the case of Jamal Khashoggi by using the Convention Against Torture and Vienna Convention on Consular Relations. Then, I will discuss the jurisdictional challenges of the case and competing claims of the relevant actors. Finally, I will consider the opportunities for enforcement.

**Part I: Relevant Sources of Law**

This case has two main applicable treaties: the Convention Against Torture (which applies to the victim) and the Vienna Convention on Consular Relations (which applies to the accused).
To begin, the act of killing Jamal Khashoggi violates the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT). This treaty, entered into force in June of 1987, has 83 signatories and 169 parties. All three key actors—the United States, Turkey, and Saudi Arabia—have agreed to this treaty, although to different degrees. The United States signed it in 1988, soon after it was entered into force, and ratified it in October 1994. Turkey also signed in 1988 but ratified it almost immediately, also in 1988. Saudi Arabia has not signed the treaty but did accede it in 1997 (UN General Assembly). Each state has a few declarations and reservations, but none that interfere with the main component of the treaty, which is to define and prohibit torture under international law.

Typically, humanitarian laws are considered soft law because they are written broadly to attract many signatories, and although the CAT does provide a specific and direct definition of torture, it fails to “provide texts that specify international judicial points of reference for the prosecution of persons who exercise torture, which causes the perpetrators to escape punishment” (al-Kasasibah 144). Rather than provide delegation of authority on how to enforce the ban on torture, it instead focuses on defining and condemning it.

The murder of Khashoggi also violates customary international law in addition to violating the specific CAT treaty because torture is also considered a jus cogens—a norm that is inexcusable to break (Grosholz 1033, Plachta and Psilakis 258). Even if the states were not all parties to the CAT, they would still be condemned for using torture under the principle of customary law. Rather than conflict with each other, in this case, the sources of treaty and customary law concur.

The prohibition of torture is covered by both formal and material sources. The CAT and the fact that torture is inexcusable under customary law are both formal sources of law; this means that they are the principal sources from which laws are created. In addition to those, the International Criminal Court (ICC) made a judgement regarding international humanitarian law and the four Geneva Conventions, or treaties—the third of which comments on torture—and ruled, “‘the rules set forth in joint Article 3 of the four Geneva treaties shall constitute’ the minimum standards that ‘apply to international and non-international armed conflicts.’” Which essentially assures that the ban on torture is applicable to all states, again making it customary law (al-Kasasibah
This is an example of an auxiliary source of law, because the ICC is an interpreting body which adds clarification and meaning to the formal sources of law.

Undoubtedly Jamal Khashoggi’s death is condemnable under international law because it violated his right to life and his right against torture, but there are still questions surrounding the rights of the perpetrators. Since the act took place in a Saudi Arabian consulate in Turkey, in order to address the question, it is important to examine another treaty: the Vienna Convention on Consular Relations.

The Vienna Convention on Consular Relations (VCCR) was entered into force in 1967 and remains in force. It has 48 signatories and 180 parties. The United States signed it in 1963 and ratified it in 1969, Turkey acceded it in 1976, and Saudi Arabia acceded it in 1988—so all relevant actors are bound by this treaty (United Nations). The treaty is considered to be codification of customary law because it is essentially a collection of rules previously outlined in bilateral treaties (Lee 41). Although opinio juris (international law) is one common way of explaining the reason states follow customary law, in this case it seems more likely that the obvious prospect of retaliation is what keeps states in line. If an instigating state does not honor the VCCR in its interaction with a target state’s consulate, the target state can respond by itself, thereby hurting the instigating state’s consulate. Considering the treaty lists specific rights and obligations and there is an opportunity for enforcement through retaliation, it is evident that the VCCR is a harder law than the aforementioned CAT.

The VCCR is designed to have a number of protections to defend the consulate and the consulate staff. But these benefits are liable to be abused by the visiting country, which seems to be the case in this example.

First of all, the VCCR is to outline diplomatic immunity which allows consular staff to be exempt from some laws in the host country. However, there are several limitations to this portion of the treaty applying to the case (United Nations). First, only three of the 18 suspects are believed to be consular officials, so the treaty would not be applicable to all those involved. In addition, “consular officials don’t have absolute immunity under the Vienna conventions and may be put on trial by host country courts if they are suspected of serious crimes” (Ritter 1). In this case the accused would lose their immunity because torture is considered jus cogens—a serious crime.
A second aspect of the VCCR is to characterize consulates as “inviolable” (United Nations). This means that the host country cannot enter the consulate without the consent from the sending country and is the primary reason why it took two weeks before Turkey was allowed into the consulate (Helal 40). Saudi Arabia was able to use this rule for their own gain and remove evidence before any other country could inspect the crime scene. Although there is the option for the sending country to waive these diplomatic immunities within the framework of VCCR, “[l]egal experts say it’s unlikely that countries would accept changes to diplomatic immunity, a principle that is universally accepted and rarely breached; the 1979 seizure of the U.S. Embassy in Iran was a notable exception” (Ritter 2). Due to the fact Saudi Arabia has the ability to waive diplomatic immunity for the accused, but did not utilize that ability, and Turkey did not push the issue, this may be an example of tradition, or customary law, being stricter than the VCCR itself.

Part II: Relevant Actors

In the case of Khashoggi’s murder, there are a number of relevant actors. The obvious actors in this case are Turkey and Saudi Arabia because the event took place in Turkey in a Saudi Arabian consulate and involved Saudi Arabian citizens. The United States is another relevant actor for a few reasons which will be discussed below, the main one being Khashoggi was a legal resident of the United States. Aside from these states, the entire international community could also be considered to have personality because of how the United Nations responded to the event and the chance for states to claim universal jurisdiction. (Personality in international law refers to actors who have capacity—i.e., the ability to exercise a combination of rights and duties; states are the only actors that have original personality in international law.) Finally, the 18 Saudi perpetrators could gain personality due to the nature of the crime.

Turkey can claim territorial jurisdiction because the crime took place on their soil. Territorial jurisdiction takes precedence over all other forms of jurisdiction in international law. Although Turkey can claim this jurisdiction, they cannot exercise it unless the accused are still on their soil. Even though the crime took place in the Saudi Arabian consulate, the consulate stands on Turkish soil, so therefore under VCCR, Turkey has territorial jurisdiction (United Nations). In this case, Turkey has
claimed territorial jurisdiction and has asked Saudi Arabia to extradite the accused—to return them to Turkish authorities—so that they may exercise their jurisdiction. The Saudi Arabian Foreign Minister has denied Turkey’s request, saying Saudi Arabia will prosecute the accused themselves (Zagaris 537). Saudi Arabia has claimed jurisdiction on the basis of nationality because all those involved were Saudi Arabian citizens. They are able to exercise that jurisdiction because the accused are currently located on Saudi Arabian soil.

The United States may also have a stake in the Khashoggi case based on a one-lined domestic law from 1789: The Alien Tort Statute (ATS). The statute declares that “The district courts shall have original jurisdiction of any civil action by an alien for a tort only, committed in violation of the law of nations or a treaty of the United States” (Grosholz 1010). Based on a series of Supreme Court rulings, the ATS is thought to apply in cases when there is a “distinct American interest” and “violation of a norm of customary international law” (Grosholz 1033). There are two main arguments for Khashoggi’s killing to be connected to American interests. First, Khashoggi himself was connected to the United States because he had three adult children who were United States citizens, and Khashoggi was a resident who held an “O” visa and was in the process of applying for permanent residency through the green card program. Beyond this direct connection between Khashoggi and the United States, Khashoggi was a journalist standing up to an oppressive regime, and his death symbolizes a suppression of free speech and therefore is categorically within American interests. And as previously discussed, the murder is a violation of customary international law under the Convention Against Torture (Grosholz 1033). So, based on this statute, the United States could also claim jurisdiction and try the perpetrators in their own courts, except that they too would have to ask Saudi Arabia to extradite the perpetrators in order to exercise that jurisdiction.

A case could also be made for universal jurisdiction. The principle of universal jurisdiction gives any state the ability to claim jurisdiction in large crimes that are seen as a threat to the global community. Since the Convention Against Torture is customary international law and jus cogens, its violation as such gives any state the grounds to prosecute the perpetrators (Plachta and Psilakis 258). In cases of extreme human rights violations, individuals can be given legal personality so that states can try them. So, in theory, any state could claim universal jurisdiction
over this case on the grounds that the crime was a threat to international norms with the intent to try the 18 Saudi Arabian perpetrators, but since Saudi Arabia holds territorially, the state would have to request their extradition, which Saudi Arabia will not grant.

In addition to the states discussed above and their personality in this case, the United Nations also has personality because it is an organization made of states. The United Nations has limited capacity to act, but they can pass judgements, so they published a detailed report of the case and urged states to act by imposing strict sanctions on the individuals involved as well as on Saudi Arabia itself. The report also called for the European Union to put into effect an arms embargo against Saudi Arabia (Plachta and Psilakis 258). This leads into the next section on enforcement.

Part III: Enforcement and Compliance

The ideal aftermath of the case would include the individuals responsible for killing Khashoggi to be brought to trial and for Saudi Arabia to be punished for their violation of customary international law. This outcome seems straightforward but proves to be more difficult in practice.

First of all, in order for the perpetrators to face real consequences, a country other than Saudi Arabia would have to conduct the trial. Turkish President Erdogan has argued that “the Saudi rulers have a conflict of interests in managing any trial because the Saudi government ordered and directed the killing for political reasons” (Zagaris 538). The Saudi government has in fact arrested the perpetrators after facing significant backlash in the international community, but it is unknown what the charges are, and the trials are not transparent because observers must sign a non-disclosure agreement (Zagaris 538). For these reasons, it is thought that the perpetrators would face more just charges and consequences if tried in a different state’s court. However, in order for this to happen, as previously discussed, Saudi Arabia would have to accept a state’s extradition request, and Saudi Arabia will not do that because they have an incentive to protect those individuals.

The other option for enforcement is to put pressure on Saudi Arabia in order to punish them for their violation, in order to compel them to comply. One method of doing this is by publicly condemning the crime—as the United Nations did in their report, although this is not a
terribly consequential action (Plachta and Psilakis 256). A more material way of going about pressuring a state is by imposing sanctions, which is what the UN report called for. The United States did respond with sanctions under the Magnitsky Act which are intended to punish the 18 individuals responsible for Khashoggi’s death (Digest of United States Practice in International Law 607). Although the order to kill Khashoggi came from high up within the Saudi Arabian government, perhaps from Mohammad bin Salman himself, the sanctions not do not affect Saudi Arabia aside from those few individuals (Mazzetti).

Saudi Arabia’s noncompliance is difficult to combat due to the treaty design of the Convention Against Torture, and because states—especially the United States—have incentives not to punish Saudi Arabia. The CAT is soft law and has no delegation of authority, meaning there is no body responsible for enforcement (UN General Assembly). Consequently, it is up to other states to hold the violating actor accountable, but often politics get in the way of this. In this case, it is in the United States’ direct interest to keep relations with Saudi Arabia friendly because they are the United States’ strongest ally in the Middle East and, especially, because of a billion-dollar arms deal the United States has with Saudi Arabia (Ballhaus and Salama). While Congress did call for action and enacted the Magnitsky Act, it only applies to 18 individuals, and allows Mohammad bin Salman and Saudi Arabia to escape consequences (Helal 45-46). There are opportunities for states to be stricter in their enforcement, but because of other political considerations, they chose to be lenient. For this reason, it is unlikely that compliance will be improved unless a state has its own interests that would be accomplished by taking the extra step of enforcement.

Conclusion

Khashoggi’s murder shocked the international community primarily because of its brutality and obvious violations of international law. Journalists in particular were shocked that the United States could quietly stand aside as Saudi Arabia so visibly targeted free speech. Although international law does outline protections and limitations for the international community, it is largely up to the states themselves to choose how they justify their actions and bend international law to suit their interests and accomplish their goals.
Killing Khashoggi Under International Law

Bibliography


The Effect of Epigenetic Modifications Due to Violence on the Chronic Health of Refugees and Possible Mechanisms

Hufssa Khan

Writer’s Comment: The refugee population has been a continuous, growing presence, especially in the world that I have grown up in. In the past 20 years that I have lived, I have seen only a growth in violence and situations that create more refugees. As a Genetics major and someone who is aspiring to become a healthcare professional, the only method I know to possibly help is with science and medicine. This research paper was assigned in our UWP 104F class to look into healthcare related questions that interest you and have not necessarily been answered yet. I knew that this project, for me, would need to address the healthcare needs of the refugee population that are not being met. I especially wanted to look at health issues that may uniquely be caused by the experiences of refugees. With such a large and growing population of refugees resettling in new places all over the globe, I hope that they become better served by healthcare professionals.

Instructor’s Comment: I admire Hufssa’s commitment to researching and writing about health issues of refugees around the world. For this research project in our UWP 104F class during Spring 2020, the task was to write a preliminary research paper which would inform a grant proposal for a larger project. To qualify for the grant, the research proposal would need to satisfy the following criteria informed by actual NIH grants: 1) the question has not been fully answered by previous research, 2) it would help specific groups in society live better lives, 3) it would promote diversity in or new approaches to health science, and 4) it would lead to meeting an unmet need by patients or health professionals. Hufssa’s paper satisfies all four of these criteria. When she searched academic databases, Hufssa realized a lack of existing research into her topic, possibly due to the newness of epigenetics. Instead of abandoning her question, Hufssa researched what is known about
health conditions due to trauma, abuse, and violence in non-refugee populations as well. By linking the types of health conditions and the known epigenetic modifications of those health issues to survivors of trauma and violence, of which refugees are a subgroup, as well as what is known specifically about refugee populations, Hufsa discusses critical refugee health information. She further reports on the possible physiological mechanisms for the changes in gene expression. In this research paper, Hufsa reveals a significant data gap in healthcare research for some of the world’s most disenfranchised and disadvantaged communities. Through the power of evidence, inference, and argumentation, she offers knowledge in answer to her unique question and unequivocally advocates on behalf of our world’s refugees.

—Agnes Stark, University Writing Program

Abstract

Increased war and refugee populations give rise to the issue of treatment and healthcare for refugees in the countries they resettle. The violence and trauma that many refugees have likely experienced affect their mental and physical health through multiple pathways. This study looks at the epigenetic modifications that come about from violent experiences of refugees and result in chronic physical health issues and possible mechanisms that link the two. Data was obtained by searching databases for studies within 10 years and related to keywords such as refugee, epigenetic(s), genocide, violence, and chronic health. Cardiovascular, respiratory, and musculoskeletal disease that are prevalent in refugee populations overlap with the prevalent health issues in people who have experienced violence and trauma. Multiple studies show that experiencing violence or genocide can result in epigenetic aging, increased methylation of NR3C1, and decreased methylation of BDNF and CLPX. The differential expression resulting from these epigenetic modifications can be directly linked to the health issues in refugees through the proposed mechanisms.

Introduction

Due to global political turmoil, statistics show that the number of refugees and displaced people has reached a record 70.8 million
Refugees flee their homes for a multitude of reasons; however the majority are indeed fleeing from war and violence (UNHCR, 2019). It is well known that exposure to violence and trauma can have lasting impacts on a population, well into the future. These impacts are not just cultural or psychological, but can be passed on epigenetically. The experiences of people affected by these horrific situations are likely to change their epigenetic makeup, and possibly be passed on to their children and grandchildren in the future. The effects of these epigenetic changes could very well show up in children who do not go through the same experiences as their parents or grandparents.

Epigenetics is a relatively new field in the world of genetics and genomics. It refers to heritable changes in gene expression that do not change the sequence of DNA. These heritable changes present as a number of different types or combinations of modifications that can amplify or suppress the expression levels of a gene. The types of modifications include methylation, acetylation, and phosphorylation. Methylation alone is often associated with gene suppression, while acetylation is generally associated with increased gene expression. Epigenetic modifications can change chromatin structure. If a gene is to be more expressed, the modification can make the DNA sequence of the gene physically more accessible to transcription machinery. On the other hand, modifications that suppress the expression of a gene can cause the DNA sequence to more tightly bind to the nucleosome, blocking the gene from being physically accessible to transcriptional machinery.

Given the worldwide increase in displaced refugees fleeing violence in their home countries, doctors will likely have a significant increase in patients who are refugees, or children of refugees. There are around 3.5 million asylum seekers in the world currently and around 25.9 million refugees that have already resettled in new countries (UNHCR, 2019). Every continent houses refugees from around the world, mainly Asia, Africa, and Central America. All these refugees are more likely to have health issues in general, but less likely to have access to secondary and tertiary health care which deals with chronic and non-communicable diseases (Amara and Aljunid, 2014).

This study looks at the common chronic health issues resulting from epigenetic changes in refugees who have experienced violence and trauma that doctors should be prepared for. Refugees are not a monolith, and likely have very different experiences and health problems depending
on their respective home nations. This study focuses on individuals who have experienced violence and the most common non-communicable disorders across the board that may result from epigenetic changes. This study also attempts to look at the likely epigenetic changes, and suggest a possible mechanism to connect these changes to the resulting common diseases. Since there is also a difference between refugees who have not seen much violence, this study focuses on those individuals who have experienced higher trauma situations.

**Methods**

Data was found from studies using PubMed and JSTOR databases, the UC Davis Catalog and Course Reserves, and all UC libraries (Melvyl). The key search words were the words epigenetic(s), refugee, violence, genocide and chronic health. Search results were narrowed by keeping the studies within 10 years of 2020. Once narrowed, I scanned the titles to look for studies involving the identification of specific health effects of epigenetic changes that did not exclusively involve PTSD or other mental health disorders. While mental health is a commonly investigated point of concern among refugees, this study focuses on other physical health effects. The results were narrowed by reading the abstracts and determining the relevance to the question of this study. Gaps in data from these results were filled in by pulling articles from the references of the studies obtained from the databases. Studies pulled from the References sections were put through the same process of elimination, resulting in some studies that are older than 2010.
**Results**

<table>
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<tr>
<td><strong>Chronic Pain and Somatic disorders:</strong> These include musculoskeletal pain, chronic fatigue, gastrointestinal pain, and chronic head pain (e.g., headaches). <strong>Respiratory disorders:</strong> These include asthma, COPD, reduced lung function, and lung disease. <strong>Obesity:</strong> This becomes a risk factor for developing hypertension, CVD, and diabetes. Obesity is often seen in those who experienced sexual abuse. <strong>Cardiovascular disease (CVD)/Hypertension:</strong> Violence does correlate with an increased risk of developing CVD, even when taking factors like hypertension, smoking, etc. into account. Hypertension (constitutively high blood pressure) was observed in individuals exposed to violence and trauma. <strong>Cancer:</strong> Experiencing violence as a child has been linked to a 2x increase in developing cancer of any kind. Increased cancer development is also a secondary health effect of the previous health issues such as obesity.</td>
<td><strong>Hypertension/Cardiovascular disease:</strong> Prevalence of hypertension was especially high in Iraqi, Palestinian, Somali and Burmese refugees. The numbers ranged from 18% to 33% of the populations having hypertension, and correlated with high CVD prevalence. <strong>Musculoskeletal diseases:</strong> These were especially prevalent in Asian refugee populations. This included general chronic pain as well as joint pain and arthritis as well as other somatic disorders. In the populations in which this was most prevalent the numbers went up to 15%. <strong>Respiratory diseases:</strong> These were very common in refugees, especially in refugees settled in Africa and Iran, where the numbers went up to 11% and 7%, respectively. These diseases include asthma and COPD. <strong>Diabetes</strong> was prevalent. <strong>Renal disease</strong> was prevalent in certain Asian refugees. <strong>Gastrointestinal diseases</strong> were common in North Korean refugees. <strong>Cancer</strong> was often found in young Afghan refugees.</td>
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Figure 1. This table compares the similarities between physiological health issues that are prevalent in individuals who have experienced violence and abuse (left column) and the health issues most prevalent in refugee populations (right column). The information in the left column was obtained from the 2012 study by Keeshin, et al, “Physiologic Changes Associated With Violence and Abuse Exposure: An Examination of Related Medical Conditions.” The information in the right column was obtained from the 2014 study by Amara and Aljunid, “Noncommunicable diseases among urban refugees and asylum-seekers in developing countries: a neglected health care need.”

<table>
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<tr>
<th>Epigenetic Modification from Exposure to Violence/Trauma</th>
<th>Function of Modification</th>
<th>Diseases from Figure 1, Most Related to Modification</th>
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<tr>
<td>Increased epigenetic aging found in children who experienced violence (Jovanovic, et al., 2017).</td>
<td>Increased epigenetic aging was shown to result in children having the physiological responses of adults in response to stressors. Children who experienced violence had the oldest epigenetic age. Children who only witnessed violence had an older epigenetic age but not to the extent of those who experienced violence. (Jovanovic, et al., 2017)</td>
<td>Musculoskeletal Disease Cardiovascular disease/Hypertension</td>
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<tr>
<td>Increased methylation in the promoter region of NR3C1 was found in survivors of genocide and their children (Perroud, et al., 2014).</td>
<td>NR3C1 is a gene involved in the translation of glucocorticoid receptors. Increased methylation resulted in lower plasma cortisol levels as well as lower glucocorticoid receptor levels (Perroud, et. al., 2014). According to Perroud, et. al., increased mineralocorticoid levels were seen as an attempt to compensate for the low GR levels (2014).</td>
<td>Respiratory Disease Cardiovascular disease</td>
</tr>
</tbody>
</table>
Decreased methylation of an upstream regulatory region of BDNF was found in people who were exposed to community violence. This change was more prevalent in youth (Serpeloni, et al., 2020).

Dysregulation of BDNF has been linked to psychotic and mental illnesses in this paper. It is also linked to age related illnesses (Serpeloni, et al., 2020). It could be related to other diseases through more complex mechanisms.

Musculoskeletal Disease

Decreased methylation in CLPX was found in people exposed to community violence (Serpeloni, et al., 2020).

CLPX dysregulation results in changes of mitochondrial function that can negatively affect cell processes (Serpeloni, et al., 2020).

N/A

Figure 2. This table compiles several specific epigenetic modifications identified in individuals who have experienced trauma and violence, either by their community or through genocide (left column). The specific effects of the epigenetic modifications identified are compiled in the center column. The possible diseases connected to the identified epigenetic modifications are compiled in the right column. These diseases are only listed if they have been proven to occur with high prevalence in refugee populations as well as in individuals who have experienced abuse, trauma, and violence.
Discussion

Prevalence of Non-Communicable Diseases between Two Populations

Refugees that resettle in new countries are primarily screened and treated for infectious diseases due to the possible threat to the existing population (Amara and Aljunid, 2014). However, recent studies show that infectious diseases are not a large concern among these populations. One screen performed on newly arrived Syrian refugees found a less than 10% incidence of infectious diseases compared to a nearly 30% incidence of chronic diseases (Maldari, et al., 2019). Another study found a higher incidence of hypertension in refugee children when compared to immigrant children, despite both facing similar challenges in adjusting to living in a new environment (Lane, et al., 2019). The most chronic conditions that affect refugee populations appear to be musculoskeletal disease, respiratory diseases, cardiovascular disease, and hypertension (Amara and Aljunid, 2014) which overlap with the prevalent health issues that have been linked to individuals that experienced violence, abuse, and trauma (Keeshin, et al., 2012). Violence is proven to have lifelong, serious health impacts on individuals who experienced it (Keeshin, et al., 2012). Being that many of today’s refugee populations are fleeing war and genocide, it is likely that the correlation between the health issues of the two populations indicates possible causation as well.

The most prevalent health issue in refugees is hypertension, which is a large risk factor for cardiovascular disease. Increased hypertension is suggested to correlate with higher levels of trauma in refugees (Kinzie, et al., 2008). The refugee populations with the highest levels of hypertension were Iraqi, Palestinian, and Burmese refugees (Amara and Aljunid, 2014). These specific refugees have fled situations that are known to be incredibly cruel and traumatic, for example the Iraq war, the genocide of Rohingya Muslims, and Palestinian apartheid. In addition, cardiovascular disease is also directly related to experiencing abuse even after controlling for other risk factors such as hypertension (Keeshin, et al., 2012).

Musculoskeletal pain is among the most prevalent chronic diseases after hypertension, affecting up to 15% of a given refugee population, especially Asian refugees (Amara and Aljunid, 2014). While a number of environmental reasons can directly contribute to the increase of these issues, experiencing violence has been linked to these health issues that include muscle and joint pain, arthritis, chronic headaches, and
chronic fatigue (Keeshin, et al., 2012). In addition, respiratory disease has an increased prevalence in refugee populations, which includes a prevalence of issues such as asthma and COPD (Amara and Aljunid, 2014). Reduced lung function and respiratory disease are also linked directly to experiencing abuse and trauma (Keeshin, et al., 2012). Both musculoskeletal and respiratory diseases can be linked to possible environmental and lifestyle causes, although further research is needed to confirm such factors. However, the obvious overlap of these conditions and the fact that they are not necessarily specific to ethnic groups strongly suggests that epigenetic modifications are worth looking into in refugees.

The studies that have focused on the prevalence of these chronic conditions in children (Lane, et al., 2019) suggest a possible hereditary factor of these conditions in refugee populations. If this is true, then these issues would stay prevalent in future generations of the current refugee populations. However, the major overlap of health issues between the refugee population and individuals who lived through abuse, trauma, and violence suggests a link between the violence and trauma that refugees have experienced and their resulting health issues.

**Premature Epigenetic Aging**

Children who have experienced violence are shown to have epigenetic ages that are older than their biological age (Jovanovic, et. al., 2017). This increased aging is directly correlated to the extent of exposure to violence, showing that increased and more direct exposure to violence, such as being the target of violence as opposed to witnessing it, resulted in higher epigenetic ages in children (Jovanovic, et al., 2017). Increased epigenetic age resulted in adult-like physiological responses to stress in children, such as lower heart rates (Jovanovic, et al., 2017). This is likely due to the fact that an increased epigenetic age means that genome-wide gene regulation resembles adults more than children, which Jovanovic, et. al., suggested could be an adaptive measure of the body to better deal with the constant stress of witnessed or experienced violence and trauma (2017).

The increased epigenetic age could be a short-term adaptive measure for stress, but may have deleterious long-term effects such as an increased susceptibility to age-related illnesses at younger ages. Age related illnesses include increased musculoskeletal diseases such as chronic muscle and joint pain or arthritis. Cardiovascular diseases are also more prevalent
in aging populations (King, 2015). Individuals who have experienced violence and trauma are proven to be more susceptible to these illnesses (Keeshin, et al., 2012). The prevalence of these illnesses in refugee populations, despite the fact that many refugee populations are younger, on average (Maldari, et al., 2019) could be a result of increased epigenetic aging in the population.

Long-term studies are needed to confirm if the increased epigenetic age in victims of abuse and violence maintains its difference from the individual’s biological age, or if the epigenetic age and biological age eventually begin to correlate again. It is likely that the result is a combination of the two possibilities in that the epigenetic regulation of many parts of the genome begins to more closely correlate with the individual’s biological age, while some specific genes maintain their differential regulation in comparison to the biological age. BDNF seems to be a gene whose differential regulation is apparent in younger generations, but is no longer statistically significant in older individuals (Ser peloni, et al., 2020). The expression in younger generations can contribute to age-related diseases at younger ages, that eventually match the expression expected when the individual reaches the age at which the diseases become prevalent.

NR3C1

The gene NR3C1 is directly involved in production of glucocorticoid receptors (GR) (Perroud, et al., 2014). The lower levels of GR in the Tutsi women who survived genocide strongly suggests that the increased DNA methylation of the NR3C1 in these women suppresses NR3C1 gene expression (Perroud, et al., 2014). Glucocorticoids are steroid hormones that regulate immune responses (Kino, 2017) and help maintain the baseline status of the HPA (Hypothalamic-Pituitary-Adrenal) axis and cortisol levels, which are the stress responders of the body (Nicolaides, et al., 2018). GR are the receptor proteins that regulate glucocorticoid transport in and out of nuclei (Kino, 2017). Once a glucocorticoid protein and a GR come in contact, they form a complex with the help of other proteins, and the GR transports the glucocorticoid near its gene targets on the DNA (Nicolaides, et al., 2018). These gene targets are generally involved with inflammatory response and the glucocorticoid activates the anti-inflammatory genes while repressing pro-inflammatory genes (Nicolaides, et al., 2018).
Increased methylation of the NR3C1 resulting in lower levels of GR means that glucocorticoids are less able to enter cell nuclei and respond to inflammation. These women are likely to be more prone to longer durations of inflammation as immune responses and difficulty in reducing said inflammation. Respiratory diseases, the most common among refugees being asthma and COPD (Amara and Aljunid, 2014), are both caused by excessive lung inflammation. Multiple different inflammatory cytokines, including increased signaling of TNF-alpha, IL-8b, and IL 6, cause the inflammation in asthma (Junchao, et al., 2016) as well as COPD (King, 2015). Glucocorticoids and GR work to repress the expression of these three inflammatory agents, among others, to reduce inflammation (Junchao, et al., 2016).

Increased inflammatory signaling has been found to contribute to cardiovascular diseases in conjunction with asthma (Xu, et al., 2017) and COPD (King, 2015). Although the exact mechanisms are unknown, frequent increases of inflammation, measured by the presence of IL 6, were associated with increased arterial stiffness (King, 2015). The inflammatory cytokine expression controlled by glucocorticoids and GR primarily affects inflammation of the body, but can also affect other functions of the body that can lead more directly to a chronic decline in cardiovascular health. Increased inflammatory cytokine signaling associated with asthma and COPD also lead to constriction of blood vessels and more uptake of LDL cholesterol (King, 2015), both of which contribute heavily to the onset of coronary health issues, such as hypertension and atherosclerosis.

Studies testing the epigenetic status of NR3C1 in refugees are needed to take steps to confirm the link between this epigenetic change and the prevalence of these respiratory and cardiovascular diseases. However, the current evidence gives a coherent mechanism by which it is possible that the violence and trauma experienced by refugees could result in suppressed immune response to inflammation.

**BDNF**

BDNF is a neurotrophic factor that acts mainly in the central and peripheral nervous systems and promotes the creation of neuronal pathways, often responding to environmental stimuli (Binder and Scharfman, 2004). One function of BDNF is to increase pain sensitivity after injury by way of increased nociceptive (pain receptor) signaling.
(Binder and Scharfman, 2004), which can also be linked to chronic pain when BDNF is dysregulated or overexpressed (Stack, et al., 2020). Studies of individuals who experience community violence have found decreased methylation of BDNF (Serpeloni, et al., 2020), indicating a likely increase in BDNF signaling in those individuals.

Increased BDNF signaling results in longer, chronic nociceptive sensitivity, which has been linked to chronic joint pain and spinal degeneration, leading to severe back pain (Stack, et al., 2020). Back pain was among the most common complaints in refugees who were reported to have musculoskeletal health issues (Amara and Aljunid, 2014). BDNF acts to weaken the inhibitory response of hyperpolarizing nociceptors which stops continued signaling of pain (Caumo, et al., 2016). It is possible that this epigenetic modification is a result of an adaptive measure of the body in response to the continuous threat of violence. More research is needed to conclusively connect BDNF signaling to chronic pain and musculoskeletal diseases as well as the likelihood of the presence of this mechanism in refugees. This epigenetic modification is also suggested to be linked to age-related diseases (Serpeloni, et al., 2020), of which musculoskeletal diseases and chronic pain are the most likely. The prevalence of chronic musculoskeletal diseases in the refugee population can come from possible environmental factors, but it is worth looking into the possibility of these epigenetic changes that can affect the health of refugees even after lifestyle changes.

**CLPX**

Serpeloni, et al., also found differential epigenetic regulation of CLPX (2020). The decreased methylation of CLPX in individuals who have experienced violence (Serpeloni, et al., 2020) suggests an increased transcription of the CLPX protein. The CLPX protein is a protease that degrades a large number of tagged proteins, but does not have a specific affinity to degrading any one protein or protein type (Baker and Sauer, 2012). An increased translation of this protease could result in increased indiscriminate degradation of proteins not tagged to be degraded. There are likely detrimental health effects to increased CLPX signaling. The original paper suggests that this epigenetic modification is likely related to age-related illnesses as well (Serpeloni, et al., 2020). More research is needed to determine the actual health effects of increased CLPX signaling and to determine the prevalence of this epigenetic modification.
in refugees.

**Conclusion**

In summary, violence and trauma result in epigenetic changes that likely affect many refugees and contribute heavily to the resulting prevalent non-communicable diseases in the refugee populations. More research is required that specifically studies refugee populations in order to determine the actual rates of these epigenetic changes. There needs to be more recent studies focused on the health status of refugees living in Asia and Africa rather than only on those who have immigrated to Europe or western nations. Research is also needed to specifically link the epigenetic changes to resulting health issues. Lastly, given the environmental causes of the epigenetic changes discussed in this paper, it is likely that treatment can include reversing these epigenetic changes through environmental means. Future research in treating refugees, but also individuals who have experienced trauma and abuse, can involve measuring the effectiveness of certain therapies by comparing the epigenetic status of patients to that of control groups.

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The Boy on the Beach

CARRIE HETLAND

**Writer’s Comment:** When I read the prompt for this essay, inviting me to analyze the documentary work done by a published photograph, I knew immediately I wanted to write about the photo of Alan Kurdi. The fact that the photo had stuck in the back of my mind for five years spoke to its power. This essay taught me more than I planned to learn about the complex ethics of humanitarian photography. I had always held the belief that capturing the private horrors of one person was generally worth it if it benefitted the cause as a whole, but after the research I did for this essay, I found myself reevaluating what I thought I knew about sensationalized photos and the capacity of human empathy. This paper also allowed me to explore the modern concept of tragedies going viral and their struggle to make a lasting impact amidst all the stories the media presents to us daily.

**Instructor’s Comment:** I organize my advanced composition class (UWP 101) around the idea of “documentary work,” as defined by psychologist and documentarian Robert Coles, who argues that anyone doing “documentary work,” that is, attempting to represent actual people’s lives and events in as truthful a way as possible, has to make choices about the subjects they represent. Photographers, for example, have to choose what to shoot (and what not to shoot), how to frame the subject, how (or whether) to crop the image, and where (and how) to publish the image. When the image is published, it appears in the context of other images, text, commentary that may add more meaning. All of which means a given published photograph has layers of potential meaning. For their second major assignment, I ask the students to choose a significant, published photograph and write an essay that explores the layers of meaning in that photograph. Carrie chose a controversial subject: the photograph of a Syrian refugee child who drowned when the
boat his family was fleeing in capsized. Her essay sensitively explores the controversy, helping us to understand the photograph from various points of view—that of the photographer, the boy’s family, the media, and the public. She draws on a variety of resources, choosing just the right details and quotations to illustrate her points, and then analyzing the commentary further. I am particularly impressed with her conclusion, which manages to draw together the various strands of her analysis in a satisfying way and leave the reader with serious questions to reflect upon.

—Pamela Demory, University Writing Program

On September 2nd, 2015, Turkish officials reported that twelve Syrian refugees had died after their boats capsized off the shore of Turkey (Smith). Though doubtlessly a tragedy, the story likely would never have reached a global, or perhaps even local audience had it not been for the photo of a toddler’s corpse captured by Turkish photographer Nilüfer Demir.

Photo Credit: Nilüfer Demir
Nilüfer Demir works as a press photographer and frequently reports on refugee stories. The day the photo was taken, she had been sent to the beaches of the Bodrum Peninsula to document a group of Pakistani refugees who were reportedly going to be setting off from the beach that afternoon. Instead, Demir and her crew were met with a horrific scene—bodies of drowned Syrian refugees were spread along the coast (Griggs). In an interview with the Turkish branch of CNN, Demir recalled the event: “There was nothing left to do for him,” she explained. “There was nothing left to bring him back to life” (Demir qtd. in Griggs). The boy she refers to is, of course, the toddler in the viral picture, the first victim found on the beach that day. He was clad in a red t-shirt and blue shorts, with tiny shoes still on his feet. He lay twisted on his stomach, his face half-buried in the sand, still within reach of the waves of the bay. After realizing there was nothing she could do to save the little boy, Demir did what she had originally come to that beach to do—she started taking pictures (Griggs).

Demir captured many photos of many victims on the beach that day, but only one went viral. The public latched on to the picture of the little boy found dead in the sand, clad in universally recognizable toddler-sized clothes and shoes, curled up on his stomach in a way that suggested he could have simply been sleeping had he not been found washed up on a shoreline. Several news outlets ran only the alternate picture, the one that captured a Turkish police officer cradling the small body in his arms, as if this disguised the fact that the audience was looking upon the preventable death of a three-year-old. On social media, however, the image that left the officer out of the frame and showed only the toddler’s body continued to spread far and wide (Devichand).

The photo’s virality originated on Turkish social media, following its publication by a Turkish news agency (Devichand). It trended alongside the hashtag “#kiiyavuraninsanlik,” which translates to “humanity washed up ashore” (Devichand). This hashtag intends to express the heartbreak and anger that surrounded the photo as it circulated through the Turkish audience. The photo was not isolated in the Turkish sphere of influence for long. Within twelve hours, the image of the drowned Syrian toddler had reached twenty million screens worldwide, with fifty-three thousand new tweets per hour sharing or discussing it (Vis). Notably, the use of the term “refugee” was much more common than “migrant” in describing the boy, despite the fact that media data showed the terms were used
about equally before the release of the photo (Vis). In the days after the photo went viral, Syrian refugee relief funds saw a substantial increase in donations (Merrill). These changes highlight the role the photo played in humanizing the Syrian refugee crisis, if only for a moment. After all, it is much harder to dismiss a group of people—as opportunistic migrants, as terrorists—when they are represented by a dead toddler.

Who was this dead toddler, anyway? His father identified him shortly after the photo’s publication. His name was Alan Kurdi, he was three years old, and he had died alongside his mother and brother when their inflatable Greece-bound boat capsized just after launching off the shore of Turkey. The family was fleeing war-torn Kobani, Syria, which had been decimated in the Syrian Civil War (Walsh).

Was it ethical to publish Alan’s photo when his face could be identified? The identification of Alan Kurdi created a new subsection of discourse. Although much of the public sympathized with the tragic story revealed alongside the boy’s name, others used the reveal as a platform to tarnish the photo’s apparent message. Alan’s father, Abdullah Kurdi, was ripped apart by critics. Australian Senator Cory Bernardi claimed Kurdi unnecessarily put his family at risk: “The father sent them on that boat so he could get dental treatment,” he argued. “They were in no danger in Turkey” (Bernardi qtd. in Khan). Kurdi was also accused of profiting off the tragedy by selling Alan’s clothes to a museum, and others still claimed that he had faked the incident entirely (Khan). On top of the building slander, Kurdi was contacted repeatedly by countless media outlets, all begging him to tell them again, in gory detail, the story of the worst day of his life. In one interview, he was described as unfocused, unable to look away from his phone as he scrolled through thousands of comments on the photo of his dead son. “I should have died with them,” he finally snapped, before walking out of the interview (Khan).

The additional pain Abdullah Kurdi faced as a direct effect of Demir’s photo raises a question: What is the cost of identifying the subject of a tragic photo, and is it worth whatever positive outcome might follow? Tom Junod’s article about the photo “Falling Man,” which depicts a 9/11 jumper, astutely tackles this issue. The “Falling Man” received a far less concrete identification than Alan Kurdi, but the trauma that families had to relive while the identity was investigated is all too similar. I would argue that the image of the man falling from the Twin Towers is powerful in exactly the same way regardless of whether any of his possible identities
is the truth. The photo of Alan Kurdi is the same. A picture of a helpless, drowned refugee toddler is impactful and heartbreaking and memorable no matter the name or story of the child within it. A name simply gives the press a familial connection, someone to chase down for the story that sells.

On the other hand, a name can be a rallying cry for the public. #AylanKurdi (his name was initially misreported as Aylan instead of Alan) trended right alongside every other tag the day the boy’s corpse went viral (Devichand). Names humanize people, and the tragic backstory reported with Alan’s name kept people talking. Some evidence even suggests that when humanitarian photos feature a subject with a confirmed identity, people are more likely to donate to the relative cause (Sohlberg). Of course, the reason Alan went viral in the first place was not his name, or even his story. It was the picture taken of him by Nilüfer Demir. If the public was captivated by only names and stories, then surely Alan’s brother, Galip Kurdi, would have gone viral as well.

Five-year-old Galip was also found on the beach that day and photographed by Demir (Mattus). His photo was published at the same time as his brother’s, but most people have never seen it, or ever heard his name. Alan’s photo is heart wrenching, but in a way, also very censored. His clothes and shoes still properly cover his body, his face is mostly hidden, and the warmer lighting makes his skin appear a healthy color. In fact, many paintings and drawings were created of Alan in exactly the same position as he is pictured, but lying in a crib or on a blanket instead of on a beach (Devichand). In other words, the audience knows Alan is dead, but the photo leaves room for hope. Galip’s picture is a different story. He is shown lying in the surf on his back, with his grey shirt ridden up around his neck. His head lolls to the side but his face is fully visible. His right arm stretches out to the side and his right leg bends out at the knee. Wet sand covers the front of his blue cargo shorts. His exposed stomach is sunken and his skin has a blue-grey undertone. In journalist Maria Mattus’s words, “Galip seemed too dead.” When it comes to humanitarian photos, there is a balance to be met. Too repulsive, and people will simply refuse to look, bombarded by a feeling of hopelessness. If it has gotten that bad, then maybe it is already too late. Not repulsive enough, and it will not catch the public eye, blending in with the dozens of other horrible things news reporters tell us every day (Chouliaraki qtd. in Mattus). Demir just so happened to strike that perfect balance in only
Alan Kurdi’s photo.

In addition to this balance, several other factors contributed to the popularity of Alan’s picture. Perhaps most important was the fact that he was a young child. Children (the younger the better) generate the most sympathy from a global audience because of their innocence (Mattus). In 2015, data was collected on audience interaction with photos of Alan Kurdi, Cecil the Lion, and a photo of 71 dead immigrants found in the back of a truck. The first two photos were found to be substantially more impactful than the latter (Mattus); the perceived innocence of animals as well as children works to garner their photos more sympathy and attention. Additionally, when people are photographed in groups, they tend to lose their individuality. They become more of a statistic than an isolated, tragic story that a viewer can latch on to (Mattus).

Admittedly, I am as guilty of this as anyone else. In 2015, news reports about the crisis in Syria were little more than depressing background noise coming from the TV. However, when a picture of a drowned toddler popped up on my cell phone screen, suddenly I could not stop myself from crying. It is clear, then, that the photo of Alan Kurdi brought global attention and sympathy to the Syrian refugee crisis like nothing before it. This leaves us with one final question: Was it enough?

A poll of more than thirty thousand Swedish citizens found that during the month Demir’s photo was published, support for more welcoming refugee policies was up nearly 25% from what it had been three months prior. Three months after the photo, however, average support had decreased to even lower than it was initially (Sohlberg). This study is summarized by the claim that “change following Kurdi’s death endured for at least a month, but no longer than three months, and it did not move public opinion to a new, more permanent level of support” (Sohlberg). This finding is easily corroborated by the events following September 2015. In the year after Alan’s death, the number of refugees who died trying to reach another country increased by 20% (Devichand). In 2016, the photo of five-year-old Omran Deqneesh, who had been caught in the Russian bombing of Aleppo, went viral just as Alan’s photo had. One Instagram user depicted the photo of Omran next to the photo of Alan, alongside the caption, “If you stay, if you go,” highlighting the hopeless situation so many Syrian children found themselves in (Devichand). A year after Alan’s death, his aunt, Tima Kurdi, gave her insight on the impact of her dead nephew’s photo. After a few months
of seeing the photo, she explained, “everyone went back to business.” And yet, she stressed that the situation in Syria was “getting worse, not any better.” She concluded her interview with a mention of Omran and Alan’s photos: “Every day thousands of children are dying, but the media can only take one picture” (Kurdi qtd. in Devichand).

Robert Coles describes documentary work as a “pursuit of human actuality.” I believe that Demir’s photo of the drowned boy on the beach reveals more about the human actuality of the audience than the boy himself. Overall, I would like to believe humans are inclined to help each other, especially someone as innocent as a child. The problem arises when it is thousands of children who suffer, and it becomes tempting to write off the problem as too big and too far away to be helped. Perhaps, from a western point of view, we need photos like Demir’s, if only to focus us for a moment and give us hope that maybe our help can have an impact. Alternatively, if we listen to actual affected Syrians like Abdullah and Tima Kurdi, it seems that the human actuality is suffering itself, and these photos exist only to capture what we have never succeeded in preventing.

![Choices for Syrian Children](image)

*Art Credit: Khalid Albaih*
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The Cardboard Collector

Lisa Lai

Writer’s Comment: Though relatives had often marveled at my resemblance to my grandma, I could not see the similarities. So when this essay assignment called for documenting a piece of my family history and analyzing it in terms of larger social structures, I wanted to explore my grandma’s childhood to compare with my own and see where the resemblances might begin and end. However, in the process of writing this essay, I encountered unexpected challenges with understanding generational, cultural, and even linguistic differences. I realized I could not center my documentary work about my grandma without having grounded my interpretations through my perspective, which is why I framed her story within mine. I also consciously used Cantonese pinyin transcription—unitalicized—to de-emphasize its “foreignness” from my background. Interwoven with structures of race, class, and culture, my grandma’s story boils down to one important lesson: do not take the smallest, most overlooked gifts in life for granted. In understanding this, I finally see that my resemblance of my grandma begins here.

Instructor’s Comment: Lisa wrote this essay in response to the final assignment in my advanced composition (UWP 101) class: the family history paper. The assignment asks students to draw on both primary and secondary research to explore some aspect of their family history and place that story in a larger social context. It’s a challenge to figure out how to narrow the focus, structure the narrative, and weave in the secondary research. In writing about her grandmother, Lisa tells a beautifully crafted story that captures the personality of her grandmother and also educates the reader about the Second Sino-Japanese War. The secondary research is woven in seamlessly with the dramatic stories of her grandmother’s childhood evading the oc-
cupying Japanese army in rural China. One of the things I most admire about the essay is its dramatic storytelling: the opening anecdote is a terrific example, vividly bringing to life a scene from Lisa’s own childhood, helping her grandmother organize piles of cardboard. In this brief scene, through carefully chosen details and snippets of Cantonese, Lisa brings her grandmother to life, and we are hooked.

—Pamela Demory, University Writing Program

I picked up the bags gingerly. “These?” I tried to mask my disgust as I held the green newspaper bags at arm’s length.

My grandma nodded. “Yuhng dói bāau ge jí bán le,” she said, handing me pieces of cardboard, which I took reluctantly.

I did as I was told, organizing the broken-down cereal boxes and Amazon boxes into a pile. The sooner I finished, the sooner I could get back to watching that episode. I tied the individual ends of the green newspaper bags together to form a long chain and wrapped the cardboard pile with it as I would a ribbon on a present—with sloppy ease.

My grandma tasked and, in a matter of seconds, undid my work; when she lifted the pile by the chain of newspaper bags, pieces of cardboard fell lopsided onto the stained ground of our old basement. She gave me a look that said, “you can’t do anything right,” and told me to sit down and watch how she did it.

Glumly, I watched as her nifty fingers untied my knots and reorganized the cardboard pile. She towered over the foot-high pile and straddled it with her legs to keep them in their place as she rewrapped the green bags. “Like this,” she said in Cantonese. “Next time you do this, you will do a better job.” She lifted the pile triumphantly. All the pieces of cardboard were neatly tied down.

“Why do I even need to do this?” I whined.

She did not answer me for a long time, focusing instead on repeating the process again. Finally when she finished another pile, my grandma declared, “Chē léih hó yíh jíng chàih-ah ma.”

I scoffed. “Why would we ever need these piles of cardboard in the car?” To wipe our feet? To fortify our already-dented 2004 Toyota Camry? Is this another part of weird Chinese culture?

Behind her glasses, my grandma’s beady eyes glared at me. “To sell,” she said bluntly in Cantonese, and suddenly I was confronted with a
question I never before had to ask: *Are we that poor?*

This time, I was the one who could not answer for a long while. We most certainly were not *that* poor and desperate to be selling cardboard at recycling centers . . . were we? I had to ask.

Though my grandma responded immediately, she did not directly answer my question. Instead, she needed me to understand that I could not—*must not*—“lohng fai” (be wasteful).

I could almost laugh. It is one thing to not be wasteful, but it is a completely different thing to wallow in waste in order to achieve those means. Is this another attempt for the young and naive to learn from the old and wise? “We don’t need to do this,” I defiantly said.

My grandma sat on the floor across from me and, much to my surprise, agreed. Patiently, she told me that we must take advantage of all our access and privilege, no matter how insignificant they appear. Before I could laugh at her—what nonsense she was spewing!—I was reminded of her past experiences with trauma and precarity that had informed her way of living.

My grandma was born to middle-class parents in Hong Kong in the midst of the Second Sino-Japanese War, otherwise known as the War of Resistance. As she neared her first birthday, the Japanese invaded the region, forcing her parents, older brother, grandmother, and műi jái, a servant girl of about nineteen, to flee to her ancestral home in Kaiping, a village in China’s Guangdong Province, until the war ended in 1945 when she was about six years old.
Prized Writing 2019-2020

“China is much more spacious than Hong Kong, so it’s a better hiding place,” she had insisted, but I surmised that the move back to mainland China really meant to foster solidarity with the entire family, physically and spiritually, in their final moments, whenever that may soon be.

The Second Sino-Japanese War started from an accumulation of tension between China and Japan over the rights of Manchuria, located in present-day northeastern China. In the 1930s, Manchuria was mostly populated by the Chinese, yet the land was mostly controlled by Japan, suggesting that the Chinese, despite the vastness of their land, were not as powerful. To dispel this rumor, China built new railroads that surrounded already-existing Japanese railroad tracks. When one of Japan’s tracks was unexpectedly bombed, the Japanese accused the Chinese and, as compensation, seized part of their land (“Second Sino-Japanese War”). China continually denied the destruction of the tracks, fueling the escalating tension between the two countries, until at last, the Japanese invaded most of China and Hong Kong. As a result, war ensued. Through tactics of terror and violence, Japanese soldiers instilled fear and anti-Japanese sentiment among many Chinese, who not only fought back physically, but also resisted in other, subtle ways.

Even as a toddler, my grandma had understood danger. And with that sense of danger came fear; she had witnessed firsthand the brutality of the Japanese soldiers. Her distress was not appeased within the confines of her home either; every night, her parents would usher her and her older brother into the innermost room of the house and test them over and over again the protocols they had drilled into them until the children would cry. Even now, my grandma could recall.

When the villagers saw the smoke wisp out of the chimneys from the buildings the Japanese had seized, they cautiously relaxed; it signaled that the Japanese soldiers were preoccupied with cooking and eating. My grandma and her older brother were allowed to play with the other children, but always within the sights of at least two adults. However, as soon as the sky was clear blue again, silent chaos would ensue. Adults and children ran everywhere, trying to hide quickly and quietly. My grandma and her older brother were to stay put, and the adults were to come and get them.

The family would immediately split up. My grandma’s parents and müi jái would take her older brother and flee in one direction, while
her grandmother would carry her in the opposite direction, toward the bamboo fields that were so dense that light rarely shone through. My grandma could not recall how long she had hidden between the bamboo shafts—she had always fallen asleep on her grandmother’s back—but they soon became as familiar to her as the dreadful possibility that she might not ever see her family again.

One day, their plans had gone awry. One of the Japanese soldiers caught our mūi jāi as she was running away with your baby cousin in her arms, her grandmother whispered to her that night when they were safe. Thank goodness she was so calm and composed when she put the infant down and obeyed the soldier’s orders! He had only wanted her to carry his food to their building—she had returned within an hour, picked up the baby from where he had been left, and walked back home as if nothing had happened.

My grandma could laugh humorlessly about the courage of her family’s mūi jāi now. “We all thought she was going to be”—a pause—“done for.” Killed. Or worse—raped.

Neither atrocity was uncommon; in fact, through word of mouth, the Chinese warned their neighbors, pointing out the tendencies of certain soldiers to loot homes or commit unmentionable crimes against humanity. However, most of these warnings could only come through whispers; though it had been approximately two years since the Rape of Nanjing was publicized, widely circulated news and stories free from propaganda were scarce. Chinese history specialist Laura Pozzi explains that “the scarcity of paper and the interruption of the distribution network made the circulation of books and magazines problematic” (127). Though Pozzi makes this remark in relation to the relative absence of children’s literature during the war, the paper scarcity shows that the learning of information was indeed rare. Another reason for the inaccessibility of public news was that though theft, death, and rape were expected occurrences of the Second Sino-Japanese War, the Chinese people did not know of their magnitude and frequency because of the ineffectiveness of reporting by Chinese journalists during the war. “Most Chinese reporters were unwilling to depict their fellow countrymen as merely helpless victims of the Japanese attack” (Coble 382). The ineffectiveness was not because of the fear of reporting, but rather because of journalists’ agenda to boost Chinese morale in the form of propaganda. Though some Chinese saw the insufficient news as “avoid[ing] . . . responsibility”
(Coble 383), many others, including cartoonists and media workers, also committed themselves to encouraging people’s spirits. But this encouragement meant a significant lack of information; in fact, it was not until after the war that China began reporting the tolls the country had suffered (Coble 382).

As such, because of the lack of verified information from the government or the media, my grandma and her family held any type of gossip close to heart and mind. In fact, the whispers from their community saved their financial fate. In a small village like Kaiping, locking the doors to their homes was redundant and potentially dangerous—Japanese soldiers constantly broke down doors to monitor, loot, and rob Chinese villagers. Operating through a regime of fear prompted many, including my grandma’s family, to safeguard their money, as it was their only means of physically surviving the war; the money was not just to pay for food, but also to bribe, if it came down to it.

My grandma recalled with a dreamy expression that her grandmother would “bind lucky Chinese coins very tightly, wrapping neatly tied grass around both the outside perimeter and through the square hole in the coin middles.” She continued: “She told my brother and I to wrap the small bundle of coins around with some leaves, and then we started digging a hole in the fields to hide the money. We didn’t have shovels or any tools but our hands, so we dug so deep that I could stand in it and my head would not be visible over the top. Our fingernails had so much dirt in them it took a week to get them completely clean!” Then my grandma’s eyes hardened. “I don’t know how, but the Japanese found them and took the whole stash. We had been very careful, but I guess we just weren’t careful enough.” She sighed bitterly.

Hiding money became a general practice during the war. The Japanese actively sought Chinese money not only for the purposes of getting rich and depriving the Chinese of their resources, but also to scrutinize hidden messages within Chinese bank notes. These messages, often obscene pictures that mocked the Japanese, were yet another way to foster morale and unity within the Chinese population, showing solidarity against Japanese oppression. In order to avoid getting caught, rebellious Chinese artists frequently used ominous animals like wolves and turtles to depict their distaste for the enemy (Hatton and Lindberg). On the sides of a 100 yuan banknote, for example, are discrete wolf heads, drawn subtly to symbolize the greed of the Japanese.
The Cardboard Collector

Hiding money was just one of the countless noncommittal duties typically expected of children during the War of Resistance. Pozzi contends that the war “altered expectations of children, who were often considered to be little adults with responsibilities” (112). Indeed, at a young age, my grandma and her older brother were unusually mature. For instance, when her brother discovered that their grandmother’s stash of coins was stolen, he had conversed with neighbors to find out how to effectively hide their money from the Japanese soldiers. He and my grandma taught themselves to wrap and hide rolls of Chinese customs gold units inside food like blocks of cheese, which the Japanese soldiers would not take when they looted homes. However, this was only a temporary solution; the food had to be replaced every few weeks at most, for the food around the money would rot and mold. But it was a small price to pay compared to losing all of their money to the Japanese. Though the family often went hungry, they successfully protected most of their money from the soldiers due to the quick thinking and maturity of my grandma and her older brother.

The War of Resistance ended when my grandma was about six years old. With help from the United States, Chinese soldiers had more sufficient training and more resources to bomb and defend themselves against Japan (“Second Sino-Japanese War”). In September 1945, Japan surrendered and retreated, which came as a huge relief for the Chinese government. The Chinese people, on the other hand, did not share the same sentiment, as many were traumatized. The Japanese withdrawal was
synonymously associated with the elimination of violence, terror, and loss: “the flag of Japan [had] fl[own] everywhere . . . and the sun image was the color of blood” (Coble 388). Despite the fact that China emerged victorious, the country was left disordered during its recuperation period.

To this day, my grandma still refuses to talk openly about the Japanese and the War of Resistance, but through her actions, she shows that her experiences had significantly changed her life. My grandma’s quick thinking and maturity continued to manifest throughout her adult life, especially when she immigrated from Guangzhou—she had moved there shortly after the Japanese retreat in 1945—to the United States. Once in the States, however, my grandma struggled to find work and connections, especially because of the language barrier. No sooner did she start working as a seamstress in a sweatshop-like factory when the 1989 San Francisco Earthquake hit, causing extensive damage to her apartment building, and she again found herself in a precarious financial situation. However, this time she was prepared for it; through developed connections within Chinatown, she had learned to save with a bank account. As such, she was successful in recovering some of her damaged household valuables.

In the mid-1990s, my grandma moved once more and settled into a house—the very house in which I would grow up. This time, the move was significantly symbolic; she moved into this house as a homeowner, whereas in the previous times she had moved, she had been searching for security, whether from war or for financial reasons. No, she was not rich now by any means, but stability was what she had sought for most of her life. She has finally attained it.

I understood the distress and trauma that she had endured over the course of her lifetime, most especially during wartime. The War of Resistance taught my grandma that nothing should be taken for granted—not the grass and dirt beneath her feet, not the chatter of neighbors, and certainly not a square block of cheese. Everything that is overlooked in life—including the cardboard and green newspaper bags strewn around my feet—is not to be wasted merely because it is viewed as trash. When “trash” can be used advantageously, it should be; we must not “lohng fai.”

I looked up at my grandma. In the place of a cardboard collector, I instead saw a strong survivor.

I began to tie the ends of the green newspaper bags together.
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Defying the Tides

Janmajaya Kailash

Writer’s Comment: For a family history essay in my UWP course, I decided to write my great-grandmother’s story: how strong she was as a person and how she had lived in a time that could not deter her from her goals and desires in life. The story illustrates an example of defiance of superstitions and social evils of Indian culture and tradition, which turned to become a new creation of them instead, albeit in the familial setting. I have tried to bring her character to life, establishing a tone of awe and inspiration. Dr. Pamela Demory encouraged me to write about this in the very beginning when I had submitted my topic for the assignment.

Instructor’s Comment: For the final essay in my advanced composition class (UWP 101), I ask my students to write a “family history” essay, drawing on both primary research (interviews with family members, family photographs and documents) and secondary research—articles, primarily—that will provide some context for the family story. It’s a challenging assignment—choosing a topic, identifying a focus, arranging the narrative elements, figuring out how to integrate the secondary research, and making the whole story dramatic. In his wonderful essay about his great grandmother, Janmajaya (JJ) manages all these difficulties with apparent ease. The story is inherently dramatic—his great grandmother was clearly an amazing woman with an amazing story, but the essay’s power comes from the way it’s crafted—beginning with a photograph, so that as readers we have the opportunity to gaze into her dramatically framed eyes, proceeding through her life story with clearly demarcated dates to keep us on track, and smoothly integrating the impressive research JJ did on women’s status in mid-20th-century India and the stories he gleaned from conversations with his mother and grandmother. Toward the end of the essay he reports visiting the village
where his great grandmother practiced medicine; he writes that he “had goosebumps all over,” and reading that passage, I had goosebumps, too.

—Pamela Demory, University Writing Program

I nspirational stories about women are plenty. But we often forget the strong-willed women who are at the foundations of our own family. This is the story of my maternal great-grandmother, Dr. Hemalata Mohapatra, better known as simply “Amma,” who defied all odds to build a meaningful life and set an example for her entire village.

I grew up seeing my great-grandmother’s old black and white photograph hanging on the central wall of our living room. This image is imprinted on my memory. The grey hair and the visible folds on her neck tell me she was at least in her late fifties when this photograph was taken. Thick black-framed spectacles placed on her broad nose. A firm but affectionate gaze. Draped in a traditional Indian cotton saree and blouse. The traditional necklace made of black and gold beads with a "Bindi" on her forehead. I have always felt as if she were telling me: “Be strong!”

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Hemalata Mohapatra was born in 1932, in a small village called “Sheragada” in the state of Odisha, India. She was the youngest child of Mrs. Kamla Devi and Mr. Raghunath Mohapatra. Hemalata had one elder brother, Trilochan, and two older sisters, Sita and Kunti, both of whom were already married.

During the 1930s, India was under British rule and the Indian society was beset with various social evils like untouchability, child marriage, discrimination against widows, the caste system, sati, dowry systems, and more (Kapur 11). The caste system was so deeply embedded in the social fabric that only affluent males in the upper
caste could seek education (Patel 3). Various malicious practices ensured that the lower caste people, especially girls, could not progress in their lives. Hemalata would come to experience these social stigmas.

Hemalata’s mother Kamla had always wanted her children educated, and as Hemalata’s sisters had already married and had no education, she wished that Hemalata should go to school. When Hemalata was four years old she was married to fourteen-year-old Arjun Mohapatra, the son of a well-known landowner in the village. However, Hemalata did not immediately live with her husband; after her marriage, she abided by the traditional practice of child marriage by staying back with her parents until her in-laws requested her presence at their home. When Hemalata was six years old, it was decided that she would go to school. Kamla convinced her husband to speak to the Zamindar (land owner), Mr. Jagannath Das, who was a kindhearted gentleman. He agreed that Hemalata could accompany his daughter to school. Hemalata would wake up early in the morning, finish her chores, and then get ready to go to school with an old slate and a few leftover chalks. Her teacher, Mr. Padmanabha Panda, recalled, “She was one of our brightest students.”

Hemalata was in the ninth grade when her in-laws demanded that she be sent to live with their son. She implored her in-laws that she should be allowed to study, but they refused. However, her husband, now a surgeon at the City Hospital in Berhampur, was very supportive and wanted his wife to continue with her education. Hemalata’s happiness knew no bounds when she saw that her husband was supporting her. Though Hemalata’s mother-in-law was convinced that even the lamp oil used for her studies was a colossal waste, Hemalata busied herself by working and studying all day and night.

In 1949, Dr. Mohapatra died due to an unexplained high fever. Hemalata was seven months pregnant. She was a young woman in a new family, defying the norms, going to school for education, pregnant, and now suddenly a widow. Widows had to live a life of austerity. They had to shave their head, remove their vermillion (Bindi) from the forehead, remove bangles, necklace and any other jewelry, wear white clothes, and live in solitary confinement (Anji and Velumani, p.70). Chandra puts it succinctly: “[I]n a predominantly male-dominated society like India, widowhood has always been considered a social stigma” (124). In some families, widows would even be asked to leave home and go to religious places to stay in widow homes and serve the almighty. Remarriage and
education for being economically independent were steps that were severely reprimanded by the societal conscience keepers and were next to impossible (Kapur 13). The families who had encountered episodes of a widow at home were scared about their future. Given these circumstances, Hemalata’s desire for self-reliance proved to be an uphill task.

Hemalata never accepted that she was responsible for her husband’s untimely death. It was too fast for her to keep pace with events. To add to the existing emotional problems, she had to bear the insult from her in-laws, the villagers, and the society for being a curse on the family, a bad omen who was responsible for her husband’s death. After this, she lost whatever semblance of social rights she had; her in-laws physically exploited her by forcing her to work with the cattle, cooking, and in the fields, harvesting and weeding in the paddy field during summers. She was abused emotionally, mentally, and physically at the hands of people who were supposed to love her unconditionally and help her reach her goals. Instead, she was emotionally abandoned. Her childhood was taken from her and she was like a slave with no worth in her home. Unable to bear the physical and mental torture, one morning she left behind all her dowry and her belongings and escaped to her parents’ home. In December 1949, she took her matriculation exams and on May 25, 1950, she gave birth to a baby girl—my grandmother, Subasini Acharya. The village administration decided that Hemalata must abide by the social norms and return to her in-laws’ place. However, Hemalata was unwilling and her mother and brother dared to support her wholeheartedly.

An old teacher of her high school, Ramakrishna, told my mother, “Hemalata never felt the need for validation and approval from others.” Mr. Sitakanta Das, of the local community reading center, had always motivated Hemalata for higher education. When he met Hemalata after her matriculation results, which she had passed in a second division, Mr. Das strongly recommended her to attend pre-university education in Berhampur, and later complete her pre-medical degree, get a job, and become self-reliant. During those times, the pre-medicals were the foundation for becoming a practicing doctor and were only available in a few cities. This was a colossal task for Hemalata; she spoke to her mother and brother, who strongly supported her. However, Hemalata’s father, Raghunath, was against this idea and forcefully told her, “You don’t need to go anywhere. Just stay here and take care of your daughter.”
Hemalata’s brother, Trilochan, was very supportive. He purchased clothes for her, gave some money for her initial expenses and accompanied her and helped her settle down in the hostel, in Berhampur.

It was not easy for a single woman and a mother to leave behind her baby and go to the city for higher studies in 1951. Hemalata was aware of the repercussions she had to bear for not obeying social norms. Soon, she was excommunicated by the village temple authorities and was not allowed back into the village, even to meet her daughter. Hemalata’s decision to go against the diktat of the village temple was something that not many could dare. My grandmother recounts one such incident where, one weekend, Hemalata went back to her village because she had missed her. Hemalata’s mother convinced her that higher education was vital not only for her but also for the future of her daughter. So, Hemalata went back with a heavy heart and continued with her studies. Unfortunately, in 1954 her father died due to a massive cardiac arrest.

Hemalata always wanted to be liberated. While doing her pre-medical studies she received a stipend of a meager 25 rupees, out of which she saved 15 rupees to send to her mother Kamla. In 1955 after completing her training, she worked as a general physician in the City Hospital in the eastern city of Berhampur. During these years whenever she wanted to see her daughter her brother Trilochan used to bring her daughter Subasini to the city to meet her. After Hemalata was economically independent, she would send money to her mother so that her daughter had a comfortable life and could go to school without any obstacles. She further helped her mother to build a bigger home, get back her mortgaged lands, and purchase more agricultural lands.

In 1959, Hemalata wanted to work alongside people and understand the predicaments they were facing. She thought that the villagers were the ignored lot in India and therefore wanted to work in a rural area, so she moved to serve in a government dispensary in a remote village called Baulagam. The dispensary had one small room and a pharmacy counter with one attendant. It was not an easy job for Hemalata to practice the western system of medicines in the village. There were village quacks, black magicians, and dubious practices; falling sick was considered to be a curse on human beings from the gods, so people used to perform religious rituals to overcome diseases like cholera and typhoid.
Hemalata’s challenges were multifold; she had to first educate the villagers. She set up a small library in the village and inspired the villagers to learn to read and write. Hemalata went to each door to educate the villagers on hygiene. As there were no trained midwives, she also helped women in childbirth. Hemalata would personally go every evening to the nearby village of Potlampur to ensure the completion of all pathological tests. She slowly gained the trust of the villagers and also of the people of the neighboring villages. They knew that, for anything, “Amma” was always there.

She was the first to start the children’s vaccination schedule of BCG in the village. Since children were considered as God’s blessing and also helping hands to earn money for the family (Sonawat p.182), villagers were reluctant to use contraceptives. One of Hemalata’s most important contributions—for which she was awarded by the state government—was to educate the males in the village about family planning and the use of contraceptives.

In addition to caring for humans, Hemalata was an animal lover. She created a shelter for stray animals and birds where she treated their wounds and cared for them. Hemalata did everything from taking care of her cows to feeding the street dogs and cats on her own. My mother said, “I used to visit my grandmother during her summer vacations and used to play with the small puppies and kittens in the backyard.”

I spoke to the present priest of the temple of Sheragada, the same temple authorities who had excommunicated her in 1951. The priest told me, “Dr. Hemalata donated a sum of five thousand rupees in 1969 to rebuild the temple when a cyclone had caused damage to its structure.” The village temple priest at the time had excommunicated her from the village for leaving her in-laws to study in the city and disallowed her to see her daughter. Despite the temple’s relation with Hemalata, she still contributed.

In December 2019, I visited Baulagam with my mother and my grandmother. My grandmother was reminiscing about the past and remarked, “Everything has changed.” There was electricity, roads were connecting the village, and the lakes were almost full of water hyacinth and were being sparingly used for human waste, as there were toilets and bathrooms. We went to the house where my great-grandmother lived, and asked the residents about “Amma.” An old lady looked at my grandmother and asked, “Are you Amma’s daughter?” I had goose bumps.
all over, and felt so proud to witness a place where my great-grandmother
was respected and remembered for her kind-heartedness even to this day.
Another old lady came up to me and said, “Amma was a great human
being. God was kind to us to send her to our village.” She went on,
“Amma still lives among us.” I was confused; she then pointed towards a
small cemetery with her idol in the entrance of the village. I felt extremely
touched. My grandmother narrated to me that on September 19, 1990,
when Hemalata died of cardiac arrest, it was not just the villagers of
Baulagam but also a large number of people from the neighboring villages
who came to pay homage to the departed soul. Even to this day, every
year on Hemalata’s death anniversary, people of the village light lamps
and pay their homage.

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Whenever I asked my mother about the old black and white
photograph, she told me endless stories about her grandmother, about
how strong, fearless and affectionate she was. When I was in tenth grade
in school, I asked my grandmother to tell me more about her mother. She
said, “You know your mother and my mother were just the same?” It was
a moment of immense pride for me; I am always in awe of my maternal
lineage. I could very much relate my life with my grandmother’s and my
mother’s with my great-grandmother’s. I was nine months old when I lost
my father in an accident. My mother too was in the accident and was in
a coma for three months; when she woke up it must have been shocking
for her to realize that I had grown up and my father was no more. I still
cannot imagine what she must have gone through, but I have never seen
or heard my mother tell me any sad tales. She has been a strong woman
and an inspiration to thousands of her students in India. It is known in
the family that my mother was the closest to her grandmother; maybe
this was the inspiration drawn from her grandmother. I was one year
and nine months old when my mother came to the United States for her
doctoral studies as a Fulbright Scholar. Though my mother was highly
educated and came from an affluent family, it must not have been an
easy journey for her, yet she too defied many tides and surfed through
successfully.

As I picked fragments of Hemalata’s story from my grandmother,
my mother, and the villagers, and started connecting the pieces, I felt
Defying the Tides

there was still so much more to know about my great-grandmother. She was a role model to succeeding generations, especially the women in the family like my mother and grandmother; both had to deal with biases and stereotypes typical of their generation. But they defied the tides and came out as successful women because they have an inspiration in Hemalata. What it is to be a woman is defined by society even today in a restricted manner, no matter which part of the world one is born in. I knew I had to tell the story of this great lady to the world, not just for my sake, but for all generations of my family to come. I almost reached the end of my story about my great-grandmother, when I felt that I missed something in the black and white photo on the wall. I looked at the picture again and could understand the message of the "Bindi "on her forehead, which was loud and clear: “Defying the Tides.”

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The Enlightenment

Seunghyup Oh

Writer’s Comment: When Dr. Pamela Demory gave us the seemingly easy task of writing a documentary about our own family history, I was actually lost. I had thought that there is nothing interesting to share about my family. That’s when I started to question myself: “Who am I? How could I be here today? What shaped me who I am now?” My questions continued as I interviewed my father and heard previously untold stories of my grandfather during Japanese colonial period in Korea. The stories of my grandfather enlightened me as to what brought me here in America today. I realized his selfless acts of valor, unwavering determination, and noble desire for education still flow through my veins. I instantly knew that this has to continue to flow to the next—and the next—generation. Everyone’s family history, their legacy, may not seem prodigious but, thankfully, that is what enabled us to be here today. I hope this essay allows you to think of the importance of your family and ancestors.

Instructor’s Comment: I structure my advanced composition courses around the idea of “documentary work,” as defined by Robert Coles, for whom “documentary” refers to “any attempt to engage, represent, and understand the lives of others.” I challenge my students both to analyze documentation produced by others and to become documentarians themselves. For their final essay, I ask the students to write a “family history paper,” drawing on both primary research—interviews, photographs, family lore, objects, official documents . . . whatever they can find—and secondary research (online or in the library) to set their family story in some sort of larger context. It’s a challenging assignment—figuring out how to focus the essay, identifying story elements and narrating them in a compelling way, and integrating secondary research that supports and explains the story.
without taking away from the narrative flow. Seunghyup’s essay seamlessly integrates secondary and primary research so that the essay’s narrative flows effortlessly. But my favorite part is in the second paragraph where the fragments of memory—“an old tile roof . . . squeaky noise of a rusty iron door . . . a faded folding screen . . .”—are represented in a series of intentional sentence fragments, beautifully melding form and content.

—Pamela Demory, University Writing Program

On August 22, 1910, the Daehan Empire, Korea was annexed by the Empire of Japan after years of war, coercion, and political machinations. Japan’s oppressive occupation of Korea lasted 35 years until August 15, 1945. During the occupation, more than five million Koreans were forcibly conscripted into the military. Schools and universities were forbidden to speak Korean or teach Korean history. Hundreds of thousands of Korean women were forced into service as “comfort women”—sexual slaves in Japanese military bases (Blakemore, 2018). For me, the period of the Japanese imperial colonial administration was merely one of the troubling moments in the 5,000-year history of Korea. But that changed when I saw a four-inch-long stab wound on my grandfather’s right shoulder to his chest.

An old tile roof house at the end of a narrow tortuous dirt road. The squeak of a rusty iron door. A faded folding screen in the left corner of a small room next to the bedding. The smell of disinfectant from an intensive care unit room. A few fragments of my memory about my grandfather start to piece together and stir up my blurred recollections. Untold stories of my grandfather revealed by my father enlighten me as to what brought me to further my education in America.

My grandfather was born on September 8, 1920, during the darkest moment of Korean history, in the Chungcheongnam province of Korea. He was the firstborn of a family of poor farmers. When he started to walk, his small hands were already holding a rusty hoe and he had to spend his early years in paddy fields to scrape out a living. In spite of his family’s hard work, the amount of grain they yielded was always not enough to feed the family since Japanese police plundered half of their crop on the slightest pretext. He had to assuage his hunger with tree-bark and water. At the age of 18, my grandfather, along with his cousins, borrowed money against their house and started a brick factory. Despite Japanese interference, his diligence shined, and the business started to
flourish. With his support, his siblings could go to school and receive a proper education. However, their happiness did not last long. In 1939, the Japanese government began legislating names. Under the new law, Korean families were “graciously allowed” to change their surnames to Japanese surnames (Blakemore, 2018). My grandfather was uneducated; yet, he was an incorruptible man and he knew right from wrong. He refused to change his name, showing resistance to the government. A few days after that, a group of Japanese policemen barged into factory and started to hunt down Koreans who still used Korean names. My grandfather did not submit to their threats; he asked them to leave, and one of policemen’s long sword penetrated his right shoulder. He was put in jail for five months. When he finally was set free, his factory was burned down. Only scattered ruins remained.

In the 1930s, a rural enlightenment campaign—“an attempt to involve directly the masses in nationalist consciousness raising and mass education”—swept across the country (Pieper, 2011). Despite the suppression of educational opportunity and Japan’s striving to silence Koreans, some Christians and nationalist groups continued to teach the masses Hangeul, the Korean alphabet (Miller, 1999). Against harsh reality, the public’s desire for education and independence did not dissipate but rather strengthened. After my grandfather was released from the prison, he had to get back to the paddy fields, but he was not the same person who sowed the seeds in the field just to appease his hunger. He was enlightened. He knew the nation needed an education so as not to repeat the sorrow of losing its own country, so as not to pass down tragedy to the next generation. Although he was not given time for himself to be educated, he did his best with what he was given: an acre of paddy field and a hoe.

My father was born on December 25, 1956, and my grandfather’s indomitable will benefited his first son. Unlike my grandfather’s childhood, when my father started to walk, his small hands were holding a pencil and notebook and he was sent to school. Those grains of rice, an outcome of his honest perspiration and hard work, were not used to make my grandfather’s life easier but to educate his son. When my father went on to college, my grandfather sold his cow. The money from selling his only asset was imperative for his livelihood; the farmer enabled his son to further his education. Regardless of whatever difficulties he was faced with, my grandfather did not refrain supporting my father’s education, did not
give up on his principle. As a result of my grandfather’s determination, my father obtained two PhDs, in Energy and Environmental Policy, and in Education.

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Until the day I die
I long to have no speck of shame
when I gaze up toward heaven,
so I have tormented myself,
even when the wind stirs the leaves.
With a heart that signs the stars,
I will love all dying things.
And I will walk the way
That has been given to me.
Tonight, again, the wind brushes the stars.

—“Prologue,” *Sky, Wind, and Stars*, Yun Dong-ju
(Korean poet during the Japanese colonial period)

“I do not know how to read. I hadn’t had a chance to learn. . .but my son can read that poem and so can you.” My grandfather quavered out a few words and paused with his eyes fixed on an old moldy scroll. I did not know he cannot read until the moment when I asked him about the poem hanging on the wall of his room. After a long pause, he continued: “I want you to cherish the poem throughout your life. He did not explain further, about the poem or anything else. He probably wanted me to find out the meaning of the poem myself, just like he did. Or maybe he wanted to imply that one’s own doctrine cannot be shaped by others but only by oneself. The poet was once jailed and tortured for writing poems about resistance. After long severe torture, he succumbed to Japanese imperialism; he was released after changing his name to Japanese name, Hiranuma Doshu. In “Prologue,” Yun Dong-ju confesses his shame and displays his internal willingness not to live a shameful life even in the dark reality of the era (Park, 2014). My grandfather certainly related to him and this poem reflected his life. My grandfather was not ashamed of his ignorance. He was not ashamed of a single moment in his life. He saw his illiteracy in the light of raising such highly-educated but humble children. From the smile on his wrinkled face, I could see that
his harsh life yielded great pride.

When I was five, the age children begin to grasp the concept of death, it was not delightful to enter my grandfather’s dark, dusty room. Yet to me, death simply meant “Someone is going on a long trip and I won’t be able to see him until I join the trip.” My grandfather was given a week to live; spinal cancer started to spread to all adjacent organs and his airways would continue to restrict, ultimately leading to his death. A day before he had to move to the intensive care unit, my brother and I were sitting next to him. No one was speaking; only the sound of a clock’s busy second hand could be heard in the room. “How’s your school? Aren’t you two supposed to be at school?” My grandfather’s raspy voice broke the silence, and he held my hand with his callused, shaky hand. His hand was cold. I could barely feel the warmth of a living person. However, I did not sense anything odd at the moment, as I did not find any incongruity in his questions. I answered matter-of-factly, “We came to see you, Grandpa.” He smiled and fell asleep due to a handful of medications he had taken earlier. In retrospect, I can’t believe that the questions were coming from someone on the verge of death. He surely was worried about our education and probably was not happy that we skipped school to come to see him. My grandfather was a man of great principle, courage, and love. The fear of death was not enough to break his spirit, to stop his desire. As he devoted his entire life to stopping the passage of ignorance and poverty to his next generations, as he sacrificed all of himself to educate his offspring, his noble tenacity lasted until the very end.

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On 25th September 2000, his life ended on a cold bed surrounded by his loved ones in the intensive care unit. As his airway was completely constricted, we could not hear his last words, but his last teary gaze comes across my mind every night. When three days of traditional funeral had ended, and all families were gathered at the family mountain to mourn his death, to see him off at his burial, I grasped what his death meant. I would never get a chance to tell him again that I love him, that I appreciate him for enabling me to be here today.

I proudly am a product of my grandfather. My grandfather’s selfless acts of valor, unwavering determination, noble desire for education passed
The Enlightenment
down to my father. And my grandfather’s perseverance continues to flow through my veins. Although I can no longer talk to my grandfather, I know parts of him live within me. Now I stand here in the United States. My parents brought me here to California to provide a better quality of education, just like my grandfather sacrificed his life for my father’s education. With my grandfather’s recitation of Yun Dong-ju’s “Prologue” cherished in my heart, I will try my best to live without any shame, to reflect his belief in my life. I will proudly pass down his stories and spirit to my children, hoping the family legacy, my grandfather’s determination, continues to flow to the future generations.

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Language, Nationalism, and Chinese-Indonesian Identity

Jeslyn Tatang

**Writer's Comment:** My final paper for Professor Li Zhang’s Introduction to Cultural Anthropology course challenged me to address an open-ended prompt in which I was required to conduct ethnographic fieldwork to explore the cultural effects of migration. I took this as an opportunity to examine the history of my family, Chinese-Indonesian immigrants to America, in the broader context of the May 1998 Jakarta Riots. Three languages are central to the Chinese-Indonesian immigrant identity: Mandarin Chinese, Indonesian, and English. While they allow us to preserve our diverse and fractured heritage, they simultaneously serve as barriers in our search for a sense of belonging, particularly in the face of migration and anti-Chinese legislation. In this paper, I explore the sources of generational cultural disconnection within the Chinese-Indonesian immigrant community throughout history, using my own family as a case study.

**Instructor's Comment:** Under normal circumstances, producing meaningful original research involving fieldwork, in a discipline you have no prior training or experience in, as a college freshman, all within the condensed space of an 11-week term, would be an exceedingly difficult task. To do so under the shifting conditions and uncertainties of a rapidly emerging global pandemic, while negotiating therefore constant changes in course protocols and expectations, is nothing short of remarkable.

The first time I met with Jeslyn during office hours, she seemed frustrated and uncertain about the research paper assigned to our Introduction to Cultural Anthropology class. The prompt was admittedly open-ended, with minimal guidelines beyond the requisite “fieldwork” component. But what, Jeslyn asked, constitutes “fieldwork,” in the scope of such an assignment? Together, we brainstormed possible topics for the
assignment. It was in conversation that Jeslyn transformed that state of uncertainty into the beginnings of the beautiful, complex inquiry below. Jeslyn tentatively introduced an idea that seemed to have been nagging at her since long before this class—she wanted to understand her family, who had the unique and complicated experience of negotiating multiple identities simultaneously, and continually. It was clear to me then that once she felt authorized to do so, Jeslyn would take the opportunity to pursue this question fruitfully and with care.

In Jeslyn’s essay below, she not only demonstrates the uncommon ability to rigorously detangle those complex histories of identity and (un)belonging, and to meaningfully theorize that complexity; she does so as an act of caring intimately—attempting to better understand the narrative archives of her family, and the experiences of her parents and grandparents, spanning three countries and three generations and multiple linguistic and national identities. It is a rare and gratifying experience to have a student as interested and committed as Jeslyn, and I am thankful to see her share with us this beautiful narrative of her family.

—Tobias Smith, Cultural Studies Graduate Group

In May 1998, a score of violent riots broke out in the major cities of Indonesia. Across Jakarta, Medan, and Surakarta, Chinese businesses were burned, and thousands of the country’s ethnic Chinese population were targets of torture and rape. Many of Indonesia’s ethnic Chinese fled to escape the violence—some, like my own parents, to the United States. But even in America, the question of identity still remained. On top of their newfound American nationalities, they struggled to balance their ethnic Chinese identities with their linguistic Indonesian identities, facing an ambiguous sense of disconnect from all three cultures. My parents’ case—one amongst the thousands of Chinese-Indonesian refugees—offers a valuable insight into this phenomenon, and my own personal experiences with identity were shaped through which languages they deliberately passed down to me and which ones they didn’t. Despite being slighted due to centuries of discrimination, the Indonesian language has had a profound effect on preserving the heritage of Chinese-Indonesians, even throughout the process of assimilation into the American culture.

In the broad sense, a common language is an essential aspect of a national identity. Through the standardization of a language, a group of
people with common values is afforded a method of clear communication, giving them the sense of being part of a “whole,” rather than identifying with their regional dialects. The German language is a clear example of this phenomenon. Martin Luther’s translation of the Bible into German was in fact an effort to unite the Bohemian, Austrian, East Prussian, and Yiddish dialects into a common language that would later become the basis of national unification for what was at the time “a patchwork of small and large states, linguistically very diverse” (Joseph 98-99). The same is true of Indonesia, where hundreds of languages are spoken, with regional dialects ranging from Javanese, Sundanese, and Minangkabau. Plotting independence from Dutch colonial rule in the 20th century, Indonesian nationalists reformed the Malay language into Indonesia’s current standard language, Bahasa Indonesia, with the goal of “breaking down communication barriers and facilitating inclusion of more than 300 ethnic groups in the new nation” (Fettling).

The very definition of a nation, however, is commonly disputed. It is often defined as “an expanse of territory, its inhabitants and . . . its [ruling] government” (Joseph 92), but there is no such thing as a “pure” nation due to the effects of global exchange through trade and communication. Concerning the United States, Linton writes, “There can be no question about the average American’s . . . desire to preserve this precious heritage at all costs . . . . Nevertheless, some insidious foreign ideas have already wormed [their] way into his civilization” (Linton is alluding to the pervasiveness of foreign influence in U.S. society, as Americans use products imported from overseas in their daily life without ever realizing their origin). In countries like Indonesia, “immigration has made the population visibly diverse” (Joseph 92) linguistically, ethnically, and culturally. Additionally, evidence of the Netherlands’ previous imperial dominance lies in loanwords in the Indonesian language, such as rijstaffel, a Dutch word literally translated as “rice table” but meaning an elaborate meal of Indonesian dishes. While the definition of national identity is in flux, the presence of a national language serves to unite the many diverse peoples of a given nation.

Nonetheless, national identity does not always align with linguistic identity, as in the case of Indonesia’s ethnic Chinese. Although they spoke Bahasa Indonesia, the fact that they shared this cultural aspect with the indigenous Indonesian population was eclipsed by centuries of
systematic discrimination on the basis of perceived race. Race itself does not have a scientific basis, and “not the slightest successful attempt has been made to establish causes for the behavior of a people rather than historical or social conditions” (Boas 8). Our capabilities and values are shaped by our environments rather than genetics, but still, the concept of racism comes with undeniable ramifications in the real world. The first immigrants from China maintained trade links between the kingdoms of Java and Sumatra; later, they maintained trade links between Dutch colonials and Javanese aristocrats, and were considered “outsider entrepreneurs” (Lan 200). This “predominant commercial minority group” (200) was kept strategically “exclusive and unassimilable [from indigenous Indonesians] . . . to sustain its potential for scapegoat politics” (Rakindo 346). As such, resentment grew under Suharto’s regime, when Chinese-Indonesians were accused of “economic encroachment” (346) and seen as a “communist menace” (Lindsey 14). In 1965, the Mandarin language was outlawed; so when my parents, who are first-generation Chinese-Indonesian immigrants to San Francisco, visited me in the common lounge of my dorm building, they answered my questions in a convoluted mix of English and Bahasa Indonesia—not Mandarin.

“All Chinese schools in the country were forced to close after 1965,” my mother told me. “Tutoring was illegal. You couldn’t speak Mandarin in public. I was lucky I still had a private tutor.” My father added, “I had a private tutor who would come visit in secret, and we would use textbooks that had been smuggled from Taiwan.” In 1996, legislation required that Chinese surnames be legally changed to conform to “Indonesian” standards; my grandfather changed our Chinese surname, Tang, to Tatang—a romanization of dàtáng, or the “great Tang dynasty”—as a symbol of quiet resistance, and the Indonesian government unwittingly approved the change. “But still,” my dad interjected, suddenly angry, “even if you changed your name—your whole name—if you still looked Chinese, you still couldn’t get a good job or get into good schools.” They were forced to shed their Chinese heritage—their Mandarin language and Mandarin names. But rather than allowing them to assimilate into Indonesian culture, this made them, curiously, all the more distant from it. They continued trying to hold onto this part of their identity in secret, and their resentment for the Indonesian government quietly seethed.

To escape this prejudice, many Chinese-Indonesians left the country for places where they could instead express all aspects of their
identity, including their Chinese heritage. However, this often meant they were faced with the new challenge of navigating yet another national identity. An estimated 100,000 ethnic Chinese left Indonesia in mid-May 1998 (Lindsey 21). Those proficient in English tended to settle in the United States, where their language skills granted them access to new opportunities—53% of professional and managerial occupations were fulfilled by Chinese-Americans in 2008 (Tickner). America was a new home where they had a chance to reinvent themselves. My parents had secretly learned Mandarin under the Suharto regime, but never gained fluency, and thus did not identify with China. When I asked, my dad laughed and said, “No. I don’t know anything about China; I didn’t grow up there. I just go there for vacation.” After staying in San Francisco for 22 years, not counting the time he was an international student at San Francisco State University before the riots, he said he felt more American than Indonesian. “If I really wanted to,” he joked, “I could change my name back to Chinese. I could be tāng yǒngníng again, if I wanted. You could even be tōng wáinei [the Cantonese version of my Mandarin name] and no one would know the difference.” This made the three of us laugh; he rubbed at his eyes, as it was 10 p.m. and he still had to drive home on the freeway. They seemed relieved, though, knowing that they had the freedom to change their names back, the freedom to simply exist—freedoms they had not been afforded in Indonesia.

Despite all their talk of changing our surnames back, they never felt any real obligation to do it. They no longer felt any strong connections to Mandarin, or “possess[ed] a bond with China beyond purely economic interests” (Lan 199), and so we remained Tatangs. “In America, if I want to speak Mandarin, I don’t have to look over my shoulder,” my mom said. “Even though you live in Indonesia, you’re still of Chinese heritage. They don’t accept you wholly as a citizen. But here, I feel like I belong. When I first came, it was hard to adapt. But eventually, Bahasa Indonesia became my second language and English became my first language, because I spoke it every day instead of Indonesian. It switched.” English had been my parents’ second language at school in Indonesia, but in America, it suddenly became the primary language of their daily lives. As former international students, they assimilated nearly seamlessly into American culture, easily addressing strangers with sir and ma’am instead of pak and mbak. At work, my mother conversed with her coworkers in English, resorting to stilted Mandarin only when the other party could not speak
English. Unlike Mandarin or Bahasa Indonesia, their experiences with English were not directly forced upon them by any government policy; they had chosen to study it in high school for themselves, because, as my father put it, “it seemed like a useful language.” They felt more American than Indonesian because they spoke English more than Bahasa Indonesia, and because the Indonesian state had never fully accepted them on account of their being Chinese anyway. Additionally, they had never lived in China or were not fluent in Mandarin, and did not feel Chinese. In America, they were allowed to exist as “Chinese-Indonesian American citizens” and were not subject to forced assimilation; instead, they did so by choice.

The Indonesian language, though, continues to play a significant role in the preserving of Chinese-Indonesian culture, even as immigrants adjust to life in America. Despite my parents’ tendency to associate it with the anti-Chinese regime, sharing a common language still contributes to a strengthened sense of community that transcends even geographic barriers. As a child, I spoke with my parents in English, but still learned Bahasa Indonesia with my nanny, Mbak Tini. “We wanted you to be bilingual,” my mother said. “It was because you were speaking English every day. Mbak Tini accompanied you to play, and read, and sing songs like ‘Ku Punya Anjing Kecil’ [“I Have a Little Dog,” a children’s nursery song].” It was because of this language proficiency that I could still communicate with my grandparents and other extended family, who have limited knowledge of English. I may have never lived in Indonesia, but my parents knowingly passed on their Indonesian heritage to me by encouraging me to learn the language. The links to their culture did not simply dissolve because of their immigration, but were rather preserved within me, their only child. My father said, “Lots of people’s children can’t speak Indonesian anymore. Like one of our family friends. Her children, both of them can’t speak it; they can only speak English. It’s stupid. How can you do that?” He flung out his arms. “Then you’re a kacang lupa kulit” (“peanut that has forgotten its skin”—an Indonesia phrase for someone who assimilates so fully into another culture that they forget all aspects of the one they came from). My father was determined that I, at least, would not forget. This reflects the Chinese diaspora’s constant state of flux when it comes to identity; “transnational belonging . . . is embedded within the Chinese diasporic identity” (Lan 204). Despite my parents claiming they feel more connected to America nowadays, they continue to celebrate
Chinese holidays and speak nearly exclusively Bahasa Indonesia at home. Belonging to these three nations, Lan argues, is a “form of ‘ambiguous’ belonging to ease the feeling of being dispersed and alienated, as well as to restore the collective memory of the homeland” (204). Between failing to gain Mandarin fluency, being forced to speak only Bahasa Indonesia under the Suharto regime, and unexpectedly adopting English as a first language, their linguistic identity is indeed fractured, but it is through the culmination of all these languages that their sense of identity can be expressed.

There are many ironies to be found in the linguistic and national identities of Chinese-Indonesian immigrants. The outlawing of Mandarin distanced the Chinese-Indonesian community from the rest of Indonesia, rather than uniting the people. Despite immigrants’ insistence that speaking English makes them feel more attuned to America, parents urge their children to speak Bahasa Indonesia—the language that they were forced to adopt under Suharto’s brutal regime. Most also cannot speak Mandarin; instead of referring to themselves as nationally Chinese, they instead come to identify with the place to which they immigrated after 1998, because this was the one place where they were allowed to express both sides of their linguistic identity if they wished. The Indonesian language, passed down from generation to generation, continues to be the one that carries their heritage and history, even if they cease to feel nationally Indonesian due to racial discrimination. Fighting to keep a hold on Mandarin throughout the Suharto regime can be read as an act of Chinese nationalism, and careful preservation of the Indonesian language in overseas communities can be seen as an act of Indonesian nationalism. Chinese-Indonesians have adapted a “mixed” identity because of their history, but because of this, there is always a sense of peculiar disconnect.

Works Cited


Language, Nationalism, and Chinese-Indonesian Identity


Về Với Gia Đình / Coming Home

Alex Nguyen

Writer's Comment: Anyone who meets my grandmother makes it their goal to make her laugh, because when she laughs, you laugh, too. This is the way she raised me: I was to study hard, be consistent in my morals, and laugh abundantly. Bà nội doesn’t speak much about the Vietnam War, amidst the backdrop in which she struggled to raise her four children. For reasons of survival, she and the rest of my family put their harrowing past behind them and kept looking forward. It wasn’t until I took HIS 179 with Dr. Cecelia Tsu that I was able to gain a holistic perspective on the war, something ubiquitous to my family’s stories yet difficult to directly examine. In the desire to learn more about my family’s personal history with it, I decided to interview my grandma for the biographical essay we were assigned. Through it, I stumbled upon a narrative that was as familiar to me as the foods she cooks, the stories she tells: one in which she and the family she built, in the face of immense hardship, persisted in their laughter. Bà nội did not raise me to grieve. This is our history from the perspective of joy.

Instructor’s Comment: When I first read Alex’s writing early on in the quarter in HIS 179, I recognized right away that she was an enormously gifted writer, adept at narrating stories that mattered. For our term paper assignment, Alex chose the option to write a biographical account of an Asian American subject based on a series of oral history interviews. After speaking to several members of her family, she asked if she could focus on more than one individual. It did not surprise me when she produced a beautifully written paper that engagingly captured her paternal grandparents’ upbringing in Vietnam during wartime, internal migration from North to South Vietnam, forced displacement, and eventual migration to the United States. I had known of Alex’s admiration and deep affection for
her grandfather, who passed away in 2015, and her paper was a moving tribute to him. A multilingual, college-educated intellectual trained in philosophy, literature, and language, her grandfather taught and mentored high school students in South Vietnam while the war loomed; a number of the boys in his classes had fathers in the military and became soldiers themselves. Alex’s grandmother, who she describes as an upbeat, pragmatic, resourceful woman, met the challenges of famine, poverty, and life under Communism with characteristic good humor and generosity. It’s not hard to see many of their traits passed down to their American-born granddaughter. In Alex’s piece, the history of war, displacement, and migration is told through the lives of these remarkable individuals, and her fluid, powerful prose illuminates their spirit and resilience, a journey into the past that fills the soul in the present.

—Cecilia Tsu, Department of History

My paternal grandmother, my bà nội, Phan Thị Thu, was born in Nam Định in the north of Vietnam on September 14, 1940. She was born the last child of six children, younger than her siblings by several years. Her father, Phan Đình Lan, was the manager of an electrical appliances store, and her mother, Phạm Thị Nhân, also sold items while caring for the children. When asked about their characters, she responded that they were regular people who lived long lives and first and foremost looked after their families. This seemingly simple strength and nobility became more vital than ever when the Viet Minh took over Hanoi and the rest of North Vietnam in 1954 after their victory at Điện Biên Phủ, and the family was cautioned to flee by neighbors who had begun to recognize the advent of war. At 14, my grandmother and her family fled to Sài Gòn, abandoning their home, their business, and all the goods they could not carry. Her uncle stayed behind to look after the store, refusing to give up their property to the new government. As the story goes, he was brought into the jungle by a group of soldiers and he was never heard from again. The move effectively scattered my grandmother’s family and belongings, but the core of her family, her parents and her siblings, remained tightly knit. As such, they were able to rebuild their lives in the South and to keep moving.

My grandmother, who biked to school as a youth, was well educated; she excelled in mathematics. From a young age, she was known to have had a good humor, and an indulgent nature. When her older brother,
who was known for being a rather timid and gentle spirit, fancied a
girl in her class, he enlisted her in biking beside the girl and starting a
conversation so that he could join in, rather than initiate it himself.5

This same brother had two schoolmates he considered to be his
closest friends. One of them was Nguyễn Hữu Khánh. He and my
grandmother were married on December 25, 1964.6

My ông nội, my paternal grandfather, was born in Hà Nội on
September 2, 1939. He was also the youngest of six children—he had
four sisters and a brother. His father had been an official in the village
administration, but had died when my grandfather was about a year
old, leaving my great grandmother to manage a massive farm as well as
raise their children by herself. She grew a variety of crops, including rice
and corn. To help with the expanse of responsibilities this created, she
hired laborers but worked alongside them, talking with them and paying
them well. They had also fled to Sài Gòn in the south following the Viet
Minh takeover of 1954, and remained loyal to the South Vietnamese
government there.7

When a civil war was declared on South Vietnam by the North in
1959, his brother enlisted in the South Vietnamese army and was trained
to fly helicopters.8 My grandfather considered doing the same, but asked
his mother for advice before making a decision. Not wanting both of her
sons to fight in the war, she advised him to become a teacher, the other
most viable option for educated youths at the time. He went to college
to train in philosophy, literature, and language—Vietnamese, English,
French, and Latin.9

A year after he married my grandmother there, she gave birth to
my father, Nguyễn Hữu Dũng on May 5, 1966. Another son followed
the year after, a third in 1972, and a fourth in 1973. As it was, my father
and his brothers were incredibly young during the peak of the war.
My grandfather, who was a teacher at the time, was obligated by his
occupation to travel across South Vietnam; thus they were able to keep
away from most of the fighting.10

They moved to Vũng Tàu as a family in 1971, which at that point
had been a small beachfront village of no more than 20 houses. My
father recounts this as being the most beautiful time of his childhood.
My grandfather was able to find a job as the principal of a newly opened
high school there and became very involved in village matters early on,
working and socializing nearly all day while my grandmother stayed at
home to look after their children. Grandpa had spoken several times to
the mayor of the village and had struck up a friendship with the man,
who told him at one point that whenever he felt weary or dismayed,
he would visit my grandfather in his office at the school. He would be
invited to sit down, and they would talk about anything at all while
watching the ocean calmly rise against the shore. Afterwards, everything
would be alright again.¹¹

As the war progressed, my grandfather told this man about his
feeling unsafe due to the threat of war and hysteria-inspired crimes,
particularly because he and his wife had four children to look after now.
While citizens at the time were mostly banned from carrying arms, the
mayor, who trusted in my grandfather’s character and understood his
fear, allowed him to take a rifle and some ammunition. He never used
it, but kept it in one corner of the house and left the bullets in a safebox
away from the reach of the children. It would serve as a reminder to my
father that, though he and his brothers were raised far away from the war,
not everything was at peace. Nightly, my father would also see the beacon
shot into the sky by the South Vietnamese army patrol, which would
light up the surrounding area for brief moments before falling once
more to darkness. At one point, a South Vietnamese troop marching
nearby knocked on my family’s door asking for water. My grandmother
bade them to sit down. She gave them the water they asked for and then
she cooked for them, and they spoke with her for a short while before
thanking her and leaving. Recounting it now, my father remembers them
as having been kind and well mannered.¹²

They moved again to Sài Gòn in 1974 when my father was eight
years old. My grandfather was trained in military style along with all the
other teachers following an order by the president of South Vietnam that
required all able-bodied citizens to be prepared for war. At this point, my
grandfather was teaching at a special school for boys whose fathers had
either died in battle or were on active duty far away. Most of these boys
became soldiers, as they also received military training at the academy,
ensuring that their fathers remained in their lives.¹³ No matter where
my grandfather went, in treating his students with reason and care, he
was valued and well remembered. Even decades after the war, and even
after immigrating to America, his students would still call him and write
to him for advice, for old time’s sake, or simply because their bond had
become so strong.
The war ended when Sài Gòn fell to the North Vietnamese on April 30, 1975. My mother, living in the same city, had been eight, and remembers hiding under the kitchen sink as bombs and bullets flew overhead. The day after, my father and his friends went onto the streets to find it littered with unused grenades, guns, belts of ammunition, and South Vietnamese army uniforms. Some of his friends, all of them around nine years old, collected these shiny toys to help make believe they had been a part of the war effort. My father never spared them more than a glance: his parents were both no-nonsense people, and he would never have gotten away with it if he’d joined in the collecting.

After the war, my grandfather’s brother, who had fought in the defeated army, was imprisoned in a concentration camp for seven years. The Viet Minh government called them reeducation camps. They continued this reeducation in their social policies as well, ensuring the death of remembrance—my grandfather used to show me old pictures of him standing beside a South Vietnamese flag which, in the years following the war, he had been made to blot out with permanent marker.

My grandparents were relocated, and for them, it was at least the second time they had been forcibly relocated due to the communist threat. My grandmother and her family were scattered once again across South Vietnam. My grandfather, who had previously been a principal, was relegated to being a simple high school teacher, no longer allowed to teach certain things as Plato or Aristotle. As part of the reforms under the new government, he was paid for his job in rations of rice and grains, as other citizens were.

But for my father and his brothers, life went on. Being children, their losses never registered as losses, but as brand new experiences. My grandparents always made the best of what they had, but they were also quick thinkers and decisive people. There was no situation they could not work around, and they never showed any fear or upset around the children. In their minds, there was only the careful raising of their children, and the moving forward. When my grandmother received government rations of noodles, she boiled them in the place of the rotting and dirty rice they were usually given in hopes of making a better meal for my father and his brothers. To her and the boys’ surprise, the noodles disintegrated entirely and turned to powder in the hot water. The potatoes they were given were also rotting and unsafe to eat. Resolved to make a decent meal for her family, my grandma took the rice she’d
cooked and pounded it tightly into balls capable of being easily picked up and dipped into a topping she made of salt, sesame seeds, peanuts, or shavings of old coconuts. Normally, this dish would be served with ruốc, or pork floss, but meat was rationed so that for ten years, it was only ever available to them on Tết, the Lunar New Year. Rather than bemoaning this, the children looked forward to Tết every year as a day of immense luxury, as it was only on that day that they were able to buy new clothes and shoes with money the family had saved up over the course of the year. Whenever they were able to purchase white rice as opposed to the impure rice they were rationed, my uncle would run around shouting for joy.20

They found other sources of joy in playing with the children their age who were also shielded from the worst of the era—soccer in their neighborhood was played with a single ball shared by the children of that community.21 When one member of their coterie kicked the ball into the house of a man rumored to be a communist, not a single player wanted to go fetch it. My third uncle went first, and didn’t come back out for a long while. My fourth uncle went after him to see what he was taking so long, and he didn’t reappear soon after, either. It was only when my grandpa came home from work that they discovered the neighbor keeping the boys and their ball locked in his house as punishment for trespassing. My grandpa only had to speak to him a little while to take his sons back home. My grandma laughed when she told me of how frightened they looked afterwards, and how my uncle had wet himself during the ordeal.22

My grandparents treated their children with the same generosity and good humor as they treated all other people. They never allowed them to be burdened by fear or worry, and instead imposed on them the fear of doing poorly in school, or of having their actions reflect poorly on their family. They went to school every day with neatly combed hair, clean hands and faces, and ironed shirts tucked into their pants.23

The family decided to immigrate to America in 1980 after five years of living in poverty.24 The famine and flood of 1979 leading to a cutting down of the rice ration to four kilograms a month no doubt played a role in that decision.25 They applied to be sponsored by my grandmother’s brother—the same brother who had been my grandfather’s closest friend throughout middle and high school—who was currently living in Minnesota. He had immigrated much earlier, having found a job there
helping newly arrived immigrants adapt to life in the United States. Moving would mean once more abandoning their home and relatives and selling any items they would not be able to bring along with them. This time, however, they would be prepared. This time, it would be their choice. The sponsorship process took nine years to authorize, and they flew to the United States in 1989 and settled in San Rafael, California with my grandmother’s other brother. Her brother (the one who had been living in Minnesota) had died in a car accident just before.

As immigrants, they returned to poverty, now coupled with the burden of being deemed unqualified for the jobs they previously held in Vietnam. My grandfather, who had had such an illustrious repertoire of education, had to take up a job at Payless Shoes with my father for six months before they were able to find jobs at a factory. Lacking the funds to buy a car, they were forced to walk two miles to and from work each day, where the pay would only have been a few hundred dollars a month. Regardless, they were immensely relieved to have it. Even though my grandmother found this life lacking, she nonetheless found it better than their life in Vietnam. In America, she says, they were afforded social and economic mobility, and they were willing to work for it. Every struggle was a new experience, for she was afforded new freedoms—for instance, she was able to walk the streets without the fear of being kidnapped or taken away and imprisoned for something she didn’t do. She no longer had to inform friends and family of her location and intentions at every moment for fear of going missing. She was able to send all of her sons to Mission College eventually with the help of financial aid, and my father and uncles worked just as hard at school as their parents did at their occupations. To help support them, my grandmother took to baking goods like sesame balls to sell in the Vietnamese markets. Within a Vietnamese community composed mostly of refugees like themselves, surrounded by people who were willing to do them plenty of favors and regard them as long-lost family, they were never afraid of being discriminated against or socially isolated.

My mother, Nguyễn Quỳnh Dao, immigrated to Toronto, Canada in 1990. Her father, Nguyễn Văn Vũ, was a college classmate of my ông nội in Sài Gòn, and their families were acquaintances for some time. Landing in Toronto, she says, was like arriving in heaven, being freed at last in a country of opportunity. She landed a job working as a cook in the CN Tower after another Vietnamese immigrant, Mrs. Châu, noticed
her being interviewed and spoke to the managers on her behalf, ensuring them that once my mother was on board, she would take full responsibility for her. She kept her promise after they hired my mom, teaching her the English names of every vegetable, spice, and other ingredients at their disposal, as well as all the Western social customs she’d need to know to be successful in any workplace. Nowadays, we consider Mrs. Châu a part of the family.

When my parents were married on July 4, 1998, they had a wedding in Toronto and a wedding in San Jose, where the family had moved to from San Rafael once they were able to get a car and better financial prospects. The reception party completely filled the small two bedroom apartment they were renting in San Jose, and in Toronto, the small house my maternal family had bought. From the front porch to the backyard, relatives had flown in from all over North America to celebrate the occasion. More importantly, they also invited every person they had come to know over their years of struggle—like Mrs. Châu, my grandfather’s old students, my dad’s coworkers at his first software engineering job, his old community college professors, even the Italian priest who had officiated their marriage. My grandma wore a mauve áo dài, my grandpa his characteristic grey suit. After many years of building their lives, they were finally afforded a grand celebration, and a new beginning.

When I asked my grandmother for the most important life lesson she could teach me, she smiled and told me, “Chờ lòng.” Just don’t be a communist. But she elaborated—the greatest joy that she has found in America has been to be able to be independent, and to not have to live in fear of once more being separated from her home, her belongings, or her family.

When I asked my father the same question, he told me another story.

Back when my youngest uncle was studying at Davis, my father drove my grandparents up from San Jose in order to pick up my uncle on the weekend. When leaving, however, the car broke down—my father, in his 20s, tended to drive at maniacal speeds. There was smoke under the hood, and they had to stop to let the engine cool down, stopping and starting, and stopping again. They made it to a gas station, asking around for a mechanic, but they were told that since it was Sunday, the shop was closed. A man, who to them seemed rather tall and imposing, was filling up his own gas when he overheard. He said he wanted to help. He
led them through town, down unfamiliar roads, and everyone was quiet and afraid. They stopped by a couple places with no luck—these, too, were closed for the day. The man apologized and offered to follow them in his car until they got home, so that, should the car give up the ghost, he would still be able to take them the rest of the way. At home, they might then call someone for help. They thanked him and kept driving, and he followed them from Davis all the way to Milpitas, just to make sure things ended up alright. When, by some miracle, they made it to their destination, my grandfather left the car to greet the man, to thank him, and to say goodbye. He took out some money and asked him to please take it in thanks for his incredible generosity. The man refused, only assenting when my grandfather insisted he should at least take it as gas money. He would have a long journey to make, after all, driving all the way back. My father’s lesson: “If you believe there are good people still around, you will find them. You have to trust people. There are good things still around.”

When asked about their national identity, my family members all replied the same way.

They are not Asian American. “American” was a label that they took up as a result of being citizens of this country, but they are Asian in culture, in practice, in belief, and at heart. They are Vietnamese—not Vietnamese Americans, but Vietnamese people displaced. My grandmother, having been forcibly uprooted several times, has many homes left behind in Vietnam now. My grandfather, who passed in July of 2015, told me before he died of his desire to have his ashes scattered in the Pacific Ocean so that he might one day find his way back home. His book, written in his retirement, of which he printed a few hundreds of copies to give to libraries, friends, and relatives, is entitled Về Đâu? (Where Does One Return To?)

The immigration of Vietnamese refugees, as well as the immigration of many other Asian Americans, tends to leave behind a trail of strings attached to people’s home countries, and this is all the more difficult to resolve in cases of forced removal. Constant movement, even if it is forward, leaves many things in the past unresolved, and creates ghosts.

Growing up as the child of immigrants displaced by war and famine, I grew up around many ghost stories. My grandfather told me he had heard the phantom footsteps of soldiers marching up and down the staircase of their apartment in Sài Gòn, forever unaware of the end
of their service. My “uncle,” who taught me to drive, lived in Ban Mê Thuột, the site of a large and terrible battle in the Vietnam War with over 5,000 casualties. There were footsteps almost every night on the roof of his family’s house, and late one night, he had seen the specter of a young man run into their house and disappear into the kitchen wall. According to Heonik Kwon, author of *Ghosts of War in Vietnam*, ghosts in Vietnamese culture are treated as “uncles and aunts.” A living person would speak of a ghost to whom they have no relation, just as one refugee might address another. Ghosts, although wandering, are forever in our periphery as Vietnamese people. Though we may have been separated from them by death (like my grandfather), though they might have gone missing (like my grandmother’s uncle), or simply if we haven’t seen them in a while (like Mrs. Châu and her elderly mother who used to give me sugar cookies and supervise as her great grandson and I fingerpainted), they are still living with us. They are something we can bring along with us when we have been made to leave so many things behind. My grandma, ironically, does not believe in the existence of ghosts. But my father always tells me my grandpa is watching over us and protecting us in whatever we do. Irrespective of our individual religious practices, we all still worship our ancestors.

In a similar way, Vietnamese refugees see Vietnam as a mother from whom they have been separated. The words, “Mẹ Việt Nam ơi, chúng con vẫn còn đây!” (“Oh Mother Vietnam, your children are still here!”) are still sung in South Vietnamese festivals, plays, and other such gatherings. The Vietnamese song “Lòng Mẹ” is so well recognized that its tune alone produces tears among the older Vietnamese generation. Meaning “A Mother’s Heart,” it evokes a child’s grateful grief:

Mother’s love is as vast as the Pacific Ocean . . .
Loving, she sang pleasant words
Lulled us to sleep, during her wakeful nights
For years, her tears flowed like [a] stream
Into our hearts, her hair already gray.
Whoever on road, went to somewhere away
Despite hardship of life journey, high tides
Sun light may dim but love will never die
Wish to return to live near mother’s side.

While this is most commonly interpreted as referring to Mother Vietnam,
the song and the sentiments ring true for all of our mothers: my great grandmother, who refused to have both of her sons perish in the army; my bà nội, who hid the effects of poverty from her children by making the best of what little food they had, whose love is always so evident in her cooking; my maternal grandmother, my bà ngoại, who gave my mother a heart-shaped locket before she left to live two thousand miles away from her in California, and who, in Vietnam’s post-war era of poverty, made shoes and embroidered clothes to support her family; my own mother, who used to call me every night in my freshman year of college, who asks me still to take the train every Friday to be home with her. Mother Vietnam, to us, is another spirit for the altar, another ghost that we carry, another relative we have been separated from, another home we have left behind.

But with every home my family has left behind, we have created another. Whether in Vũng Tàu, Sài Gòn, San Rafael, Toronto, or San Jose, in how they have treated the people around them and in how they have been treated in return, having made new friends and thus expanding their family, they have made homes in every place they have resided. We have a family scattered across the globe, from my grandfather’s students who have immigrated to various states, Canada, and Europe, to the people who have helped my parents in the early years of their immigration whom I now consider aunts and uncles. This is the spirit of Vietnam brought overseas: the scattered children of Mother Vietnam, the Vietnamese diaspora, have in many places formed communities that, in sharing their struggles, joys, and preserving their culture, have become large families building Vietnam in their new situations.

When we moved to Gilroy from San Jose in September of 2018, the first thing we thought of was where we might put our altar. Along with it, we would be bringing the images of my great grandparents—my great grandfather, the business owner, my great grandmother, the keeper of their household, my other great grandfather, the government official, and my great grandmother, the farmer. My grandfather, the lifelong teacher, and my grand uncle, helping hand to countless other immigrants and his best friend, are there as well. Our family, though scattered in life, is united. Our spirits are with us. We are together. We are home.
Notes

1. Interview with Phan Thị Thu, Gilroy, CA, November 17, 2019.


4. Interview with Phan Thị Thu.

5. Oral histories by Nguyễn Hữu Dũng.

6. Ibid.

7. Ibid.


10. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao, Gilroy, CA, November 17, 2019.

11. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.

12. Ibid.

13. Ibid.


15. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.


18. Interview with Phan Thị Thu.


20. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.

21. Ibid.

23. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.
24. Ibid.
25. Huynh, Vietnam: Neither Peace Nor War, 4.
26. Interview with Phan Thị Thu.
27. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.
28. Interview with Phan Thị Thu.
29. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.
31. Interview with Phan Thị Thu.
32. Interview with Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.
33. Interviews with Phan Thị Thu and Nguyễn Hữu Dũng & Nguyễn Quỳnh Dao.
Heritage History: Defining and Preserving Cultural Legacy at the Old Dixie Schoolhouse

Mia Lakritz

Writer’s Comment: I chose the Old Dixie Schoolhouse as the topic of my final project because, as I learned more California history in my history classes at UC Davis, I began to realize how little true California history I had been taught in my sixteen years in California schools. In addition, I witnessed years of controversy about the name of the Dixie School District, in which the Old Dixie Schoolhouse resides, and witnessed how activists on both sides interpreted history for their benefit. At first, I was interested in the schoolhouse as a focus for this project primarily to have an opportunity to find out which aspects of history told by activists were true based on historical evidence. What I found throughout my investigations was something much deeper than the mere history of the schoolhouse; I found an intertwined story of history, community, and land and discovered how much history there is still to learn, about my community and about our nation as a whole.

Instructor’s Comment: You don’t have to look far to find works of public history in the American landscape. They’re all around us, taking forms such as preserved buildings, roadside markers, memorial plaques, and statues in public parks. Yet, like the eager students in the opening of Mia Lakritz’s essay, most of us walk past these works every day without giving them much thought. After reading Mia’s essay, however, you will be much more likely to pay attention. As she demonstrates through her analysis of the Old Dixie Schoolhouse in Marin County, heritage preservation efforts are neither neutral nor inconsequential. In this essay, you will learn about the construction of the school house during the Civil War years and the efforts to preserve the building during the 1970s. Most importantly, however, Mia brings the significance of this historic site into the present, showing us how today’s
visitors to the school house are presented with an incomplete story of the past, one that glorifies Anglo-American accomplishments in the region and excludes the contributions of Native Americans and Mexican Americans. Mia Lakritz was one of only two students in my Writing in History (UWP 102C) course this year who took the option I offered to embark on a public history project as opposed to writing a conventional research paper. We can all be thankful that she rose to the challenge.

—Melissa Bender, University Writing Program

On any given school day in the small suburban enclave called Marinwood just north of San Francisco, hundreds of eager students rush to their morning classes paying little notice to the inconspicuous building fenced off in front of their middle school. This building, known now as the Old Dixie Schoolhouse, is “Marin County’s last remaining, mid-Victorian one room schoolhouse.”

The original building was constructed in 1864 by James Miller as the first school in the newly created Dixie School District, established the year before by Miller. The building was used as the sole schoolhouse in the area until 1954, when population growth called for an expansion in the capacity of the school district. In 1972, as the building was threatened by destruction, community members preserved it as a historic site and it was moved to its current location in front of the local middle school.

According to James Loewen, public monuments tell stories of at least two eras: the era that the monument is memorializing and the era in which the monument was preserved. In this case the first era is late 19th- and early 20th-century California, and specifically the accomplishments and lives of the first Anglo-American families

Figure 1. From dixieschoolhouse.org.

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2 Loewen, “Some Functions of Public History.”
to settle in the region: James Miller and his family. The political and social context in which it was preserved, 1972, was a year in American culture marred by identity politics and deep political fissures following a decade of activism and political engagement. In 1969, a group of Native Americans occupied Alcatraz Island across the bay from Marin, in what is still the longest occupation of a federal facility by Indian people.\(^3\) In Marin County, 1972 was at the tail end of two decades of rapid growth for the relatively small community, jumping from a population of 80,000 in 1950 to 200,000 in 1970. The ethnic makeup of the community also became increasingly white as redlining kept people of color from buying homes in the new suburbia. Census data notes an increase in the percentage of white residents from around 86% in 1950 (including Latinos) to 95% in 1970 (excluding Latinos).\(^4\)

The preservation of the Old Dixie Schoolhouse in this time period shows a community grappling with a rapidly changing economy and society and attempting to create and preserve heritage in a changing world. Community members preserved the schoolhouse in order to maintain a sense of heritage and to claim an expansive history on the land on which they reside. This raises the question of whose history is told and honored by the schoolhouse as the Anglo-Americans who predominate the area today are not the original inhabitants. Since most of the residents at the time were white, it is logical to conclude that the majority of those involved in the preservation of the site were white as well. Other clues about whose history the monument honors can be found within the museum itself, where the majority of history is focused solely on Anglo-American contributions to Marin history and strikingly ignores the Native Coast Miwok inhabitants of the area as well as Mexican-Californios who owned land and ranched in the region for decades pre-conquest. By only preserving the history and contributions of Anglo settlers and consequently erasing local history of both Native and Mexican Americans, and by placing the schoolhouse in a prominent position at a local educational institution, the Old Dixie Schoolhouse served and continues to serve as an attempt to claim and validate Anglo-American presence on the land.

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\(^3\) Johnson, “We Hold the Rock.”

Recent controversies about the racist origins of the name Dixie, which remained the name of the local school district even after the schoolhouse fell into disuse in the 1950s and which many community members saw as a commemoration of the Confederacy, embroiled the local community in heated discussions. The discussions focused on the prevalence of racism in the largely white suburb and the importance of the history of the founder of the schoolhouse and the school district, James Miller. As the controversy grew, many community members felt that changing the name of the school district would dishonor the legacy of Miller and his family, while name-change activists argued that its roots were racist, as Miller was a Democrat and likely a Southern sympathizer, since he named the school district a common name for the Confederacy in the middle of the Civil War. Interestingly enough, as all of these conversations were taking place, no activists were calling for the “Old Dixie Schoolhouse” itself—the monument which this paper focuses on—to change its name, nor was there any sense of urgency around the monument and what was being taught there, despite the centrality of the schoolhouse’s history and its connection to Miller. As a community member and former student in the school district, what struck me about the debate was the emphasis on history and Miller’s legacy by pro-Dixie community members, even ones with no connection to the Miller family. This caused me to question what this history meant to our community and why so many community members were concerned with our community’s heritage.

All monuments and museums are constructed. Curators must pick

5 Activists like Kerry Peirson have in fact been calling for authorities to change the name of the school district for more than 20 years. To read about their activism, read https://www.theguardian.com/us-news/2019/apr/20/dixie-school-district-california-name-change.

6 According to the descendants of James Miller, he named the school district on a dare because the area was so highly Republican he thought he would get a rise out of people. For a primary source of this anecdote see https://www.theguardian.com/us-news/2019/apr/20/dixie-school-district-california-name-change. He was also a registered Democrat and active member of the party as this newspaper article from 1861 supports: Marin Journal. 1861. “Democratic Convention,” August 24, 1861.
and choose what gets included; when community members themselves are the curators, what they choose to include shows what the community values. Likewise, the Old Dixie Schoolhouse has been constructed to serve the needs and desires of community members with power and resources. The placement of the schoolhouse in a prominent location—it stands in front of the local middle school—validates the importance of the schoolhouse and also serves the purpose of validating the existence of the middle school, as it gives the impression that the middle school is part of a longer chain of history and grounds the community in heritage. Within the schoolhouse, museum curators use inauthentic replicas of readers and school rules from the 1860s, when the school was founded, to teach about the history of the schoolhouse and that time period in general. The curators purchase these readers from wholesale suppliers of created heritage in order to create a narrative of history that is useful and palatable to those funding and attending the museum—i.e., Anglo-Americans. According to Cynda Vyas, a former elementary school teacher and volunteer docent at the museum, the main visitors to the museum are elementary school children from surrounding districts. Photographic evidence shows that the current docents are exclusively white or white-passing and most of the students who visit are white as well. Marin’s population is currently 85.5% white and the area around the museum, Lucas Valley-Marinwood is 81.1% white according to the 2010 census. Moreover, only certain districts that are close enough to the school to bus or have the funds and adequate parent chaperones for a field trip can visit the museum. Because of this, according to Vyas, the few schools in Marin that are primarily people of color do not come to the museum. If the museum were actually interested in telling the story

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7 Marin is highly segregated. For an excellent analysis of Marin’s history of 

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of the lives of James Miller and his family, the curriculum would contain accurate history while still keeping content relevant for the elementary school visitors. In fact, the use of these readers shows how the history within the museum is constructed to give a sanitized, digestible vision of pioneer life without any discussion of the nuances of this time period.

Inside the schoolhouse, the original wooden desks are lined up facing the teacher’s desk and the walls are filled with pictures of past presidents including George Washington and Abraham Lincoln (who ironically the schoolhouse seems to claim heritage from when the name Dixie directly contradicts everything Lincoln stood for), along with portraits of the James Miller family. Vyas reports that when they teach young children on school trips they always point to the portraits of James Miller and his family and ask who the students think they are. Most of the time both students and parents assume that they are presidents because they recognize the portraits of the other presidents. By presenting and encouraging this comparison, the schoolhouse romanticizes James Miller and his family as the “founding fathers” of this area of Marin, giving him more importance than he arguably deserves in the history of the area. This is a strong example of the creation of history because these students are young and impressionable and largely unaware of the violent conquest of California influenced greatly by Anglo-American settlers like James Miller. This is not to say that James Miller was a bad person; rather, it is to say that romanticizing him and his contributions is dangerous to young redlining and racial segregation, along with its current struggle to desegregate Sausalito-Marin City School District (the only school in the county that is majority African-American and which does not visit the museum) see Rainey, “A Tiny Marin County District Got California’s First School Desegregation Order in 50 Years.”
minds who have yet to learn about the mission system which killed thousands of Indigenous people as well as the strikingly violent conquest of California’s Native population by Anglo-Americans.8

Many supporters and funders of the Dixie Schoolhouse would probably be deeply offended by this analysis. Activists in favor of keeping the Dixie School District’s name praise the positive qualities that Miller possessed, including “building the first orphanage over at St. Vincent’s in San Rafael, building several local schools, naming the Truckee River after an Indian chief, and adopting two Indian orphans.”9

The point of this essay is not to slander the name of James Miller, though it is worth noting the prevalence of slavery and trafficking of young Indigenous children, especially in California; rather it is to point out that the singularity of focus on him and his family’s contributions to the area erases the contributions of other groups, especially Native Americans and Mexicans.10 In fact, when analyzed closely, the acknowledgement of these groups is almost entirely ancillary to Anglo-American historical

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8 To read about the genocide of Native Americans in California, see Benjamin Madley’s essay “California Yuki Indians: Genocide in Native American History.”

9 “The History of James Millier/Founder of Dixie School.” n.d. We Are Dixie (blog).

10 Knowing about the history of Native American slavery does not make me sympathetic to the idea that James Miller adopted two Native American orphans. To read about Native American slavery in California, especially in regards to children, see Michael Magliari’s essay “Free State Slavery: Bound Indian Labor and Slave Trafficking in California’s Sacramento Valley 1850-1864.” See also The Other Slavery by Andrés Reséndez, which takes a much wider scope on the topic.
figures. For example, on the Dixie School District’s website the author notes that the first Anglo-American in the area before James Miller, Don Timoteo Murphy, helped organize “30 ranchers and their Indian servants” to go up to the gold fields and writes that when nuns first came to build the orphanage mentioned above they had four Indians rowing the boat [emphasis mine]. However, there is little attempt to include these “servants” in the narrative of the schoolhouse, nor are they seen as active players in this narrative. Native history is in fact not told at all after the arrival of Anglo-Americans anywhere on the website, nor is there any mention within the schoolhouse itself other than these two small moments.

As James Loewen notes, “People don’t usually think about images that aren’t there.”\footnote{Loewens, 68.} Without images and other forms of acknowledgment of Native American history, people will not think about them, thus contributing to their erasure, and in a sense, their genocide. This is especially striking because of the existence of explicit evidence of Native history in the form of shell mounds in the hills surrounding the schoolhouse.\footnote{Roop, 2018.} There is no visual marker or acknowledgement of these shell mounds anywhere on the campus of the middle school or in the schoolhouse. Without visual markers of Native history, visitors to the museum are invited to forget about this history, thus contributing to the myth of Anglo-American accomplishments and connection to this land. If we see the schoolhouse as an attempt to validate Anglo-American presence on the land, the corresponding erasure of Native American history makes perfect sense as it would cause cognitive dissonance to understand and acknowledge Native history in the area, the good and the bad, and still feel like white Americans have a justified historical connection to the land and continued right to live and claim heritage there.

\textbf{In light of the controversies} surrounding the name Dixie, it is also imperative to address the erasure and exclusion of African-Americans by the schoolhouse. While the majority of African-Americans in Marin county trace their heritage to workers who came to work on shipyards
during and after World War II, African-American history goes all the way back to the time of James Miller. Moreover, the continuing usage of the name Dixie for the schoolhouse and the replica glass above the entrance with the name Dixie Schoolhouse (even though the schoolhouse when it fell into disuse in 1954 was named Mary Silveira Elementary School), romanticizes the Confederacy and the old south, while excluding those African-Americans from the schoolhouse who are not likely to feel welcome in a space that honors the legacy of slavery. Of all the groups mentioned whose history the Dixie Schoolhouse erases, none is more explicitly ignored than African-Americans, as the name Dixie clearly honors and appropriates the legacy of white supremacy and slavery. In a county with the highest amounts of racial disparity and the least ethnic diversity in the state of California, this can be seen as a monument to the history of racism in Marin county and in America at large.

In this way, it is hard to see why activists who were so adamant about changing the name of the Dixie School District were not as concerned with the Old Dixie Schoolhouse sitting in front of the seat of the district. That controversy, seen as part of a larger story around confederate monuments across the United States, brought united cries from people who saw the name as a monument to a racist Confederate past.

Unfortunately, the general public does not place as critical an eye on other types of monuments like the Old Dixie Schoolhouse, which is marketed as an informational history museum while in reality serves as a monument to pioneer history and preserves a narrative of continued heritage for Anglo-American residents. In his essay “Heritage in Between,” Tsim D. Schneider looks at prominent monuments to Indigenous Coast Miwok peoples and to local history in West Marin; Schneider analyzes how non-Native longtime residents to the area responded to monuments of Native history as if it was their own, revealing the “adoption and sense
of ownership that comes from coopting aspects of someone else's culture.”

In the same way, the Old Dixie Schoolhouse co-opts and creates a sense of ownership over local history by presenting its content, exclusively made up of Anglo-American history, as the beginning and end of the historical record in Marin. As anthropologist Paul Shackel argues, “Heritage is necessary for sustaining local identity and a sense of place, especially by those communities and locales that are threatened by transformations in the global economy.” Here we can see the psychological mechanisms of the creation and sustenance of the Old Dixie Schoolhouse. As the community was threatened by rapid population growth, and more Anglo migrants to the area were cut off from their own heritage as they moved across time and place, it was necessary to create a heritage that would tether them to this place. The erasure of Native and Mexican history is a psychological comfort, as the primarily Anglo residents of this small suburb did not see themselves in their (Native and Mexican) history, preferring to see themselves as part of a larger chain of Anglo-American excellence.

In addition to the two parts of history that Loewen’s claims that every monument recognizes, he also acknowledges a third moment which is the time period in which the author is writing. In that same vein there are two moments in history that should be acknowledged in this paper: the first when I was a second-grade student and went to the schoolhouse on a field trip, and the other as a college student returning after years living away from the community, going back to experience the schoolhouse in a new way. Going back after witnessing the intense debates about the name change was eye opening. I can now see how

15 Schneider, 62.
16 Places in Mind: Public Archaeology as Applied Anthropology, 10.
as a young, impressionable student (with all the best intentions from my teachers I might add), I was fed a problematic and biased narrative about the schoolhouse and what it represents. Going back makes me wonder what else I have missed in my education, raising the question of what it would mean if we started to look at all of the monuments in our lives with a critical lens and an accurate understanding of history. If we did this, how many more monuments would be torn down? How many more protests would be sparked if American history was not co-opted by a narrative of Anglo-American superiority? Taking down confederate monuments is no longer as controversial as it used to be—even the American Historical Association supports this step—but what would it mean to expand our definition of an offensive monument? Recent scholarship has tackled this subject. Pioneer Mother Monument by Cynthia Prescott and “United We Commemorate” by William D. Moore are but a pair of examples of scholars looking back at monuments to American pioneers and what these monuments say to our collective memory. The changing of the school district’s name was a positive step, but when the name was replaced only by the name of the man who chose the offensive name in the first place, have we really made progress? What the Old Dixie Schoolhouse meant in the past is important, but more important is for our society to take a collective look at our history with a critical eye and begin to question whether what our predecessors valued is what we value. Each community has the choice of what heritage to preserve and how to preserve it, and it’s never too late to alter or expand that history to make sure that what is being preserved is true history and not a narrative of Anglo-American superiority.
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Marinwood Park, 775 Miller Creek Road, Marin County, California.” Archeological Resource Service, May, 7.


Tulipomania as a Cultural Reckoning in the New World

Hannah Holzer

Writer’s Comment: During my springtime trip to the Netherlands last year, I was fortunately able to visit the Keukenhof Tulip Gardens at the peak of tulip season, where the millions of bulbs planted in the autumn had bloomed into a colorful floral wonderland. In Professor Frances Dolan’s “Consuming ‘New’ Worlds” seminar, the tulip was one of myriad trade items whose complex histories we discussed. I found the Western gaze imposed upon the tulip in our course readings to be particularly fascinating, and I leapt at the opportunity to dive into the flower famously responsible for the first recorded financial bubble. This research paper combines analysis of Hester Pulter’s poem “The Garden: or The Contention of Flowers” with historical records and scholarly work focused on the 17th-century Dutch tulipomania to explore shifting Western attitudes toward global trade and the sustained exoticization of the “other.” These literary and scholarly texts better informed my thinking about the still-relevant cultural reckoning manifesting from tensions between the need to preserve a particular national identity and the need to embrace the new.

Instructor’s Comment: Hannah wrote this paper in a seminar called “Consuming ‘New’ Worlds,” in which a lively group of undergraduates considered how imported luxury commodities—especially flowers, sugar, coffee, and tea—motivated the expansion of empire and transformed English culture in the seventeenth century. Some of the questions that animated our seminar included: What does it mean to ingest the “foreign” and be transformed by it? How does literature participate in (and not simply register) such processes of cultural change? Students initiated and directed much of our conversation, crowded around a seminar table in a classroom whose warmth and high energy make me feel nostalgic in this moment of online
instruction. We shared food, ideas, and stories with one another; we visited rare 17th-century books in Special Collections; and students embarked on independent research. Hannah was an extraordinary participant from the start. Her excellent work culminated in this paper on the “tulipomania” that made tulips so fashionable and expensive in the period and what the Tulip has to say for itself in Hester Pulter’s poem “The Garden: or The Contention of Flowers.” Although many texts in the period censure the Tulip as an outsider, intruding on the English garden, Hannah shows that Pulter’s tulip emphasizes its exotic origins as, paradoxically, its strategy for assimilation. This is an original and provocative argument, supported through careful research and subtle, smart textual analysis. I’m delighted it will find a wider audience here.

—Frances E. Dolan, Department of English

There is a famous tale that emerged from the 17th-century Dutch Republic about a sailor who ate a tulip after mistaking it for an onion. One version of the story says the sailor ate the flower bulb for breakfast (Lee), while another version says the sailor received “raw herring at the kitchen door of a rich merchant and a tulip fancier” and subsequently “picked up some roots which were lying outside, cooked them with it, and ate them, thinking them to be onions” (Silberrad and Lyall). In both versions, the lesson lies in the absurdity: The sailor was “unaware that they were priceless tulips” (Silberrad and Lyall) and so obviously “did not realise [sic] the onion-like bulb was a precious object” (Lee). This story seems the most apt embodiment of the futility and falsity of Tulipomania, a mania of consumption which centered around the flawed belief that flowers could somehow be “priceless” and “precious” objects. Any interpretation of this event, or of the tulip’s history and status in the West, would be incomplete without recognition of the flower’s foreign origins and exotic appeal. As noted by English scholar Benedict S. Robinson, “a flower is not like any other commodity,” in that “it is not simply imported into England, but, once imported, grows there, perhaps even becomes part of an English ecology.” The idea that an exotic flower can assimilate more effectively—to the point that its own history is rewritten—is explored indirectly through the personified tulip in Hester Pulter’s poem “The Garden, or The Contention of Flowers.” By placing scholarly analysis of Tulipomania in conversation with Pulter’s poem, we can begin to explore the New World’s desire for the perfect
natural object—an idea that seems oxymoronic, but is, nevertheless, a byproduct of New World attempts to assimilate foreign goods.

The garden as a private, exclusive, and artificial natural realm is important context to note before diving into an analysis of the historic or literary tulip. The word “garden,” which dates back to the 13th century, is defined by the Oxford English Dictionary as a traditionally enclosed piece of ground where “flowers, fruit, or vegetables are cultivated.” Later use of the word, popularized by the British, characterizes “garden” as “private property,” typically “adjoining a building.” The idea of the garden, then, is, by definition, entrenched with both private tastes and preferences in its curation as well as cultivated through private enjoyment. There is a sense of privilege evoked by the garden: the garden as leisure time, rather than as serving a purely utilitarian function. A similar sense of the garden as a relaxed yet exclusive pastime is present in Pulter’s poem, specifically in the first three lines:

Once in my garden as alone I lay,
Some solitary hours to pass away,
My flowers most fair and fresh within my view

The repeated use of the word “my” establishes the garden as a private space. Yet the idea of possession over the garden and the flowers effectively creates an immediate and very obvious dichotomy between the natural and the unnatural. Despite the fact that the garden in Pulter’s poem is comprised of 13 different flowers with origins spanning the globe—meaning the garden has been specifically curated and cultivated to represent personal preference—the unnatural assortment of flowers is naturalized in the words “my flowers” and “my garden.”

The implications of this language exist outside of the poem, as this viewpoint is at the crux of the New World’s outlook—an outlook informed by seemingly boundless desires and by the seemingly limitless abundance of trade and colonial pursuits. The garden, a clearly defined and identifiable space, “opens onto the wider and less determinate spaces of nation, race, or culture” through the assimilation of exotic flowers into English gardens (Robinson). Furthermore, the practice by which foreign flowers are naturalized into English gardens “might suggest English control over the networks of global trade and consequent access to exotic objects of value and beauty,” yet “it might also trigger a more
anxious sense that the integrity of an English ecology was being eroded, that England was being subtly altered by its own undisciplined desires” (Robinson). The idea that England is simultaneously benefitting from foreign goods yet also experiencing a sort of cultural identity crisis as a result of its desire for more seems, at once, too large an idea to truly define or comprehend. It also, however, seems like the give-and-take and push-and-pull at the heart of how we think about and define the New World. John Gillies, writing about “The Figure of the New World in The Tempest,” describes the evolution of the New World “as concept” with the word “new” left “deliberately vague”—“The New World might have been ‘new’ in a genuinely ontological sense, but then again it might have been ‘new’ merely in the contingent sense of only recently having come to European notice.” Just as The Tempest’s Miranda shifts her world view dramatically, acquiring a sense of the “brave new world” when exposed to ideas outside of her existing realm of knowledge, Europe, too, is experiencing a cultural reckoning at this time. And Tulipomania, specifically, is a perfect microcosm of this reckoning.

The Dutch Golden Age was characterized by a hunt for new, exotic goods. This hunt brought Dutchmen to the East, and they brought back with them animals, herbs, spices, plants, and flowers, including the tulip. Originating from the Ottoman Empire (now modern-day Turkey), the tulip, which arrived in the Netherlands in 1590, was described as “an ‘oriental’ object that fascinated the Dutch” (Lee). Pulter’s tulip prizes its “Turkish turbans,” a unique attribute which “enlarge[s its] frame.” The tulip’s very etymology derives from the word “turban,” and the associations evoked by the latter word are significant. The tulip’s own name “identified it as a stranger” (Robinson). As referenced in Pulter’s poem, the tulip’s unique, turban-like shape and Middle Eastern origins are part of its appeal. Whereas a number of the other flowers in Pulter’s poem actively Anglicize themselves, the tulip makes active reference to its Middle Eastern origins because its exotic roots are what make it an alluring and economically successful product.

Additionally, as the trope of the conflation between floral and feminine beauty goes, literary texts frequently depict the tulip’s beauty as derived from its feminine appeal. In Pulter’s poem, each of the 13 flowers, except the Adonis, presents itself in a feminine form. The personified tulip praises its unrivaled beauty in the poem. It also, however, praises its
reserved nature: “besides my beauty, I have virtue.” Indeed, the tulip was seen as “seductive enough to win the title of the most beloved flower in the Ottoman Empire” while also thought to be “modest because it bows its head to admirers” (Lee). Although the tulip has a globally recognized appeal, it is undeniable that the Western gaze has effectively sexualized a foreign object—as in Pulter’s poem. It seems likely, then, that the tulip’s popular appeal in the East would be hyper-intensified in the West given that, outside of its context of origin, it exists as an item of beauty, mystery, and intrigue. This rationale might begin to explain the mania for the flower that overtook the Dutch during Tulipomania.

The tulip’s exotic appeal is inseparable from its value in the West, but the tulip had long been sexualized and admired in the East before Tulipomania. In Persia, tulips were a frequent reference in poetry. “Regarded as a symbol of declared love . . . on account of the elegance of its form,” and “the beauty of its colours,” the flower had been considered “an appropriate symbol of a female who possesses no other recommendation than personal charm” (Silberrad and Lyall). Other scholarly texts describe the tulip as “wildly sexy,” “seductive,” “a matchless pearl” and a “symbol of undying love” (Lee).

Yet the tulip that stole hearts in the East was not the exact same much-admired tulip of the West. Preferences of kind and variety differed depending on location. At first, the tulip was brought to Europe as a “resident alien,” but over time, the flower was naturalized to “local conditions and local tastes” through gardening. Thus, “as the tulip changed Europe, the flower itself was changed by Europe” (Robinson). The language being employed in this passage feels strikingly similar to that of human migration. There is still an idea and expectation that “resident aliens” who come to the United States or any other Western nation assimilate themselves accordingly. The U.S. and the United Kingdom champion themselves as global symbols of diversity and inclusion—as a kind of cultural melting pot. Yet to assimilate means to abandon one’s foreign identity and culture in exchange for loosely defined ideas of freedom and prosperity largely rooted in aspirations for economic mobility. It might be concluded, then, that the tulip, as one of the most economically advantageous flowers in history, succeeded in assimilating, at least in the Western sense of the term. The tulip, however, is not the anomaly, it is the rule. The tulip’s beauty allowed it to assimilate successfully. And beauty seems to be the gatekeeper for successful
Tulipomania as a Cultural Reckoning in the New World

assimilation for migrants to Western countries. Migrants from European countries, who have light skin, are more readily accepted as Americans, whereas a disparity exists in terms of the willingness or readiness to accept migrants of color, those with attributes that do not align with Western beauty standards.

Scholars have tried to explain Tulipomania, a craze for tulips that overtook the Dutch between the years 1634 to 1637, as a result of mob mentality; a symptom of the unhinged desires run rampant in the face of New World acquisitions; a market gamble and, in the most naïve sense, an act of adoration for nature in the purest and most chaotically idyllic sense. The stories, the numbers, and the prices that emerged from this period are almost too wild to be true, and any one of these explanations taken alone would present Tulipomania in too reductive a form. Looking at prices alone, it is difficult to get a tangible sense of the extreme value the tulip amassed. A better sense might be had in looking at what was given for one single rare tulip species: the Viceroy. According to Scottish journalist Charles Mackay, the following articles were exchanged for a single one of these rare tulips: two lasts of wheat; four lasts of rye; four fat oxen; eight fat swine; twelve fat sheep; two hogsheads of wine; four tuns of beer; two tuns of butter; one thousand lbs. of cheese; a complete bed; a suit of clothes and a silver drinking-cup. And in Haarlem, one of the premier cities for bulb auctioning in Amsterdam, a stone, set down in 1637, marks the location of “Tulip House,” a house infamously exchanged for a single tulip. On the stone, there is the following inscription: “This stone was kept as a remembrance of the famous tulip trade of the year 1637, `when one fool hatched from another, the people were rich without substance, and wise without knowledge’” (Silberrad and Lyall). Any one of these exchanges seems surprising, but it bears the question: Why is one good more valuable than another? According to Robinson, recognizing the chaos exhibited by the Dutch tulip market is a “recognition of the market’s power to assign fantastic values to what might seem to be trivial or ephemeral objects. . . . [I]t is naive to be shocked at the high prices tulip bulbs could command, since exchange value is a function of the market, that is, of desire: the value represented by a commodity, as Marx famously wrote, is ‘purely social’” (Robinson). Thus, it is perhaps only fruitful to examine the value of a commodity in terms of its social value, as a direct representation of the desires and priorities of the time.
Using this lens, let us then examine the most highly prized tulip of the period, the variegated tulip, as the embodied representation of English desire. When seedling tulips first flower, which can take up to seven years, they are “self-colored.” Over the course of several more years, however, they “break,” causing the flower to become no longer self-colored, but variegated (Silberrad and Lyall). Today, tulips are bred specifically to produce streaks of color, but in the 1600s, when the variegated tulip first entered Western consciousness, the variegation was caused by the potyvirus Tulip breaking virus (TBV) (Lesnaw and Ghabrial). It was not until the 1930s that the viral cause of this variation was understood. And as the seemingly random outcome of tulip bulbs came to be thought of as a kind of gamble, Dutchmen began to play the tulip market as a gamble in and of itself. The tulip came to be beloved for its variety, and the error effectively made the tulip more valuable. According to Silberrad and Lyall, in the time of Tulipomania, from 1634 to 1637, the more the tulips “were striped, violet and rose on a pure white ground, the more was paid for them.” Even over a century later, between the years 1790 and 1797, although tulip prices had dropped considerably, the standard “was much the same: the colours in greatest estimation in variegated tulips are the blacks, golden yellow, purple violets and rose and vermilion, each of which being variegated various ways; and such as are striped in three different colours distinct and unmixed, with strong regular...
streaks, but with little or no tinge of the breeder, may be called the most perfect tulip” (Silberrad and Lyall). It might be curious then that while the other flowers in Pulter’s poem speak of themselves in their perfect forms (“I from heaven descended,” says the Caledonian Iris), the tulip is nevertheless ardently adored for its unexpectedness. A few of Pulter’s flowers wax poetic about their distinctive characteristics. For instance, the poppy specifically emphasizes its unique capability to produce opiates. For the most part, however, the flowers highlight their beauty and virtue. The tulip does this as well, yet it does something different by mentioning its flaws: “My roots decayed nature doth restore.” The line is strikingly humble in tone, an example of a flower owing its health and vibrancy not to its own perfection but to the natural world it is born from.

Yet that natural world is very much unnatural, at least according to English poet Andrew Marvell (1621-1678). In “The Mower against Gardens,” Marvell criticizes the “white” tulip for seeking out “complexion” and learning to “interline its cheek.” He writes of the self-colored tulip as a pure entity, chastising its variegation as a sort of ominous façade. The following lines in Marvell’s poem, however, make clear that the consequences of the tulip’s variegation run much deeper than what might be seen as just a made-up falsity:

And yet these rarities might be allowed
To man, that sovereign thing and proud,
Had not he dealt between the bark and tree,
Forbidden mixtures there to see.
No plant now knew the stock from which it came;
He grafts upon the wild and the tame . . .

Grafting, an undeniably unnatural process, is the root of the variegated tulip’s success: “color breaking in tulips was demonstrated to be transmissible from bulbs of variegated tulips to bulbs of uniformly colored tulips by grafting.” And the grafting owed its success to TBV, a fact then unknown (Lesnaw and Ghabrial). As made strikingly clear, the variegation is depicted as a threat to the purity of the tulip. These lines, however, are not strictly a pointed criticism of the variegated tulip, but more so a criticism of the mixing of the new with the old as effectively diluting the sanctity of England. The “forbidden mixtures” then are a reference not just to grafting techniques, but to the mixing of races, the mixing of cultures, miscegenation, and the implications of New
World desires as a threat to both English purity and the purity of the “white race.” Of course, we have previously seen the idea that acquisitions from trade and colonialist conquests simultaneous benefit and degrade Western society, complicating the ways it perceives itself, in the aforementioned work of Robinson. To expand this point, Robinson addresses commodity histories as narrating the “emergence of global capitalism as a scene of seduction” where Europe is “invaded, penetrated, conquered, rescued, seduced and dominated” by these foreign goods. The separate histories of sugar, tobacco, chocolate, rice, and flowers, and their emergence in the New World, decontextualize relevant and important origins, serving to fragment the identities of these goods as pre-New World and post-New World. Yet by reversing these narratives—thinking of these goods in terms of having “invaded,” “penetrated,” and “conquered” those colonial forces thought of as acting upon these goods—an important autonomy is bestowed upon these commodities.

In light of this reversal, then, let us imagine Pulter’s tulip as not having been a curated entity, but as having acted upon the garden. Let us observe and interpret the tulip as the catalyst which orientalizes Western taste, therefore sparking “an errant desire for exotic plants that rooted itself right into the soil, taking hold of and subtly altering an English ecology” (Robinson). Interpreting the tulip in this way preserves the flower’s history as separate from its Western assimilation. It is also an important rewriting of its assimilation history, allowing the tulip to exist
beyond the role of idealized, imagined, exotic wonder.

Bibliography


Helvetica and ZXX: Ubiquity and Surveillance in a Democratic Nation-State

Arisa Bunanan

Writer’s Comment: In his collection of essays analyzing the state of the world post-9/11, Welcome to the Desert of the Real, Slovenian philosopher Slavoj Žižek frames the state of our democracy with this statement: “[W]e feel free because we lack the language to articulate our unfreedom.” Through writing this paper, I found the intricacies and complexities of humanity seep into even the most seemingly mundane parts of life. Subjects heavy with the discursive, such as democracy or surveillance, can be found within something as mundane as fonts. Art history can extend to all reaches of visual language, including the form that our digital texts take, and teaches us that nothing in society can escape the burden of representation of each and every complex aspect of the human condition.

Instructor’s Comment: This outstanding essay is a result of Arisa’s hard work, not just in the final upper-division seminar she took me with in the last quarter of her education at UC Davis, but also a clear outcome of four intense years of learning, reading, writing, and deep critical thinking. Arisa took the very first First-Year Seminar that I offered at UCD, entitled Art and Violence, during her freshman year. From then on, she continued to take other courses in art history and the cross-pollination of the arts, visual culture, the humanities with the world of politics and identity. Through a deep commitment to critical thinking and disciplined writing, Arisa developed intellectually and academically to become a skillful and nuanced writer and critical thinker. The seminar was entitled Cosmopolitanism and the Avant-garde, during which students were challenged to read primary sources such as Kant, Zizek, Spivak, and Derrida and to intensely think about the workings of the world in terms of cosmopolitan identity and post-colonial politics. That it was all happening during COVID-19 lockdown
and the revolts of the BLM made the discussions that much more important and intense. This outstanding paper of the politics of fonts out of a historical context of cosmopolitan and globalization is Arisa’s masterpiece and the articulation of four years of intense education in the humanities. I applaud her not only for this particular achievement but for her being a much needed outstanding citizen of the world.

—Talinn Grigor, Department of Art History

Fonts are a pivotal fixture of modern society. They act as couriers of information, set the tone for the words they embody, and influence us in both conscious and unconscious ways. In his book *Signs and Symbols: Their Design and Meaning*, Adrian Frutiger, a Swiss typeface designer, elucidates how type and graphic design are used as worldwide mediums of communication. Just as visual art forms reflect their time period and societal underpinnings, typography’s role in modern society and its importance in our everyday lives can provide similar insight. Because they are a vehicle for information cloaked in a visual design, fonts can embody characteristics or “particularities” that make them seem human, or as embodying aspects of human culture. This societal reflection is present within fonts that participate in cultural mimicry, like the “oriental” font on Chinese take-out boxes.

Despite being an object that has become one of the most recognizable symbols of Chinese cuisine, the box itself was created by a Chicago inventor, Frederick Weeks Wilcox, in 1894. In the 1970s, an employee from Fold-Pak, a company that produces these boxes, decorated the box with a pagoda and designed a stylized to mimic Chinese calligraphy (Fold-Pak does not sell these takeout boxes in China). Even in the most mundane aspects of life, the typeface of takeout boxes, aspects of culture and the capitalist gaze can be seen and analyzed. Slovaj Žižek, a Slovenian philosopher, describes the principles of democratic abstraction in his book *Looking Awry: An Introduction to Jacques Lacan through Popular Culture*, investigating the equalizing force of democracy present within his preamble “We The People,” which acts as the underlying demand to clear individuals of particularities (e.g., culture, sex, and race).

describes “national cuisines” in a contemporary megalopolis: behind every corner stand Chinese, Italian, Mexican restaurants, a fact that confirms the loss of proper ethnic roots of these cuisines. Because of the abstraction of culture, the truth beneath becomes warped, as in the abstraction of Chinese culture into something of a caricature (the pagoda and calligraphy-like Western font).

While typefaces like the one seen on the Fold-Pak boxes are designed to mimic and exude particularities, other fonts are designed to be free of particularities. One in particular, Helvetica, has been so successful it has been dubbed by the design community as the “universal” font. Many designers have described it as being so ubiquitous, it is “like air,” and its influence can become an “unknown-known” for everyday people who see and read it every day, but are not aware of its presence. In the 1950s post-war period, designers felt the weight of responsibility to rebuild and focus on design values that bring people together. Since its release in 1957, Helvetica has overtaken a vast majority of typographic aesthetics in the Western sphere, and has been dubbed the quintessential modern font.

**Helvetica: A Child of Modernism & Internationalism**

Helvetica was designed by Max Miedinger following a commission by Eduard Hoffmann, the owner of the Swiss type company. As a design project, it embodied the goals of Modernists from the era it was conceived. Within its core principles are echoes of Loos’s penchant for elimination of ornament (in this case, serifs) and Van Der Rohe’s values of minimalist design (seen in the sleekness and simplicity of the characters). The circulation Helvetica in the Western sphere is comparable to the “living machine” models that Le Corbusier once dreamed would be reproducible and built worldwide.

This sense of internationalism that pervaded International Style architecture also existed within the realm of design and typography. The Swiss International Style, as exemplified by Helvetica, emphasizes

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4 Huswit, Gary. 2007.
balance between black and white; “it’s not a letter that’s bent to shape, it’s a letter that lives in a matrix of powerful surrounding space.” This awareness of weight distribution between line and space—the tension of white space around the black letters—is put into poetry by Massimo Vignelli, an Italian designer who has studied the Swiss style. Vignelli proclaims that “like in music, it’s not the notes, it’s the space in between the notes that make the music.”

Vignelli’s influential design rhetoric has made him widely known in the field, and the poster series Vignelli Forever by Anthony Neil Dart has been designed in his honor (Fig. 1). To those who know of Vignelli’s love of typography, his veneration of Helvetica, and the typeface’s unprecedented success, the words, “if you do it right, it will last forever,” ring their truest in the bold curves of Helvetica itself.

Michael Bierut, a graphic designer, regales viewers with an anecdote about how corporations rebranded themselves during the 1960s, at the rise of Helvetica:

“Here’s your current stationary and all it implies, and here’s what we are proposing.” Next to the belching smokestacks, the nuptial script, and the ivory paper, they’d have a crisp, bright white piece of paper,

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5 Huswit, Gary. 2007. Quote from Mike Parker, director of typographic development.

6 Huswit, Gary. 2007.
and instead of Amalgamated Widget, it would just say WIDGECO, in Helvetica Medium. Can you imagine how bracing and thrilling that was? It’s like you had crawled through a desert with your mouth caked with filthy dust and someone offers you a clear, refreshing, distilled, icy glass of water to clear away this horrible burden of history.\footnote{Huswit, Gary. 2007.}

What Bierut described as the ice-cold splash personifies Helvetica’s modernist spirit and quelling of the market’s need for a sans, minimalist type. The transition from the graphic design norms prior to the 1950s to the late 1960s following Helvetica is illustrated by the two Coca-Cola advertisements from each respective time period (Figures 2-3). One, from 1941, emblematizes the characteristics described by Bierut in his anecdote, while in the other, an ad campaign post-Helvetica, the

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\begin{figure}[h]
\centering
\includegraphics[width=0.45\textwidth]{figure2}
\caption{Coca-Cola, Coke Belongs. Coca-Cola Ads, published 1941.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.45\textwidth]{figure3}
\caption{Coca-Cola, It’s the Real Thing. Coke. Coca-Cola Ads, from a series published 1969–74.}
\end{figure}

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entire visual structure has shifted and is anchored by a high definition photograph of the beverage with “It’s the real thing” written in Helvetica Medium. The notion of something that is contemporary—in this case, the typeface—washing away the dirt and grime of a historical burden is an absolute Modernist mode of thinking.

As a result of its reputation for legibility and seemingly clean, neutral facade, Helvetica quickly became a darling of government and corporate branding. BMW, Target, and Panasonic are only a few of the companies that use Helvetica.\textsuperscript{8} It also appears in the logo of the EPA and on tax forms from the IRS.\textsuperscript{9} Just as any art historical analysis of a painting of a monarch can expose political motives, Helvetica provides a similar mask for government agencies and corporations. Both entities, constantly fighting against the image of being authoritarian and inhumane, are able to appear accessible, transparent, responsible—and human. Its success continued into the 21st century with the advent of the personal computer, or PC.

\section*{The Hypervisible: Helvetica as MacIntosh’s Default}

German designer Erik Spiekermann explains that part of the spread of Helvetica can be attributed to the development of the PC and eventually its employment as the default font of MacIntosh, a.k.a. Apple products.\textsuperscript{10} Everything that is written on texts, in notes, on the interface itself is written in Helvetica, or Helvetica Neue, a variation of the original font. Even Windows, modeling itself after Apple, at first used Helvetica and then created a lesser clone, Arial.

As it is being used on a communication device with a solid foothold in capitalist America and, of course, across the globe, Helvetica’s presence and influence has spread with Apple products. It is arguably the most seen and read font in the world, due to its permanent fixture in the iPhone, a device that possesses a quality of ubiquity equivalent to that of the font itself. In his book, \textit{The Inhuman: Reflections on Time}, Jean-François Lyotard delineates the loss of “dimensional intersubjectivity,” or a psycho-social connection because our contemporary space is one

\begin{flushleft}
\textsuperscript{8} Huswit, Gary. 2007.
\textsuperscript{9} Huswit, Gary. 2007.
\textsuperscript{10} Huswit, Gary. 2007.
\end{flushleft}
rendered community-less as a result of hypervisible information. Helvetica has become a vehicle for the digital age’s hypervisibility. Its principle of legibility and reputation for being a neutral font have contributed directly to its oversaturation of the design market, be it for branding, digital interfaces, or government communications.

The loss of dimensional intersubjectivity is owed to the digital revolution, the integration of technology into our everyday lives with the expectation of making things easier, better, along with systems of bureaucracy that use automated systems as a means to distance themselves from addressing human problems plaguing their clients or constituents. What is called the “listening eye” coincides with the evolution of typography integrating into technological interfaces. Everywhere we look, our eyes are oversaturated with the hypervisibility of Helvetica; it has settled deeply into our conscious and unconscious. Its spread has become mechanical, hegemonic. If Helvetica is representative of the structural things that create and shape the Western sphere, such as government agencies and capitalist corporations, then there must be something representing the forces railing against hegemony.

9/11 & Snowden: The Creation of ZXX

Just as Helvetica came at the end of World War II, another type emerged after 9/11 and the Edward Snowden leak. In 2013, the font ZXX was released as an effort to thwart NSA surveillance of digital correspondences. Its creator, Sang Mun, a former South Korean intelligence agent, conceptualized the font with the priority of creating a design focusing on the protection of individual privacy as opposed to universal legibility.

Today’s digitally oriented world has been formed out of a mixture of technological progress and equally impactful trauma, 9/11 being the catalyst for the pervasiveness of surveillance today. Following this event came the destabilization of the public’s trust in government because of Edward Snowden’s leak. In a press conference after the Snowden leak President Obama said, “You cannot have 100% security and 100% privacy,” in defense of the surveillance programs authorized by the White

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This point of view elucidates the complexities of the social contract in a democratic nation that have evolved since its founding. We can no longer examine the democratic nation-state as it extends to the individuals beneath its contractual obligation, but take into consideration the technological advancements and surveillance that have become another pillar of the democratic machine.

The convergence of technological advancement and the means of public control implemented by the democratic nation-state feeds into Flieger’s analysis of the realm of hypervisibility. The theory that the post-digital revolution world has become engulfed within the “all-too-visible” converges between three philosophers: Lyotard, Baudrillard, and Žižek. Flieger contends the three modes of thinking question the sphericity of the world beneath the “ubiquitous eye in the sky of satellite surveillance.” This cautions that perhaps philosophers may discover the world is indeed flat due to the loss of “sphericity” when everything is hypervisible, just as flat as the black mirror screens that have become pervasive in nearly every aspect of life within the American democratic state. It is in this world of surveillance, as a part of the counterculture against “the listening eye,” that ZXX was born.

ZXX & Selective Legibility: Cyber vs. Human Gazes

ZXX has six different cuts (or versions): Sans, Bold, Camo, Noise, False, and Xed. The first two cuts, Bold and Sans, are regular typefaces that are legible to text recognition softwares (Fig. 4), and they serve as the baseline, or the control factor in the disruption test. The other four cuts, Camo, False, Noise, and Xed, have been shown to disrupt recognition softwares to varying degrees in Sang Mun’s ZXX sample video (Fig. 4). Camo has camouflage patterns splotched about the black letters as a leopard would have camouflage in the wild. False embeds smaller text meant for reading within the larger letters codified by the matching of a forwards and backwards alphabet (a = z, b = y, and so on.).

14 Mun, Sang. ZXX Type Specimen Video. Studio Mun. 2012
Noise has pixels covering the letters; the amount of noise corresponds to recognizability—the more recognizable, the more noise surrounds the letter to further obscure it. Xed simply x-es out the letters and is the most successful at disruption, due to the fact that the X’s placed on the letters activates all four corners of empty space surrounding the letters. They all function similarly to CAPTCHA tests that determine whether someone online is human or a bot.

The point of ZXX’s disruptive legibility does not target humans; it targets the cyber eye. It is not an illegibility; rather, it is a selective legibility, making it difficult for computers to read and easy for the human eye to decipher. It is similar to art historical symbols and motifs. If the computer-user is not well versed in the motifs of the Renaissance, they may view the School of Athens as a painting filled with various men interspersed in an architectural space. The words and the sentences are there, but the meaning is not, giving a reading of meaningless combinations of symbols and letters. However, if a human who can read ZXX is versed in said motifs, they understand Raphael’s painting as an homage to classical masters—they see Aristotle and Plato in the center of a room filled with philosophers, astronomers, and scholars, and the words and sentences come together and have meaning.

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15 Mun, Sang. 2012.
Helvetica & ZXX: Particularities & Privacy

Erik Spiekermann, a German designer, criticizes Helvetica's creators for designing a type where all the letters look identical; in his viewpoint, Helvetica does not represent individuals, but an army. As a designer, he believes in designing each letter so that it is unique and interesting enough for the reader, but not all the same. In all of its strangeness of six different cuts, four of which are filled to the brim with particularities, ZXX represents a very different kind of philosophical dilemma for designers. In this case, its particularities are what safeguard us from surveillance. Thus, if we understand ZXX as a manifestation of our frustration with the lack created by democracy, then it makes sense that its particularities are what safeguards ours.

During his famous interview, Edward Snowden asked American citizens to consider that this invasion of privacy matters to them; even if they “aren’t doing anything wrong,” this should be something that concerns them, angers them, that they demand to change. As Foucault describes in his theory of power, in order for power relations to exist there must be acts of freedom.

Fig. 5. Sang Mun, BLOWING THE WHISTLE ON A WAR CRIME SHOULD NOT BE A CRIME, from the ZXX type specimen poster series, designed 2012, printed 2016.

Just as Snowden leaked the information and Mun created ZXX, both of these acts exist in order to illuminate the system of power relations. The theorization of power relations proposes that there must be a certain degree of rigidity in the system that governs, in order for something radical to come to fruition.

This, in congruence with visual literacy, adds a whole new dimension to the weight of Helvetica’s legibility and what it means in relation to modern society. Its legibility becomes a piece of the puzzle of surveillance. Thus, Mun’s typeface can be seen as a kind of camouflage, a natural process of evolution meant to evade the predatory gaze of surveillance programs. A poster from Mun’s ZXX series during the initial release of the font states that “blowing the whistle on a war crime should not be a crime” (Fig. 5) in different cuts of ZXX, thereby exemplifying the typeface’s role as a servant of whistleblowers, activists, or every day individuals who wish to keep their private thoughts their own.18

Helvetica & ZXX: Monotony & Disruption

Even within its omnipresence and ability to trap designers in what seems like a positive feedback loop (when one sees Helvetica one wants to design more Helvetica) or to unconsciously rope in the public gaze and understanding of type under an umbrella of cautionary oneness, it still, as Frutiger theorized, exists as a typeface, as a universal medium for communication.19 The graphic design collective Experimental Jetset optimistically theorized Helvetica can always be adapted to each individual’s style, so the fear of it being the dominant, sole aesthetic is unfounded.20 Within this paradox we can see reflected both the core values of Helvetica and how it is implemented by the different facets of people within a democracy, be it for capitalist gain, for government use, or for individual and artistic use, there will always be a balance of abstraction of particularities and the manifestation of them. In this sense,

91-102.
one can argue that Helvetica can be equated to several parts of Žižek’s criticism of democracy, his statement on its attempted standardization of individuals and its inept ability to do so in a complete manner. This paradox results in the perpetual resurgence of particularities attributable to the very nature of humanity and all of its strangeness.

ZXX’s incitement of optimism and universalism has a similar dependency on human interaction as Helvetica does. Its illumination comes from fascination and critique of its rate of success. Critics hinge its importance as a typeface on the surety of its disruptive ability, often becoming dismissive of the type after it has been deemed useless by those who have tested its mettle against computer softwares. However, one can deduce from the political climate when this typeface was released—and from the background of its creator—that its fundamental function as a font possesses a loftier goal than the surface level indicates. To understand Mun’s intentions for this type project, we should examine his use of the word “disruption.” One finds it difficult to believe that Mun, a former NSA agent, should be so naive as to think a single typeface can miraculously solve the problems of surveillance and invasion of privacy. Despite it being dismissed by some experts as a mere “art project,” it does what art is meant to do: raise questions about the current human condition and analyze our state of being.

If we expand the definition of disruption beyond the fundamental function of ZXX as a typeface, we might understand he is disrupting not only NSA programs, but our perception of safety within a surveilled world, our complacency within a system where we seem content with being monitored and having our privacy invaded on a day-to-day, hour-by-hour, minute-by-minute basis. Žižek declared in his series of essays following the tragedy of 9/11, “We feel free because we lack the language to articulate our unfreedom.” ZXX alone cannot bear the brunt of the weight that comes with the title of the language of freedom, but perhaps if we heed Mun’s call to become more aware and proactive within the surveilled state, we may yet stumble upon the words and sentences that amount to something worth the feeling of freedom.

Let the Eyes of Vigilance Never Be Closed

In examining of both Helvetica and ZXX through art historical, philosophical, and technocultural lenses, this paper aims to contribute to the discourse of how something as simple as a font can be used to articulate the complexities within a late capitalist, democratic, postmodern society. On one hand, Helvetica's pervasiveness in modern society leads us to the question whether or not we are already living in a world where universalism has been realized. On the other hand, ZXX’s niche particularities challenges us to uncover the inner workings of systems that govern our lives, and question whether or not we are living in a caged simulation. There is the realm of Helvetica—the universal, the legible, the seemingly transparent, the abstracted commonality; and there is ZXX—the underground, the resistance, the skeptical. Democracy sits somewhere in between.

Bibliography


“NSA whistleblower Edward Snowden: ‘I don’t want to live in a society


Page Layouts and the Comprehension Process

Rebecca Spin

Writer’s Comment: Page layouts fascinate me. My interest in them is, in part, why I became a graphic designer in the first place. I find it amazing that the way content is arranged on a page can have a profound impact on how readers interpret it. Words can be daunting on their own. Lined up in huge unwieldy blocks, text can become difficult to penetrate. However, with a good layout, the text becomes an accessible and enjoyable reading experience. Thus, I consider page layout to be one of the most important genres of information design.

This immediately came to mind when my UWP 012 Professor Carl Whithaus assigned our class the task of creating multimodal texts to teach other students about particular genres commonly used in our respective fields. We were to compare examples of the genre in order to broaden the scope of our research and analysis. I applied the aspects of graphic layout that I researched into the aesthetics of my final project.

Instructor’s Comment: The interplay between words and images is a key element in UWP 12 Writing and Visual Rhetoric. Throughout the class, Rebecca worked at the seam between words and visuals. As a genre analysis essay, her “Page Layouts and the Comprehension Process” encourages us to see the relationship between words and images differently. Often text is seen as an explication of an image. At other times, images, particularly figures, are analyzed as support for arguments made in words. Rebecca’s essay, however, asks us to see words themselves—pages and pages of words—as images. In succinct prose, Rebecca analyzes articles in the story-based magazine, Local Wolves, and on the photography blog Capture by Lucy. She considers them in terms of their use of visuals and design elements. Rereading “Page Layouts and the Comprehension Process” reminds me of how thoughtful and engaged
Rebecca was as a student in UWP 12. Her attention to detail was impressive. I hope that we get to see more of her work—both her writing as well as her design—in the years to come.

—Carl Whithaus, University Writing Program
PAGE LAYOUTS
AND THE COMPREHENSION PROCESS

Large blocks of text are notoriously difficult to process. When it comes down to it, it’s a matter of maintaining attention and interest when one is presented with a wall of content. Often, dense texts result in viewers reading and rereading the same passage and failing to process anything that they’re seeing. So how do those who rely on writing in dense blocks make their message accessible to readers? The answer is the design concept of layout. Page layouts are a crucial bridge between content and comprehension, especially in genres that require extensive writing.

Layouts aren’t generally considered to be a genre on their own. However, the facet of design that focuses on the graphic conveyance of text-based information relies heavily on the principles of page arrangement. Thus, text-based communication creates a genre of layout design.

Simply put, a layout is how a page is organized. Making use of space, proximity, figure-to-ground relationships, and other gestalt concepts, layouts make text more accessible, and easier for the brain to process. If a reader is faced with a wall of text, they might find themselves intimidated and less likely to attempt to tackle the reading. However, if the information is broken up into multiple,
easier-to-read segments, then the reader can move across the page at their own pace.

Depending on the topic, a page’s layout can be more effective in one format than another. For example, if a journalist is reporting on current events, a magazine article format might work best. Alternatively, if a scientist is attempting to convey a series of data points to a wider audience, an infographic layout might be the most effective format. Layouts can be found in any visual communication medium that needs to convey information, such as flyers, posters, and newspapers. In their study of genre, Bawarshi and Reiff delve further into this. “Does your genre require a certain organization?” they ask. “Most proposals, for instance, first identify a problem and then offer a solution. Some genres leave room for choice. Business letters delivering good news might be organized differently than those making sales pitches” (196).

However, a layout that functions well for one piece of media may not be as effective for another. As explained in Cheryl E. Ball et al.’s Writer/Designer, genre conventions dictate the features that an audience expects from a piece of text (2); if the text deviates from its expected format, audiences will have a harder time processing the information. Thus, it’s important to match the genre-based conventions of the information in the ultimate display.

One example of effective page layout can be found in Locol Wolves, a printed and digital independent magazine that focuses on telling stories about artists across multiple fields of work, from music to
fashion and beyond. As a story-based magazine, Locof Wolves is quite text-heavy. However, with excellent page layout and design skills, the magazine becomes an aesthetically pleasing joy to read, drawing the reader in with beautiful spacing, mood-setting color palettes, and interesting graphics. Issue 59, released on March 5th, 2020, shows an excellent breadth of formats for its text, an example of which is pictured above. Note that although the text is still lumped into block format, it stays in justified columns, broken up by eye-catching graphic elements. Hierarchy is created through differing weights of fonts, and lines are used to direct the eye across the page. Color accents the photos used, and creates a consistent palette, so the magazine remains cohesive. For this particular media category, the magazine layout is most effective, and conveys the information in an easily digestible format.
For more examples of effective layouts using these same principles, check out graphic designer Joe Stern’s *magazine page layouts* on Behance.

Another type of layout involving high text density is the résumé. Résumés are notoriously difficult to balance in terms of text and space. Almost nowhere is it more crucial to maintain a reader’s attention than when that reader is a potential employer. Much needs to be said, and key elements must be succinct and eye-catching. These goals can be achieved through appropriate layout. Online tools such as the résumé-building site “Zety” provide templates for individual, customizable résumés. However, it is important to understand what makes those
templates effective. **This article**, presented by Zety itself, provides a more in-depth look at what makes résumés eye-catching. The image of Emma Farran’s résumé (shown left) begins to convey some of the tips explained. Résumés shown in the article focus on balance between whitespace and text, readability of font, line spacing, and type hierarchy. Each résumé is broken into distinct sections and kept short and to the point. Graphics are used to condense information that might otherwise take up too much space as text, such as the skill bubble spectrums or icons used for contact information. These layouts are built to cram a lot of essential information into a small amount of space and keep the reader attentive through aesthetic value.

*For another example of an effective résumé layout using these same principles, check out designer Stanley Cheah Yu Xuan’s résumé* on Behance.

Blogs are also infamous for being difficult to parse. Unwieldy blocks of text without much spacing in between are paired with irritating advertisements, making it painful to scroll through the pages. However, *Capture by Lucy*, a website run by photographer and mother Lucy Heath, provides an especially good example of an effective blog layout. Her posts maintain ample whitespace between and around the text, accented with beautiful supplemental photographs and complementing colors. The blog is clean and information-centric, avoiding distracting advertisements and noise, so readers can stay focused. Her layouts are minimalistic, but powerful in their simplicity.
Page Layouts and the Comprehension Process

This post from 2018 (shown above) showcases all of these techniques in use.

For more examples of effective blog layouts using these same principles, check out journalist Steve Benjamins’ 25 Inspiring Examples of Blogs In 2020 on SiteBuilderReport.

Throughout the examples provided, we see a few consistent elements that make the layouts effective. First, whitespace is crucial: give the words room to breathe, and the readers will feel more relaxed and attentive while reading them. Second, uniformity creates balance: if the layout is created with a cohesive color scheme and a limited
number of fonts, the text will be easier to process. Third, hierarchy matters: effective layouts will create patterns for the eyes and mind to follow, so that they can easily separate body text from headers. Finally, in communication design, content is paramount. No layout should overshadow the text that it is organizing. Like most effective designs, layouts are best when the reader barely registers their presence. If a layout has done its job well, the main focus of the reader will be on how interesting the text is, and how easy it is to parse.

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Boiling Oil

Elena DeNecochea

**Writer’s Comment:** I wanted to share my experience with bereavement in an essay that could resonate with the reader. I have often found it to be a disheartening experience when I fail to relate to my peers. It is vital that we talk about the reality of loss so that we can hold space for one another. Death taught me compassion and writing taught me how to share experiences that are too often buried from society. When Dr. Azevedo handed us the opportunity to share a profile essay with our peers, I saw this assignment as my window into sharing loss under the premise of social justice. Grief has an interesting way of pulling you under when you least expect it to. It comes up in effortless waves. While I was making plantains, memories with my fiancé flooded me. Plantains allowed me to describe the disease my fiancé endured known as sickle cell anemia, and through the re-telling of his illness I uncovered our shared experience and my own.

**Instructor’s Comment:** The first assignment in my spring 2020 UWP 104J: Writing in Social Justice class was a profile essay. With much of society closed due to shelter-in-place orders, I hoped a profile essay that allowed students to write about a familiar social justice topic of their choice would allow them to craft an informative and impactful piece. While there were several profiles that were better than any I had read before, none were as moving and skillfully written as Elena’s piece about her partner’s battle with sickle cell anemia. Her choice to write the essay to her partner allows readers a glimpse into their relationship and “the violent red blood cell disorder” that would have been otherwise hard to capture. Her use of plantains, for example, excellently describes the disease and the bond between Elena and her partner. In total, the essay stands as a testament to their relationship and is a call to action for the medical community and pharmaceutical compa-
The first time I ever boiled oil, we were frying plantains. You were born in Panama and spent many days teaching me about your life, your culture, your religion, and your language. We poured the honey colored canola oil into a thin pan on the stove top and set the flames to life. You grabbed a long curved knife and cut off both ends of the plantain, and then began to slice it deep enough to break open the skin and cut a line down the side. When you handed it over to me I peeled open the plantain from the inside moving out. I wonder how something that looked like a longer version of a banana could smell so earthy, could lack any sweetness. The plantain is a bruised yellow color on the skin when it’s ripe. On the inside it’s white with a yellow tint; it moves off skin like butter. We cut round slices into a bowl together without a chopping board. You sprinkled salt onto them and shook the bowl. The oil was boiling in the pan and I was afraid I’d get burned in the process. You moved fast with your hands and spooned each handful of plantain slices into the oil, helping each piece float to avoid sticking to the pan, and flipping them to cook evenly. As they turned golden like French fries, you spooned them onto a plate with a paper towel to soak the oil from beneath. Then you took the salt and sprinkled them once more. The taste was surreal, a mixture of salty and sweet, like brown sugar burned to make creme brulée, but instead the texture underneath resembled a starchy potato. We paired them with rice and lentils, tilapia fish, steak, and sometimes salami chips. We enjoyed them like fries.

That was Spring of 2018. The food wasn’t like that in the hospital. You had sickle cell anemia, you were 24 years old, and you were afraid of dying. But the way you lived it didn’t seem like that, you drove fast and you wanted us to have a baby, and if it were up to you we would have been married in a courthouse. You didn’t have time and you didn’t want to wait for life to happen—instead, you moved fast and life couldn’t catch up to you. After plantains, you took Percocet for pain, hydroxyurea and folic acid for your red blood cells. Sickle cell anemia is a violent red blood cell disorder; most people diagnosed this early live until their forties. The red blood cells are shaped like plantain slices, thin and round and full of oxygen, moving swiftly through your veins to deliver oxygen to your vital organs. Your blood cells were shaped like plantains before you slice them,
sickle-shaped, carrying less oxygen and prone to causing blockages in your veins—sticky like a plantain stuck to the bottom of a pan of boiling oil. The E.R. was a regular occurrence for us, you would wake me up at all hours of the night when the pain in your arm, chest, or leg began to build up. I drove fast and slept in the chair next to your bed, holding your hand as a nurse pumped you with drugs to attempt to control the pain. The pain of oxygen being blocked through the sickle cells in your veins. You once told me it felt like someone was tightening a rope around your limbs to the point where you could scream or cry. Sometimes the nurses thought you were a drug addict because you asked for more Dilaudid for the pain and Benadryl for the itching. There is a reason why people of color die at higher rates in hospitals; racism demands big pharmaceutical companies pump you with drugs instead of treatments, and then treat you like a drug addict when you’re experiencing pain. I will never forget when the nurse demanded you to say your pain was a four, when you told her multiple times it was a six. Finally you said “okay, four” and I tried to help but you told me it wasn’t worth arguing over, you just wanted to sleep. I remember they always forgot to give you warm blankets and water; veins expand with heat and water keeps veins hydrated.

You had professors who wouldn’t let you do make-up homework or exams after your hospital emergencies. I started to believe college degrees were only designed for able bodies and minds, without room for disease or disorder. I remember we met with the Dean, after you were hospitalized, and she said it wasn’t in her discretion to ask a professor to make accommodations in the syllabus. You didn’t want to be a burden, you didn’t want to be accommodated, you just wanted to feel like a normal college student. I remember you brought doctor’s letters, hospital discharge paperwork, and what was left of your dignity to her office hours. I remember you cried, and we cried, and a couple of days later, between my classes, I received a frightening call. When I arrived, you had already died, and I will never know why. Sometimes, we think it might have been suicide, and I think about how a measure of kindness would have gone a long way. I remember you left tips in every jar we passed by, and I wonder who will leave kindness in everyone’s jar, if not you.

Now, it’s Spring 2020 and the plantains are not ripe, they are dark green and refuse to peel easily. I burned myself trying to boil the oil in the pan and nothing tasted sweet in the end. Plantains smell like the earth above your coffin, the soil fresh after rain. You died before Thanksgiving.
of 2018, before your 25th birthday. Today I am 22 years old, this is almost year two of the spousal and partner loss bereavement group. It’s another year of therapy for me, trying to make peace amid the hole of loss. I can’t relate to anyone my age anymore. It’s important to me that people know who you were, and who you are to me. It’s important that you are not another statistic in a medical journal or a coroner report. You are more than a hospital patient and a name on a cemetery bed. You, the love of my life. When you died, people called you a drug addict and they blamed you for dying. People don’t understand sickle cell anemia or big pharma. People don’t understand that there is no treatment and no cure; that more money is raised for diseases affecting white people. When you were three years old, living in the United States, doctors gave you high doses of Tylenol, in your teens it was morphine, as an adult it was Percocet. Eventually you would run out of options, and eventually organ failure or stroke was in the cards for you; the oil would eventually catch fire. If you were an addict it was because pharmaceutical companies built your dependency for opioids to what is called pain management; they were both the flame and the oil. There weren’t enough drugs in the world to take away your pain, there was no cure, and no hope. I miss you every day, and whenever I am making your favorite plantains. It is healing, writing about you, writing about us.
Through the Hourglass

Eli Elster

**Writer’s Comment:** History, and the remnants of its victims, carries forward to the present uncannily; survivors know the traumas beneath their soil, but the subjects of those traumas remain lost to time, inaccessible to forward- (never backward-) oriented minds. Examining “A Map to the Next World” and “Anxious Proximities” provided me the opportunity to work through this problem, one immediately recognizable to contemporary Americans. We exist. But our progress rests upon foundations of suffering. And so we, the beneficiaries of hurt, grow anxious, defamiliarized from the places we call home. Joy Harjo’s poem suggests a resolution via temporal empathy. By “remediating the mediated,” turning backwards through the pages of history, we eulogize the irrecoverable, honoring the costs of our being. As an indigenous poet, she knows better than most the pains of the postcolonial, as for example discussed by Alan Lawson in “Anxious Proximities” in terms of Australia’s settler narratives. We can never, truly, resurrect lost generations, but, with our maps to the next world in hand, perhaps we can save the new ones—and be better for it.

**Instructor’s Comment:** English 110B offers an overview of the main schools of critical theory since Marx, particularly as they have shaped literary criticism. In weekly forum posts and formal essays, students practice the work of drawing on theoretical concepts to develop, and deepen, an interpretation of a poem. Students are asked to go beyond simply applying the concept to the literary text; rather, theory and poem should mutually illuminate one another. In his formal essay for English 110B, “Through the Hourglass,” Eli Elster draws on Alan Lawson’s “The Anxious Proximities of Settler (Post) colonial Relations,” which discusses the tropes that measure, and attempt to resolve, the anxieties of Australian settler-colonialism. In his reading of
Joy Harjo’s “A Map to the New World,” Eli examines Harjo’s cartographic tropes. Harjo is a member of the Muskoke Nation, but Eli, paying particular attention to her complex use of verb tense, identifies in “A Map” some of the postcolonial uncanniness Lawson sees in Australian settler rhetoric, a sense of a landscape haunted by the unfinished business of the past, the catastrophes of the present, and the contingent openness of the future.

—Tobias Menley, Department of English

Maps demand knowledgeable users. The question asked by a map—how do I get from here to there?—centers on directional terms and on an understanding of their usage. Yet pure logistics belie only the surface; a tension emerges when the user ignores the between spaces underlying origin and destination. This tension rests in “a sense of being in and out of place simultaneously” (Lawson 1214), a sense of arrival without landing. Alan Lawson, in “The Anxious Proximities of Settler (Post)colonial Relations,” seeks to resolve these betweens, to look back from arrival to origin and all the points within. This rereading of narrative—a “tropology” (1221), in his words—proceeds in Joy Harjo’s “A Map to the Next World.” Written by one of the foremost Native American poets (and current U.S. Poet Laureate), this poem forces readers to rethink directionality through new tropological schemas. Harjo engages a temporal sight, observing past, present and future, to reconstitute vision tropologically into a vision capable of resolving a postcolonial uncanny.

In defining the settler or “postcolonial” (1214) uncanny, Lawson, writing on Australia’s postcolonial state, draws from Gelder and Jacobs, who see the term through the aforementioned “sense of being in and out of place simultaneously” (1214). His discussion regards settlers, those who build homes on previously formed lands, establishing a “familiarity with the land” (1214). Ironically, Australian courts require land claimants to do just that. They attempt familiarization to reconcile a place within lands which, categorically, will remain unfamiliar. In those lands’ histories exist the blood of indigenes. A map, showing here and there, origin and destination, would locate “indigenous” at the former and “settler” at the latter. The uncanny place unfolds; for neither the settler, whose arrival disavows prior directions, nor the indigene, whose travels lead to a there no longer theirs, can “establish a familiarity” (1214) with the land.

Where legal recourse and tropes—the methods towards resolving
uncanniness discussed by Lawson—grow troubling is in their attempts at categorization, at situating settler and indigene in certain terms. Certainty contradicts the uncertain uncanny. To move towards certainty, then, only furthers the settler’s anxiety. In movement, the gaze turns away from necessary sights.

Thus Lawson suggests a “rereading” (1222) of what has been read, ceasing travels towards definition and inspecting instead the indefinite—the tropes which have failed, carrying what is yet unseen. To lay out a tropology, a categorization of tropes before, means laying out new directional terms. New directional terms lead towards the old ones, towards the in-betweens lost in translation. “What has been mediated can be remediataed,” (1222) he writes, recalling Ross Chambers. Remediating the mediated: gazing around and back instead of forward.

And so we come to “A Map To The Next World,” a poem concerned with, at the forefront, teaching a reader to navigate the uncanny through sight. Though “Map” concerns American settlers, Lawson’s Australian context acts by proxy to the postcolonial condition. Thus his work is portable, applicable not only to Australia but to all states with blood beneath soil.

Much of Harjo’s verse acts in an imperative mode: “keep track” (12), “take note” (10), “You must make” (53). To follow the map, though, one must know what all of her commands require. Turning to some difficult directions, “Flowers of rage spring up in the depression. Monsters are born there of nuclear anger. / Trees of ashes wave good-bye to good-bye and the map appears to disappear” (14-15). Lawson’s “sense of being in and out of place simultaneously” blazes through—occupancy without knowledge, traveling while “the map appears to disappear.” Confusion underlies inhabitance; Harjo’s commands undoubtedly reckon with a postcolonial uncanny.

Now on to questions of objective: to where does Harjo guide? These stanzas appear observant, not directional; the verbs involved describe entities alongside the road. Recall, though, her clearer demands: “keep track” (12); “take note” (10). Harjo’s pressures pull upon sight; look toward what passes, what has passed, and what will pass by. Her directions push observation. Verses, then, which seem adjacent to the true guiding verbs, which cite attractions over explicit commands, accomplish the same purpose, forming sights circular as the body progresses over land.

Notice, too, the locational facts therein. “Flowers of rage spring
up” (14). Where? “In the depression” (14). “Monsters are born there” (14). From what? “Nuclear anger” (14). “Trees of ashes wave good-bye to good-bye” (15). What does this mean for the voyage? Nothing good: “the map appears to disappear” (15). Oscillations between directionality and sight draw together terms of travel and vision; to move is to see, and to see is to move. The gaze emerges as tropology within trope, extracting certainty by reliving uncertainties.

But while Harjo conjures independent visions verse to verse, she gestures beyond a three-dimensional, concurrent landscape. Instead, she rides upon the fourth-dimension: upon time. Observe the following:

A white deer will greet you when the last human climbs from the destruction.
Remember the hole of shame marking the act of abandoning our tribal grounds.
We were never perfect. (44-48)

First, an if/then prophecy: “when the last human climbs from the destruction” (44-45)—if, from the surrounding moment, the last human climbs—then the white deer, idling at some future point, “will greet you” (44). Yet the causal chain isn’t so simple. Harjo introduces the future image (the white deer) before the present condition (the destruction). A strange twist: she writes “the white deer will greet you” (44), but by materializing the future before the present, she lets the greeting occur prior to its condition.

Afterward comes “the hole of shame marking the act of abandoning our tribal grounds” (46-47). The hole, spoken with a gerund, is in the process of marking; it does it now. And yet, it marks a past act—the abandonment of tribal grounds—an act which receives the same present-tense gerundification of “abandoning” (46). Complicating things further, Harjo writes “remember the hole” (46), invoking the past. The future links to present links to past to present to past, extended thereafter by “We were never perfect” (48), proclaiming a memory that resonates into the present and future. The emergent landscape crisscrosses time, a road formed of interminable turns and backtracks. One may assume, then, that Harjo’s directional, voyeuristic terms concern a gaze projected through the fourth-dimension.

The primary difficulty in “A Map to the Next World” stems from these uncertain transitions; Harjo’s temporal desert discerns little clear
movement from past towards future or future towards past. Images, arranged on the same lines with an incongruent multitude of tense verbs, exist both synchronously and asynchronously.

To find the destination, then, one must look beyond poetic implicity—embodied through the commanded gaze, through guided movements across time—towards explicit gestures, navigated via the literal stanza-to-stanza development in the poem. Looking to Harjo’s instantiating verse, the intent now excavated emerges: “I wished to make a map for / those who would climb through the hole in the sky” (1-2). This she does; but the map she builds relies on time and sight. It is not a directional map. And that is because her map was never a map at all. Rather, “A Map to the Next World” instructs construction:

Crucial to finding the way is this: there is no beginning or end.
You must make your own map.

In “finding the way” (52), readers must recognize that there is no traveled way to find: “there is no beginning or end” (52). “The way” (52) lies in post-temporal observations, in navigating past-present-future realities and remediating half-seen narratives in fullness. “You must make your own map” (53). Harjo’s estranged lack of progression grows intentional. One happens not upon a map, but upon a guide to map-making. Her cartography helps readers reconcile the tropes which skim a totalized uncanny. This point—on totalized temporal sight—proceeds from the omniscience endemic to Harjo’s voice in “Map”; one traveling the fourth dimension, as she does, achieves such a state.

With this final note, a tropological response to the postcolonial uncanny culminates. Alan Lawson requests remediation of the mediated, a method staring back across the realm of half-seen consequences to discover the full-fleshed truths beneath. This method implies the time-traveling sight engendered by Harjo—a sight disavowing ways forward, shunning beginnings and ends in favor of a totality already lived, hidden from eyes incapable of discovering the resonant contradictions underlying every memory, every consequence, every present observation, every prophecy. Lawson, through “Anxious Proximities” tropology, makes his own map. Harjo forms hers. And thus, per her concluding lines, we must now make our own.
Works Cited


Loyalty, Weasels, and Feminism in Marie de France’s *Eliduc, or Guildelüec and Guilliadun*

**David Esparza**

**Writer’s Comment:** I wrote this essay for English 189, a seminar taught by Professor Claire M. Waters focused on Feminist Fairy Tales. I was drawn to the seminar topic because I wanted to expand my understanding of medieval texts, especially feminist ones, in conjunction with modern literature. Throughout the class, I learned more about the roots of the fairy tale genre and how simple stories hold massive complexities—what previously seemed like a format plagued by patriarchal systems could just as easily be transformed into critique. When we read the 12th-century lai from Marie de France, the subject of this essay, I knew that my final paper had to be centered on it. The double title, the resistance by critics to use that title, and the “weasel episode” in the lai all cemented my decision. It was extraordinarily fulfilling to write in conversation with previous critics and add my own argument, molded by the subject of the class, to the work surrounding Marie de France.

**Instructor’s Comment:** By the time I read David’s final essay, I wasn’t surprised at its excellence; I had had a whole quarter in which to prepare. From his first discussion post, an elegant mini-essay that commented on the argumentative style of one of our critical articles, applied its terms to the primary readings, and engaged with that week’s texts and others we had not yet reached, it was clear that he was working at a level appropriate to a graduate student. His papers showed a consistent ability to notice essential but fleeting details and demonstrate their significance, always in elegant prose. His final paper on Guildelüec and Guilliadun argues, with typical dry wit, that what he calls its “pre-weasel” and “post-weasel” narratives reflect, but do not bound, the shift from the story’s initial male protagonist to the two women who enable its happy ending; in fact that shift begins much
earlier than the “weasel episode.” The essay takes on a much-studied text (in its original language, Old French) and offers an incisive, critically aware, and original account of its characterization and structure.

—Claire Waters, Department of English

The closing piece of Marie De France’s lais, the dually titled ”Eliduc, or Guildelüec and Guilliadun, explores the loyalties between the central characters and their eventual reconciliation. Building upon the arguments of past critics such as Usha Vishnuvajjala, who describes the discrepancies between Eliduc’s loyalties in word and in action, and Danielle Gurevitch, who investigates the medicinal properties of the rejuvenating flower in the lai, I will argue in this essay for the agency of the titular women. By taking the “weasel episode,” as Brewster Fitz terms it, and placing it in the context of Eliduc’s haphazard loyalties, I posit that the freedom that Guilliadun and Guildelüec hold in the lai far exceeds that of their lord and lover. The fairy-tale quality of the weasel episode, along with the conflicting ties that Eliduc has to his lords, God, and his wives, point to a courtly loophole that the titular women exist in where they hold control over their desires. I will argue that far from being a tale of piety and comeuppance, Guildelüec and Guilliadun is a feminist fairy tale whose “happily ever after” is possible only through the women’s efforts.

Loyalty

Eliduc’s life is defined by his vying loyalties to different entities, creating a web of conflicting interests that leave him unable to perform the responsibilities of his position. The first problem is one of lealté, which

Loyalty, Weasels, and Feminism in Marie de France

has legal connotations and consequences; the second is fiancé, which recurs in the story in reference to romance—and in one case to his new lord; the last problem is fei, the tenuous relationship he holds with God that is at odds with his earthly desires until the ending reconciliation. In her analysis, Vishnuvajjala notes that Eliduc “is conflicted both in his understanding of how to negotiate the different loyalties he holds and [in] his own feelings.” The inner turmoil that Vishnuvajjala describes prevents Eliduc from being the hero of the lai—shifting that responsibility onto the titular women.

At the beginning of the lai, Eliduc is already tied to his lord and lady in a restrictive manner, and continually pledges allegiances that restrict him further. Marie says of Eliduc and Guildelüec, “Ensemble furent longement, / Mut s’entreamerent lëument;” the relationship between Eliduc and the king is laid out in the same fashion:

\[
\begin{align*}
\text{Elidus aveit un seignur,} \\
\text{Reis de Brutaine la meinur,} \\
\text{Que mut l’amot e cherisseit} \\
\text{E il lëaument le serveit.}
\end{align*}
\]

Eliduc had a lord, 
king of Brittany, 
who loved and cherished him greatly, 
and Eliduc served him loyally.

From the outset, Marie equates Guildelüec and the king; both are figures that Eliduc must serve because of the legal ties of courtly life. Additionally, Eliduc and his wife are connected through the marriage institution and religion. These expository relationships create problems for Eliduc later on when he has two lords and two women—as well as their respective loyalties—to manage. Despite knowing the legal connotation of lealté, as demonstrated in his speech to his soldiers before going off to battle,

5 Vishnuvajjala, 165-66.
6 Waters, 300. “They were together a long time / they loved one another loyally.”
7 Waters, 300.
8 Waters, 301. Translation of previous note.
9 Waters, 310.
he still pledges himself in this manner to his new lord and his lover. The conflicting relationships require Eliduc to resort to a new term, one that neither Guilliadun nor Guildelüec ever uses, in the form of *fiance*. The translator notes the difficulty of this term, which results in it appearing in English as both *loyalty* and *faith*: “Eliduc’s words point to the ambiguity of his relationship to the king’s daughter.”

As a result, Guilliadun is in a loophole, wherein she exists as more than a lover but less than a wife to Eliduc (later we will discuss how this influences her agency); the situation is mirrored with her father, to whom Eliduc also pledges his *fiance*. In effect, the ambiguity of this term disguises its empty promise. Despite the agreement to guard the lands of his new lord for a year, Eliduc departs when *lealté* calls him back to his own land. These ties of *lealté* separate Guilliadun and her lover, and the promise between them is only fulfilled when Guildelüec takes control of the situation. Through his empty promises, Eliduc is ineffectual in both loyalty and faith.

In addition to his ambiguity with *fiance*, Eliduc is also at odds with his Christian faith; when he speaks of *fei*, he does not use it to mean his religion or belief, but rather his earthly relationships. Sharon Kinoshita, in her discussion of serial polygamy in the lais, makes note of Eliduc’s increasingly rash decisions and how they contend with his faith, but I argue that this tension also manifests subconsciously. After Guilliadun threatens suicide at the thought of his departure, his response speaks to the inner conflict he is facing with Christianity:

> “Bele, jeo sui par serement  
> A vostre pere veirement:  
> Si jeo vus en menoe od mei,  
> Jeo li mentireie ma fei—  
> De si k’al terme ki fu mis.”

> “Beloved, I am truly bound  
> by oath to your father:  
> if I were to take you away with me,

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10 Waters, 333.
11 Waters, 314.
13 Waters, 334.
I would betray my faith—until the term that was set.”

The slip of the tongue, where Eliduc mentions faith/fei and quickly corrects it to mean faith to his lord, betrays his concern; because of his marriage to Guildelüec, he is unable to comply fully with his lover’s wishes. He disguises his faith (which he promises to his wife before leaving) as loyalty to the king, but the problem of polygamy does not go away—Guilliadun insists on accompanying her lover. He had vocalized his concerns prior to this: “Before returning to Brittany, he had raised the possibility of marrying Guilliadun only to dismiss it: ‘S’a m’amie esteie espuzex, / Nel sufferreit crestïentez. . . .’” However, this dual concern, one of polygamy and one of being unable to be with Guilliadun, also manifests itself in Eliduc’s personal interactions. When he returns to Brittany, Eliduc’s friends and relatives greet him warmly, yet he remains sullen and secretive. The hero of the story, or so we are led to believe, is unable to participate in courtly life in the same manner he has in the past. Instead of a renowned knight, we are left with a despondent character. The tensions that the knight creates for himself through conflicting loyalties and fear of God’s retribution, as evidenced by these subconscious quirks and the cold-blooded murder of the critiquing sailor, emphasize the need for a dual title in the lai. Sitting beside the dishonest protagonist are two women (with the help of two weasels) whose relationship transcends the hero narrative.

The Weasel Episode

The inclusion of animals in a lai about loyalty allows a transition into a different kind of tale. Up to the point of the weasel episode, the lai is firmly rooted in Eliduc’s actions and their consequences; by shifting the narrative towards the two women, Marie de France centers on her claim at the beginning that the lai can also be called Guildelüec and Guilliadun. This is made clear through the weasel revival, and more specifically

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14 Waters, 335. Translation of previous note.
15 Kinoshita, 46; the line she includes is found in *The Lais of Marie de France: Text and Translation* on page 330, translated on page 331 as “If I were to marry my beloved, / the Christian faith would not tolerate it.”
16 Waters, 334.
through the gender of the weasels. Though earlier critics have drawn connections between the battered weasel and the sailor onboard Eliduc’s ship, closer attention to the words used to refer to the weasels makes it clear that the animals are female. The translator for the Broadview edition includes this note in regards to the animals: “One could call this weasel ‘it,’ since musteile is a feminine noun regardless of the sex . . . but the translation aims to reflect the density of feminine forms in this passage, and the fact that both weasels are referred to as ‘cumpaine.’”

Given the importance of animals whenever they appear in the lais, these female weasels are key to unravelling the role of the titular women as fairy-tale protagonists.

Guildelüec is a spectator to the strangely human actions that the living weasel performs, and she becomes the first person in the narrative to witness a magical event; because this comes immediately after her intention to take the veil, Guildelüec assumes the role of a protagonist. From this point on in the lai, Eliduc is reduced to a spectator of his own tale, and thereby assumes a secondary role to the two women: “Although much of the text consists of Eliduc’s attempt to navigate his promises and obligations . . . the climax of the story is precipitated by a meeting between the two women.” Though the analogy is anachronistic, Guildelüec becomes the prince in a Sleeping Beauty story. For the modern reader, the presence of magical animals in a revival scene serves to reinforce this image. By observing the weasels and imitating the resurrection, Guildelüec is able to wake her rival in love and explain the current situation to her. Eliduc, in contrast, has no companion, no magical event, and no Prince Charming moment. As Vishnuvajjala notes in her analysis, Eliduc is entirely reliant on his wife to resolve the conflict in the narrative.

In addition to her new starring role, Guildelüec also assumes the role of a medieval healer; compared to her husband, who is stuck in a purely feudal world of loyalties, she is able to bridge the gap between fantasy (a magical weasel event) and reality (through herbal medicine). Gurevitch makes this connection early on in her investigation of the reviving flower:

17 Fitz, 548.
18 Waters, 350.
19 Vishnuvajjala, 163.
20 Waters, 354.
Marie de France’s poetic sensitivity towards the concept of revival in Eliduc reflects the strong alliance between experimental science, religion and magic. To be more precise, between recent and ancient lore and beliefs as well as between monastic and druidic medical representations of her time.\textsuperscript{21}

Gurevitch’s extensive research leads her to posit that the lai’s flower is a rose, one that aligns with religious interpretations at the time of writing and paints the scene in an allegorical Christian light.\textsuperscript{22} The combination of real-life medicinal properties of the rose and its religious connotations reinforces Guildelüec’s position as the story’s new protagonist. Apart from taking the druidic elements—by observing the two weasels and imitating their holistic healing—she also acts as a guardian figure for Guilliadun when she wakes up. Not only does she revive the Sleeping Beauty, she makes the marriage between the two lovers possible. She is both a courtly and a healing figure at this point in the narrative, whereas Eliduc had previously failed in both. Guilliadun develops from a secret mistress into a full-fledged Sleeping Beauty and wife to Eliduc, and is (by Guildelüec’s actions) the primary recipient of a “happily ever after.”

The titular women of the lai not only replace Eliduc as the protagonist of the story, they surpass him and serve as more effective heroes. The mirroring of actions between Eliduc and Guildelüec makes this belittling more prominent. Both use espionage in order to succeed in their challenges: Eliduc uses the intelligence from his soldiers when he arrives in Exeter, and Guildelüec orders her servant to spy on her husband. In this respect they are equal, but it is necessary to note the context and timing of Eliduc’s mission. When he arrives in Exeter, the king is under siege by his neighbor and in need of military assistance; just as the visiting Beowulf emasculates King Hrothgar, Eliduc emasculates the king of Exeter. He then pledges his ambiguous fiancé to the king, begins a relationship with the king’s daughter, and steals the daughter away. By contrast, Guildelüec plays the part of the hero more valiantly: she gathers intelligence, rescues a catatonic stranger, affirms her loyalty to her husband by annulling their marriage and pledging herself to God, and facilitates the marriage between Guilliadun and Eliduc. She repeats

\textsuperscript{21} Gurevitch, 3.  
\textsuperscript{22} Gurevitch, 15.
emasculating story structures in order to assert herself as a worthy titular character.

Even if we define a medieval hero as someone who solves problems with both brains and brawn, Eliduc falls short of his wife. When Eliduc is confronted by the sailor onboard the ship, he responds with violence. However, this act of violence only comes after Guilliadun has fainted. Though she has already heard the truth, Eliduc lashes out against the sailor and throws him overboard. Fitz lays out this “sacrificial crisis” and its consequences, and we see the uselessness of Eliduc’s actions in light of the storm episode:

The sailor’s expulsion from the boat marks the reception of mercy for which the passengers clamored. This mercy does not come in the form of the storm’s being stilled, rather it comes as Eliduc’s decision to re-assume an active role. The obstacle to be overcome was not the storm per se, but the predicament that on the individual and social level deprived the community of an able leader.23

Despite assuming an active role again—implying that before the storm episode he had lost his role—Eliduc is unable to save his lover from her apparent death. Violence in this case does nothing to solve the core problem: Guilliadun’s “death” does not excuse the attempted polygamy (because Eliduc continues to visit her), just as the sailor’s death did not make the storm any more tolerable (because neither death would have been happened if Eliduc had retained his active role throughout the story). Guildelüec’s violence, on the other hand, has a positive quality. By ordering her servant to kill the first weasel, and then beating the second weasel to steal its restorative flower, Guildelüec is able to revive Guilliadun. Eliduc’s wife not only possesses the power to ensure his happiness—by taking the veil willingly and without his suggestion—but also the power to solve problems through calculated violence, fulfilling the posited requirements for a medieval hero. Guilliadun exhibits similar qualities, as she is not solely a damsel in distress and Sleeping Beauty figure, but also a character with vocal desires and self-determination.

We have covered the various transformations that occur in the

23 Fitz, 547.
story, which contribute to Eliduc’s narrative becoming a fairy tale focused around the titular women. However, we have yet to cover what makes this a specifically feminist fairy tale, which is where Guilliadun’s perspective becomes necessary. Though the lai may appear to have a definitive turning point—resulting in a pre-weasel narrative and post-weasel narrative that marks a change from male protagonist to female protagonists—Guilliadun’s agency makes it clear that the lai is female-focused for the majority of the tale. We see her openly express desire towards Eliduc early in the text,24 but it is her courtship and declaration of self-possession that transforms her into a feminist figure:

\[
\begin{align*}
&\text{Ele respunt al chevalier} \\
&\text{Que de [ses mots] li estoit mut bel,} \\
&\text{E pur ceo l’enveat l’anel} \\
&\text{E la ceinture autresi,} \\
&\text{Que de sun cors l’aveit seisi;} \\
&\text{Ele l’amat de tel amur;} \\
&\text{De lui volt faire sun seignur.}^{25}
\end{align*}
\]

She replies to the knight that she was delighted by [his words], and that is why she sent the ring and the belt as well, because she had given him possession of herself;26 she loved him with such love that she wanted to make him her lord.27

By giving Eliduc possession of herself, Guilliadun takes the place of two figures—her father, who would traditionally arrange her marriage, and a royal suitor proposing marriage. Given the context of the accompanying emasculation in the lai, this detail places Guilliadun firmly in the camp of feminist fairy tale protagonists. Though we traditionally see this genre as a modern invention, \textit{Guildelüec and Guilliadun} and its central

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24 Waters, 314.
25 Waters, 324; brackets mine and replacing the word “ceo.”
26 Translator’s note, 325: “The verb here, \textit{seisir (de)}, has the technical sense of putting someone in formal legal possession of something, usually of land.”
characters display the deep generic roots stemming from the lais of Marie de France. The weasel episode, the fixation of Eliduc on conflicting loyalties, the agency of the titular women, and the feminist perspective that Marie draws in Eliduc, or Guildelüec and Guilliadun all point to a long-standing fairy-tale tradition of subverting narrative structures for social commentary, complete with a “happily ever after.”

Bibliography


Population Sex Ratio of Coyote Brush (*Baccharis pilularis*) in Stebbins Cold Canyon Reserve

**Lauren Glevanik**

**Writer’s Comment:** UC Davis’ Stebbins Cold Canyon Reserve is home to a classic Californian chaparral landscape. One of the dominant plants found there is *Baccharis pilularis*, or coyote brush, named for the fluffy white flowers that look like a coyote’s tail when in full bloom. Since these plants have male and female flowers on separate individuals, the stability of the population depends on maintaining a balance between the sexes. These plants are also staples in studying pollinator ecology because they bloom through fall and are one of the only pollen and nectar sources for late-season pollinators. With my major in Plant Biology and minor in Ecology, I plan to study pollinator ecology and to develop strategies to sustain native bee and butterfly populations using native Californian plants like *B. pilularis*. Studying these plants and the role they play in the natural environment is the first step to creating sustainable habitats in our own backyards.

**Instructor’s Comment:** In my Plant Ecology course, we get out of the classroom to provide hands-on experience with the ecological concepts and processes we discuss in lecture. To do this, we visit local field sites to learn about local plant species, habitats, and ecosystems, as well as to ask questions and make observations about the real-world ecology important to these places. As teams, students collect data in the field to address ecological questions and test hypotheses, then report the results as a scientific paper. For this assignment, Lauren Glevanik writes about one of the studies the class conducted in Fall 2019. Here, she studied a locally common shrub, coyote bush (*Baccharis pilularis*), a species with distinct male and female plants. That is, some individuals produce female flowers and other individuals produce male flowers. This sexual strategy is somewhat rare in flowering plants, and the ratio of male and female individuals has important consequences.
for reproduction and changes in population size over time. In this study, Lauren asks whether the ratio is what would be expected to be optimal for the population, and whether male or female plants differed in size. Interestingly, many of the plants were difficult to sex because the bloom was delayed and many flowers had not fully matured at that time in the season. This was an unexpected lesson in doing real-world field ecology, particularly in a variable Mediterranean climate, where sometimes timing is difficult and patterns can be hard to predict. Lauren nicely describes these questions, the challenges with making conclusions given the uncertainty in the data, and other factors that may be influencing these populations.

—Jennifer R. Gremer, Department of Evolution and Ecology

Introduction

*Baccharis pilularis*, or coyote brush, is a dioecious perennial shrub native to the western coast of North America (Smither-Kopperl 2016). As a dioecious plant, the male and female reproductive organs are located on separate individuals (Barrett 2010). These plants rely on both wind and insects for pollination since the pollen is located on a separate individual than the ovaries (Barrett 2010). Maintaining a balanced ratio of male to female individuals is important for the population to survive and reproduce. The population’s health further impacts species composition and biodiversity of the larger ecosystem, including key pollinator species that rely on these plants as late-season sources of pollen and nectar. This study aimed to determine if the sex ratio of *Baccharis pilularis* (*B. pilularis*) as of October 5-6, 2019 approached the optimal sex ratio of 50% male and 50% female individuals. A secondary goal of this study was to determine if the sexes differed in size, since plant height and width may affect how easily pollen is dispersed. To investigate these questions, we recorded and analyzed the height, width, and sex of each occurrence of *B. pilularis* along a 1-mile segment of the Blue Ridge Trail.

Methods

Over the period of October 5-6, 2019, two teams of students measured height, width, and sex of each *B. pilularis* found along the Stebbsins Cold Canyon Blue Ridge Trail from approximately the...
1-mile mark to the trailhead. The height and width of each individual was measured in meters using transect tapes. The sex of the plant was determined by observing the flowers or by breaking open immature flower buds to look for pollen. These values were recorded for every *B. pilularis* found along the trail that was accessible without encountering poison oak.

**Results**

A total of 110 individuals were surveyed. However, as to whether the sex ratio approaches the optimal ratio, the overall results of the data collected are inconclusive. *Table 1* reports the numbers of individuals of each sex surveyed. Only 21 plants were conclusively identified as female (7) or male (14). Of the remaining plants, 59 had undeveloped buds and 30 showed no buds at all. While we did find a male to female ratio of 2:1 in the small subset of identified plants, we cannot conclude this ratio is true for the entire population. Nearly 81% of surveyed individuals could not be determined as male or female. Because of the small sample size of the identifiable individuals, this data is incomplete and the true sex ratio of the *B. pilularis* population cannot be determined at this time.

While the sex ratio cannot be concluded from the data collected, there was a large enough sample size to analyze the height and width of each individual of the population. Statistical analysis of the measurements for the female, male, and unknown *B. pilularis* individuals showed these groups did not significantly differ in size (p = 0.95 for width and p = 0.18 for height, both of which fail to reject the null hypothesis that there is no difference in size). *Figure 1* shows the widths of developed, undeveloped, and non-budding plants. The mean widths of each of these three categories are not different enough to conclude there is any difference between the heights of these groups. Similarly, *Figure 2* depicts the mean heights for flowering, budding, and non-budding plants with no significant difference among these groups (p = 0.18, failing to reject the null hypothesis that there is no significant difference).

**Discussion**

While our sample size of male and female plants is too small to determine the true sex ratio of the population, we do have sufficient data to compare plant sizes. Between plants with developed and undeveloped
buds, and even between female and male plants in our small sample size, there was no significant difference in height or width. These results suggest plant size and plant sex are not correlated.

The majority of plants we observed were unidentifiable because the flower buds were immature or not yet present. We only identified the sexes of 21 plants: 7 female and 14 male, with 89 plants of unknown sex. Due to the very small sample size of plants with known sexes, we cannot conclude this ratio applies to the entire population. While we were measuring plants and recording the sex, many of the assigned male or female plants were identified by breaking open immature flower buds and checking for the presence of pollen and anthers. Even the identified plants were not fully in bloom yet and we never found a plant that was fully flowering.

Several environmental factors may have affected these results. The most prominent source of error is the delayed bloom time of *B. pilularis*. Typically, coyote brush blooms between August and October as a late-season source of pollen and nectar for pollinators (Montalvo 2010). This year, *B. pilularis* did not bloom until very late October. One factor that may affect flowering time is deviation from the typical climate, such as the unusually cold and late spring this year. Altered bloom time may also be a long-term consequence of the 2009-2016 drought (Cho 2017).

Further study is needed to determine if there is a true 1:1 sex ratio within the Stebbins population of *B. pilularis*. On October 20, 2019 I returned to Stebbins Cold Canyon Reserve to hike the Blue Ridge and Homestead Trail to go birdwatching. Since most of the Baccharis was in full bloom, I decided to repeat the survey of the sexes. I hiked the entire 5.1 mile loop starting on the Blue Ridge side and photographed every *B. pilularis* I encountered on the trail. I found 140 individuals. Of those, 10 were undeveloped, 64 were male, and 66 were female. From those individuals alone, I found a nearly 1:1 sex ratio (49.2% male and 50.8% female of the identified plants). Only two weeks after our initial survey, nearly all the individuals I encountered were blooming and I found a ratio closer to our initial prediction.

From a genetic standpoint, there should be a 1:1 sex ratio in a population with two sexes since males make half of their gametes with X chromosomes and half with Y chromosomes (Barrett 2010). This ratio should be maintained through the mechanism of gamete formation according to the Law of Segregation and the Law of Independent
Assortment when the sex chromosomes segregate into different gametes (Barrett 2010). The reproductive success of dioecious gametically limited individuals depends on the proximity of a plant of the opposite sex and a successful pollination strategy (Barrett 2010). It makes logical sense for there to be a balance of sexes based solely on the segregation of sex chromosomes. If there were not a 1:1 ratio, it would suggest some sort of bias after germination (Barrett 2010).

**Conclusion**

Great uncertainty in identifying the sexes of *B. pilularis* was a major challenge in this study that led to inconclusive results. In previous years, this study (conducted at the same time of year) yielded stronger results and nearly all of the plants were easily categorized as male or female. Since the data from this year is insufficient, other factors must have affected blooming time. When the population sex ratio was measured later in the season, the results approached the expected 1:1 ratio. These results demonstrate the Law of Independent Assortment and the Law of Segregation at work in the natural distribution of gametically limited individuals. Future studies should consider bloom time of separate male and female individuals as another factor of reproductive success in dioecious plants.

**Tables and Figures**

**Table 1.** Mean height and width of male, female, and sex-unknown *B. pilularis* individuals.
Coyote Brush in Stebbins Cold Canyon Reserve

Figure 1. Boxplot of width for male, female, and sex-unknown B. pilularis.

Figure 2. Boxplot of height (with averages) for blooming, budding, and non-budding B. pilularis.

Literature Cited


Need for a New Mobile Medical Clinic: A Proposal

Tara Allison

Writer’s Comment: Whilst following my passion for preventative health, I developed the project concept for a mobile, pediatric clinic for at-risk adolescents and teens. Professor Oliver’s course provided me an opportunity to write a grant in order to fund this project. In order to proceed, it became necessary to evaluate the societal healthcare needs of Sacramento county regarding the upsetting mental health phenomenon, Adverse Childhood Events (ACEs). This proposal encompasses an in-depth analysis that illuminates the biological basis of ACEs and their undeniable connection to chronic health conditions in adulthood. This proposal further analyzes several Community Needs Assessments to ascertain that existing healthcare institutions do not in fact provide the proper focus or volume of mental health and ACE-related treatment needed for Sacramento County. The multidisciplinary nature of this paper connects scientific data that suggests a widespread health problem to an effective solution that UC Davis can adopt as a university. Founding of a mobile, pediatric student-run clinic challenges the existing medical culture of Sacramento by introducing ACE awareness and the expansive versatility of a mobile vehicle.

Instructor’s Comment: Students in my 102B Writing in the Biological Sciences class complete a literature review that leads to a grant proposal. For their grant proposal, they must identify an actual grant. To complete this assignment, Tara reviewed published research and explained how that research could address a demonstrated need for an under-served community. She then made a strong case for funding to support her proposed solution. Her work illustrates the ability to comprehend complex material and to use that material to identify a current, real-world problem and to propose a solution to that problem. A quick scan of Tara’s 17 sources reveals a wide range of
material from community assessments to clinical research. Each section of her work is thoughtfully and meticulously supported by that research. She goes beyond listing the work of others. She synthesizes the research around the problem and seamlessly integrates her own insight. Tara combines a passion to serve an under-represented community with solid academic research and communication skills.

—Matt Oliver, University Writing Program

Need for a New Mobile Medical Clinic to Provide Adverse Childhood Events-Related Care to Underserved Pediatric Populations in Sacramento County

University of California, Davis

Starting Date June 2020

Dates of Proposed Period of Support June 2020-June 2022

Costs Required for Initial Budget $450,000.00

Submission Date April 1, 2020

Principal Collaborators Tara Allison
Faculty Member

1. Abstract

Despite the widespread notion that children are classically healthy patients in the medical world, a groundbreaking study by Felitti, the Center for Disease Control (CDC), and Kaiser Permanente demonstrates otherwise. The study illuminates a connection between early childhood trauma and stress to later chronic disease and premature mortality during adulthood [18]. Surgeon General Nadine Burke Harris provides an applicable biological analogy for this phenomenon. Our bodies are equipped with flight-or-fight response machinery to release
stress hormones such as adrenaline and cortisol during a bear attack, a practical and fantastic survival mechanism. However, the real problem is when the bear comes home with you every night [19]. The term Adverse Childhood Events, coined by Felitti et al., describes when constant stress and trauma have damaging biological impacts on young, developing children. Consistent exposure to stressful environments or traumatic events leads to biochemical malfunctioning of cells by way of truncating telomeres and adversely impacting processes such as genetic transcription and translation of proteins. This manifests itself later in life as heart disease, cancer, and depression, among an extensive list of other health complications. A healthcare movement is underway to address Adverse Childhood Events through various models such as Trauma Informed Care and Cognitive Behavioral Therapy. Our non-profit organization, Recognizing Illnesses Very Early and Responding (R.I.V.E.R.), is developing a new, pediatric clinic to provide Trauma Informed Care in addition to primary care services. However, our approach differs from most. We intend to operate through a versatile, mobile medical vehicle built to serve as a fully functioning clinician office directly at school locations. Furthermore, all of our services will be provided at no cost to uninsured or partially insured patients. These alterations should overcome financial and location barriers commonly experienced by underserved and impoverished communities.

2. Introduction

The non-profit organization Recognizing Illnesses Very Early and Responding (R.I.V.E.R.) at the University of California Davis is requesting $450,000.00 from the Department of Health and Human Services, Office of the Assistant Secretary for Health to develop a new mobile, pediatric clinic for underserved communities in Sacramento county. Specifically, our mission is to provide Adverse Childhood Events-related care, along with primary care services. Our goal is to utilize research-based methods such as Trauma Informed Care (TIC) to alleviate the effects of Adverse Childhood Events (ACEs) and improve the health status of diverse underserved communities. A significantly higher proportion of children in Sacramento suffer from poverty compared to California’s holistic average [1]. Furthermore, the Northwest region of Sacramento county specifically lacks services to address ACEs [1]. This
data indicates a strong need for intervention.

Trauma Informed Care (TIC) is a promising model of treatment to address Adverse Childhood Events. TIC is a system of healthcare that emphasizes a child’s physical and psychological safety, focuses on the recovery of the child and family, and routinely screens for symptoms of trauma exposure. It also provides tools to strengthen the resilience of children and families impacted by trauma. Furthermore, continuity of care and collaboration between child-service systems is emphasized. It also maintains an environment for staff that addresses and reduces secondary traumatic stress. TIC addresses the intersections of trauma with culture, history, race, gender, location, and language and acknowledges the compounding impact of structural inequity. The National Child Traumatic Stress Network (NCTSN) provides free training materials for clinicians and non-clinicians to become well-versed in Trauma Informed Care and how to effectively provide it [21]. This nationally accredited method was developed at UCLA and Duke University.

We plan to implement Trauma Informed Care within our clinic structure to address Adverse Childhood Events. Specifically, we intend to provide Trauma Focused Cognitive Behavioral Therapy, an evidence-based treatment effective for children ages 3-18 affected by ACEs [21]. In order to improve on this model, we intend to implement this care through the versatility of a mobile medical vehicle as a free service to patients of underserved communities. This enhanced model will allow our clinic to serve a variety of populations across Sacramento, while simultaneously removing financial barriers that can hinder patients’ access to healthcare insurance coverage. We hope that this model guarantees improved access to previously unmet healthcare needs.

For the remainder of the proposal, we will demonstrate the importance of Adverse Childhood Events treatment, support our claim that the Northwest region of Sacramento County is particularly in need of our services, outline our detailed project plan, identify key personnel and describe our operations structure, and layout a budget with justification.

3. Background

In this section, we will first outline the connection between ACEs and serious health problems in adulthood, then illuminate the healthcare needs of the Northwest region of Sacramento county.
3a. Correlation Between Adverse Childhood Events and Chronic Mental, Behavioral, and Physical Health Issues

The significance of Adverse Childhood Events (ACEs), and why they are worth addressing, may be unclear. This section of the background will elaborate on the importance of ACEs by demonstrating the correlation between ACEs and serious health issues in adulthood. The Center for Disease Control and Prevention defines Adverse Childhood Events (ACEs) as mentally and emotionally traumatic experiences that affect adolescents before the age of 18. These traumatic experiences can exist in many forms. Some examples include: growing up in a household with family members who abuse substances, have mental health problems, are incarcerated, or divorced. Such experiences can undermine the child’s sense of stability and safety while simultaneously interfering with his or her ability to bond with family or friends [3]. Many years of seminal research in this topic demonstrate a myriad of connections between ACEs and chronic health conditions, unsafe health behaviors, and premature death. This discussion will utilize research older than two years but remains current and is foundational to these health correlations.

Chronic Health Issues

Chronic health conditions such as autoimmune disease, cancer, chronic obstructive pulmonary disease, frequent headaches, ischemic heart disease, and liver disease have been proven to result from individuals plagued by ACE-related trauma. [4], [5], [6], [7], [8], [9], [10], [11]. Dube et al. demonstrate that traumatic events during adolescence correlate to an increased probability of autoimmune disease hospitalization during adulthood [4]. Not only this, but Ports et al. establish a strong correlation between ACEs and exposure to modifiable cancer risks such as alcohol, chronic inflammation, obesity, UV radiation, and environmental carcinogens among others. Additionally, this study suggests that addressing ACEs may support early cancer prevention [5]. Cunningham et al. study the correlation between COPD and ACEs such as verbal and sexual abuse, parental separation or divorce, observation of substance-abusing family members, and domestic violence. Their results indicated a higher chance of developing COPD if one or more of these ACEs were experienced in women specifically [6]. Anda et al. studied the relationship between the prevalence of headaches and migraines and the presence of ACEs. The results indicated that, in adulthood, there was a
higher frequency of headaches or migraines if the subject had a higher ACE risk score. Subjects with lower or nonexistent ACE risk scores experienced far fewer headaches [7]. Additionally, a study completed by Dong et al. illuminates the connection between several types of ACEs and development of IHD. Their results demonstrate a 1.3- to 1.7-fold increase in the chance of developing IHD for patients experiencing more ACEs in comparison to those with a low ACE risk score [8]. In a different study, Dong et al. examine correlation of ACEs to risky behaviors that manifest later in life as liver disease. ACEs increased the likelihood of liver disease development by 1.2 to 1.6 times [9]. Beyond chronic health issues, ACEs have been shown to relate to other problems in adulthood such as unsafe health behaviors.

Unsafe Health Behaviors

Unsafe health behaviors such as alcohol abuse, drug use, obesity, sexual risk behavior, and smoking are health outcomes of ACEs as well [10, 11, 12, 13, 14]. Strine et al. establish direct correlations between alcohol abuse and ACE-related experiences such as sexual abuse, childhood neglect and emotional abuse, family drug abuse or mental illnesses, and parental divorce. They claim that psychological distress associated with ACEs results in alcohol abuse later in life [10]. Furthermore, Anda et al. discovered a 40 percent increase in prescription drug usage in patients with non-zero ACE scores and a positive correlation between a higher ACE risk score and prescriptions across all age groups (18-44, 45-64, and 65-89 years of age) [11]. In another study, Williamson et al. identified a correlation between physical and verbal abuse and increased body weight and obesity measurements. Participants that experienced “being hit” were 4.0 kg heavier on average than participants that did not report physical abuse [12]. Additionally, Hillis et al. evaluated the connection between sexual risk behavior and ACE events and discovered a positive correlation between the two [13]. Strine et al., in a different study, observed increased risk of smoking habits in women when ACE risk scores are present as well [14]. ACEs have also been shown to relate to reduced lifespans.

Premature Death

ACEs correlate with suicide and depression in adulthood, leading to premature death [15, 16]. According to Dube et al., suicide rates increased two- to five-fold in adulthood due to connections regarding
ACEs. Factors such as alcoholism and illicit drug use had close ties to the presence of ACEs and path to suicide attempt [15]. Additionally, Chapman et al. established a connection between a higher number of ACE-related events and the chance of developing a depressive disorder. The study also suggests that early recognition of childhood trauma may prevent future depression diagnosis [16]. This extensive, yet not exhaustive, collection of studies indicates that ACEs have a very real impact on pediatric mental health and adult health status later in life. Ultimately, ACEs can lead to almost any serious condition that plagues our adult population in the United States. In order to approach this issue from a preventative standpoint, the focus turns to children. If ACEs can be treated early-on, the likelihood of carrying these to adulthood reduces significantly.

3b. Target Population in Sacramento County: What Patients Need

The 2019 Community Health Needs Assessment of Sacramento County outlines several significant health needs in the left-hand column (Figure 1). These healthcare needs are unique to the Northwest region of Sacramento county. The primary concerns that this proposal will address are: healthcare services to address Adverse Childhood Events and primary care needs, improved healthcare access to mitigate location and public transportation barriers, and access to medical care regardless of insurance status. Mental/behavioral/substance-abuse services can be interpreted as ACE-related care in the context of this proposal.

![Figure 1. Themes from Primary Data Collection, Northwest Region.](image-url)
Within the Northwest region, there are five specific regions that the 2019 Community Health Needs Assessment of Sacramento County classifies as “significantly in need” of specific healthcare service improvements. These five regions are labeled “communities of concern”: North Highlands, North Sacramento, Del Paso Heights, Arden Arcade, and Foothill Farms (Figures 2 and 3).

North Sacramento and Del Paso Heights demonstrate higher proportions of Hispanic, Black, and Asian populations in relation to White, mixed, and other ethnic groups (Figure 4). However, North Highlands, Arden Arcade, and Foothill Farms contain a higher proportion of white residents compared to Hispanic, Black, and Asian ethnicities. Regardless of distribution, Hispanic, Black, and White communities are consistently present in each region at varying levels. It can be said that, as a whole, these communities of concern are diverse in ethnic composition and that services to these areas would benefit a variety of racial groups [20].

Beyond healthcare status, it is important to emphasize that Sacramento as a whole is impoverished and has more dangerous and lower quality living conditions than the average city in California. The 2019 Community Health Needs Assessment of Sacramento County finds a higher rate of children in poverty and children with single parents than the average value in California (Figure 5). The median household income is comparatively lower, and there is a higher rate of violent crimes and homicides in Sacramento than California’s average as well [1].

The 2019 Community Health Needs Assessment of Sacramento County demonstrates varying amounts of clinical care providers in Sacramento County compared to the California average; at least one region of Sacramento is in a Health Professional Shortage Area (HPSA) for Primary Care and considered medically underserved (Figure 6). However, the number of mental health providers, psychiatry providers, and primary care physicians is above the average for California overall. This suggests that available clinician staff are aggregated in certain areas of the county, creating shortages elsewhere, supporting the notion that the Northwest Sacramento region lacks adequate mental health and primary care provision [1].
Need for a New Mobile Medical Clinic: A Proposal

<table>
<thead>
<tr>
<th>ZIP Code</th>
<th>Community/Area</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>95660</td>
<td>North Highlands</td>
<td>34,303</td>
</tr>
<tr>
<td>95815</td>
<td>North Sacramento</td>
<td>25,205</td>
</tr>
<tr>
<td>95838</td>
<td>Del Paso Heights</td>
<td>37,286</td>
</tr>
<tr>
<td>95841</td>
<td>Arden Arcade, North Highlands</td>
<td>19,890</td>
</tr>
<tr>
<td>95842</td>
<td>Arden Arcade, North Highlands, Foothill Farms</td>
<td>32,184</td>
</tr>
</tbody>
</table>

Total Population in Communities of Concern: 148,869
Total Population in Northwest Region: 324,288
Percentage of Northwest Region: 45.9%

Figure 2. Identified Communities of Concern for the Northwest Region.

Figure 3. Communities of Concern for the Northwest Region.
<table>
<thead>
<tr>
<th>Location</th>
<th>Hispanic</th>
<th>Black</th>
<th>Asian</th>
<th>White</th>
<th>Mixed</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Highlands</td>
<td>25.2%</td>
<td>12.5%</td>
<td>6.9%</td>
<td>49.5%</td>
<td>4.7%</td>
<td>0.8%</td>
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<tr>
<td>North Sacramento</td>
<td>30.9%</td>
<td>21.5%</td>
<td>13.5%</td>
<td>27.5%</td>
<td>4.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Del Paso Heights</td>
<td>38.0%</td>
<td>24.1%</td>
<td>17.5%</td>
<td>14.1%</td>
<td>5.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Arden Arcade</td>
<td>18.1%</td>
<td>9.8%</td>
<td>6.6%</td>
<td>59.9%</td>
<td>4.6%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Foothill Farms</td>
<td>23.5%</td>
<td>8.4%</td>
<td>5.7%</td>
<td>53.7%</td>
<td>7.0%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

*Figure 4. Racial composition by region.*

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Description</th>
<th>Sacramento</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homicides</td>
<td>Deaths per 100,000</td>
<td>6.1</td>
<td>5.0</td>
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<tr>
<td>Violent Crimes</td>
<td>Reported violent crime estimates per 100,000</td>
<td>52.7</td>
<td>40.7</td>
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<tr>
<td>Motor Vehicle Crash Deaths</td>
<td>Deaths per 100,000</td>
<td>9.2</td>
<td>8.5</td>
</tr>
<tr>
<td>% Married College</td>
<td>Percentage aged 18-24 with some postsecondary education</td>
<td>61.2</td>
<td>63.4</td>
</tr>
<tr>
<td>High School Graduation</td>
<td>Percentage of ninth-grade cohort graduating high school in 4 years</td>
<td>88.6</td>
<td>82.3</td>
</tr>
<tr>
<td>Unemployed</td>
<td>Percentage of population 16 and older unemployed but seeking work</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Children with Single Parents</td>
<td>Percentage of children living in a household headed by a single parent</td>
<td>35.6</td>
<td>31.0</td>
</tr>
<tr>
<td>Social Assistance</td>
<td>Membership associations per 100,000</td>
<td>7.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Free and Reduced Lunch</td>
<td>Percentage of children in public school eligible for free or reduced-price lunch</td>
<td>58.9</td>
<td>58.9</td>
</tr>
<tr>
<td>Children in Poverty</td>
<td>Percentage of children under age 18 in poverty</td>
<td>23.1</td>
<td>19.0</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>Median household income</td>
<td>$47,796</td>
<td>$47,796</td>
</tr>
<tr>
<td>Uninsured</td>
<td>Percentage of population under age 65 without health insurance</td>
<td>7.2</td>
<td>9.7</td>
</tr>
</tbody>
</table>

*Figure 5. Social and economic or demographic factor indicators compared to state benchmarks.*
Need for a New Mobile Medical Clinic: A Proposal

What Exists Currently

Interestingly, although Sacramento does not lack healthcare professionals for mental health services compared to the average California benchmark, quality of life indicates that Sacramento residents experience poor mental and physical health more commonly than the state average [1]. This finding suggests that the distribution of such healthcare professionals may not be adequate to provide care to different regions. Not only are healthcare professionals inadequately distributed geographically in Sacramento, but the types of services are noticeably lower in quantity and less widespread than one might expect.

The 2019 Community Health Needs Assessment of Sacramento County provides data describing the services provided by existing health organizations in Sacramento. In analyzing the information provided, it is apparent that a surprisingly low quantity of healthcare organizations provide primary care, mental health, and healthy eating / active living services. Sacramento County contains a grand total of 281 existing healthcare organizations that provide a variety of services. Out of those

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Description</th>
<th>Sacramento</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Costs</td>
<td>Amount of price-adjusted Medicare reimbursements per enrollee</td>
<td>$8,973</td>
<td>$11,000</td>
</tr>
<tr>
<td>HPSA Dental Health</td>
<td>Reports if a portion of the county falls within a Health Professional Shortage Area</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>HPSA Mental Health</td>
<td>Reports if a portion of the county falls within a Health Professional Shortage Area</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>HPSA Primary Care</td>
<td>Reports if a portion of the county falls within a Health Professional Shortage Area</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HPSA Medically Underserved Area</td>
<td>Reports if a portion of the county falls within a Medically Underserved Area</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Mammography Screening</td>
<td>Percentage of female Medicare enrollees aged 65-69 that receive mammography screening</td>
<td>60.3</td>
<td>59.7</td>
</tr>
<tr>
<td>Dentists</td>
<td>Number per 10,000 persons</td>
<td>75.1</td>
<td>87.5</td>
</tr>
<tr>
<td>Mental Health Providers</td>
<td>Number per 10,000 persons</td>
<td>339.5</td>
<td>308.2</td>
</tr>
<tr>
<td>Psychiatric Providers</td>
<td>Number per 10,000 persons</td>
<td>14.3</td>
<td>13.4</td>
</tr>
<tr>
<td>Specialty Care Physicians</td>
<td>Number per 10,000 persons</td>
<td>24.1</td>
<td>183.2</td>
</tr>
<tr>
<td>Primary Care Physicians</td>
<td>Number per 10,000 persons</td>
<td>81.3</td>
<td>78.0</td>
</tr>
<tr>
<td>Preventative Hosp. Stays</td>
<td>Number of hospital stays for ambulatory-care-sensitive conditions per 1,000 Medicare enrollees</td>
<td>37.4</td>
<td>38.2</td>
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Figure 6. Clinical care indicators compared to state benchmarks.

What Exists Currently

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<td>38.2</td>
</tr>
</tbody>
</table>
281 organizations, only 96 institutions or 34% of them provide access to mental behavioral or substance abuse services. Only 73/281 institutions or 26% provide access to quality primary care services. And only 81/281 institutions or 29% provide access to active living and healthy eating resources [1]. This data indicates that Sacramento may not be well-equipped to address its various medical needs across the county. And, although existing organizations are present in Sacramento to provide these services, they are not equitably distributed across the county.

Areas with established institutions that provide mental health/behavioral and substance abuse services remain indicated as regions in significant need of those services. Within the zip code 95823, 8 institutions provide mental health services of the total 21 healthcare institutions in that area. However, the zip code 95823 resides in a region that continues to lack adequate mental health services [1]. Despite that almost half of the healthcare organizations within 95823 provide mental health services, that service is still needed in higher volume. This data further demonstrates that existing healthcare organizations are not meeting patient needs.

What Is Lacking

To summarize, there are three primary issues that the Northwest region of Sacramento is experiencing: lack of both primary care access and Adverse Childhood Events-related care, healthcare insurance denial from current providers, and location and public transportation barriers to attain proper healthcare access. The following section will elaborate on the mobile, pediatric clinic solution by which Recognizing Illnesses Very Early and Responding (R.I.V.E.R.) proposes to tackle these issues.

4. Project Description

In order to address the issues discussed, Recognizing Illnesses Very Early and Responding (R.I.V.E.R.) at UC Davis is planning to implement a new mobile, pediatric clinic for underserved communities in Sacramento county. To address insurance barriers, the new clinic will provide free services to all patients regardless of insurance status. To address location and public transit challenges, the clinic will function in a large mobile vehicle equipped for medical care providers. Not only can new patient locations be reached, but multiple regions can be served.
And finally, to address the primary care and ACE-related care needs, the mobile clinic will provide Trauma Informed Care (TIC) along with primary care services to address both of these issues. This description will include explanations of the ACE Treatment Approach and the primary care services that the clinic will provide, along with support for the success of the mobile clinic model.

4a. Primary Care Services & ACE Treatment through Trauma Informed Care

Our clinic plans to provide primary care services in addition to ACE-related care through TIC. Our primary care services will include: comprehensive treatment including pediatric immunizations and flu-shots, complete physical exams, acute illness and injury care, pregnancy tests, pelvic exams, sexually transmitted disease testing and treatment, family planning, HIV counseling and testing, health education, referrals to community partners and agencies, substance abuse counseling, risk behavior reduction counseling, and nutrition counseling. Our Trauma Informed Care will involve training a variety of staff with material obtained from the National Child Traumatic Stress Network. Specific staff, such as clinicians, psychiatrists, and graduate students will be trained in Trauma-Focused Cognitive Behavioral Therapy, while undergraduates will be given less intensive NCTSN training intended for non-clinicians and volunteers. In this way, all of our staff will be trained to provide ACE-related care through TIC at some level.

4b. Mobile Clinic Success and Versatility

To reiterate, residents in the Northwest region of Sacramento have location and public transportation barriers that prevent access to proper healthcare. The clinic will serve patients in a 26-foot vehicle equipped with 2 medical examination rooms and ample supplies. With this mobility option, the clinic can access a variety of regions in Sacramento with ease and flexibility. In this way, residents can access medical care despite any location or public transportation challenges. Furthermore, we intend to function as a school-based healthcare organization so we can directly interact with large pediatric populations on a consistent basis.

Existing mobile medical vehicles provide similar services in other cities and provide excellent examples on which to base this proposal. One particularly successful case is the Stanford Teen Van, a mobile medical
clinic that primarily serves youth in the Bay Area. The 2019 Stanford Community Health Needs Assessment indicates that this clinic provides ACE-related care in the form of mental health services in addition to primary care (Figure 7). Furthermore, this establishment has successfully provided improved access for 2,892 individuals that otherwise would experience location-based barriers [17]. The Stanford Teen Van also provides its services and medications for free, thus eliminating any insurance-based discrimination. They also maintain a consistent schedule of frequent visitation between multiple locations (including schools), rotating between each location at equal intervals. This model is exemplary because it provides identical services to a similarly underserved population in the Bay Area.

5. Conclusion

This proposal discussed the potential benefits of developing a new mobile pediatric medical clinic that would serve the Northwest region of Sacramento County. First, this proposal established context for ACE-care needs and examined the correlation between Adverse Childhood Events (ACEs) and future chronic health issues. Second, this proposal demonstrated extensive evidence of the community health needs in Sacramento. And finally, it outlined a solution following successful existing mobile clinic models. When considering the data holistically, it is clear that a new pediatric mobile clinic would significantly benefit patients in Sacramento.

6. References


7. Key Personnel and Operations Structure

The clinic will be staffed by a variety of personnel: medical professionals (M.D., D.O, P.A., and N.P.), healthcare professional students (M.D., D.O, P.A., and N.P.), and undergraduate students. Each personnel type will have a different role and purpose in running the clinic. The undergraduate students will primarily participate in an administrative function. Occupations such as front desk reception, basic vital-taking, scribing, translation, and reduced-scope ACE-related care will encompass the full scope of undergraduate contribution. Healthcare professional students will have a significantly more involved role. They will perform the initial examination of the patient, then present their findings to the medical profession on staff that day. These students can also be trained in higher level ACE-related care. Finally, the medical professionals’ role will be to check the healthcare professional students’ evaluation and determine if any changes need to be made before treating the patient. Clinicians and staff such as child psychiatrists can provide professional ACE-related care as well. Existing student-run clinics at UC Davis already follow this effective structure which allows both undergraduate and healthcare professional students to learn and medical professionals to teach and nurture future generations of healthcare professionals.

8. Budget Justification

Recognizing Illnesses Very Early and Responding (R.I.V.E.R.) at UC Davis is requesting $450,000.00. This amount will cover our initial development and will also ensure our expansion and future functioning for years to come. Primarily, the funds will be utilized to purchase necessary equipment and supplies for initial development and future growth. Secondarily, it will provide training material for our staff to provide ACE-related care. Regarding equipment, our mobile medical unit comprises a large majority of this cost at $130,000.00. Furthermore,
roughly $135,000.00 is dedicated to an extensive list of equipment and supplies listed in the project budget in the following section. Regarding personnel, we require funding to purchase training courses and materials for our staff. This equates to about $42,000.00. The total amount of $450,000.00 would allow our clinic to function at a low annual cost. Finally, the annual expenditures we anticipate regarding vehicular insurance and maintenance are calculated to reflect five additional years of future functioning. Our proposal to develop this clinic has the potential to maximize the funding ceiling and intelligently distribute funds to last over an extended period of time. Our full proposed budget can be reviewed in the following section.

**Project Budget**

**Materials**

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Magnum Mobile Medical Vehicle</td>
<td>$130,000.00</td>
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<tr>
<td>Malpractice Insurance (5 years)</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Vehicle Insurance (5 years)</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>Vehicle Maintenance (5 years)</td>
<td>$7,000.00</td>
</tr>
<tr>
<td>Vehicle Licensing (One-time cost)</td>
<td>$1,000.00</td>
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<tr>
<td>Follet Medical-Grade Refrigerator (Vaccine Storage) (2 units)</td>
<td>$6,420.00</td>
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<tr>
<td>Scale and Height Measurement Tool (Health o Meter)</td>
<td>$186.00</td>
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<tr>
<td>Phillips HeartStart Onsite AED Value Package</td>
<td>$1,325.00</td>
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<tr>
<td>Pediatric Immunizations (1000 doses)</td>
<td>$52,000.00</td>
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<td>General Daily-Use Supplies (5 years)</td>
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<td>Over the Counter Medication</td>
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**Personnel**

<table>
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<tr>
<td>NCTSN Trauma Focused Cognitive Behavioral Therapy Training (5 people)</td>
<td>$42,000.00</td>
</tr>
</tbody>
</table>

**Total** $450,000.00
Review of Existing Video Games for Computer Science Education

Daniel Ritchie

Writer’s Comment: As a Computer Science major with a minor in Education, the intersection of technology and education has long been an interest of mine. I had done some research into this for other education classes, specifically in EDU 120: Education in a Digital Age with Dr. Darnel Degand. This topic was so interesting to me that I wanted to continue it further. I am fascinated by how programming should be taught, because it is at a convergence of mathematics, language, and engineering. In my Honors Contract class, I was able to tailor my paper to my interests. I knew that I wanted to deal with technology that teaches students how to code. This was a challenging, unique, and wonderful opportunity to explore my interests, and it inspired me to try to continue this work. Eventually, I hope to build a game that follows the guidelines in this paper.

Instructor’s Comment: When Daniel asked me to serve as the advisor for his Honor’s program research project, I happily accepted. His topic (teaching computer science through video games) is a research interest of mine. I met Daniel in my course EDU 185: Learning in the Digital Age, wherein students have the choice to submit podcasts, video essays, written essays, or graphic narratives for their assignments. Daniel challenged himself by producing a podcast and a video essay for his midterm and final essay, respectively. Furthermore, Daniel and two classmates collaborated and won the Shark Tank-inspired final presentation competition that I organize for that class. The effort that led to his success in that course is visibly present in the literature review you will now read. Not only did he read numerous articles and book chapters throughout the quarter, Daniel also evaluated multiple video games. He details his assessment of two of the games from this quarter and he also discusses the criteria used to evaluate educational games (i.e. ac-
Introduction

Programming is an essential skill in today’s workforce. As automation and computation become increasingly important, the technical skills to manage these systems become essential. However, the United States is falling behind other countries when it comes to problem-solving and technical skills (Cummins, Millar, & Sahoo, 2019). As a result, the teaching of programming is becoming increasingly important, despite the low retention rate in computer science courses (Päivi & Lauri, 2006). Reasons for this high dropout rate include a lack of motivation, engagement, and lack of confidence (Päivi & Lauri, 2006). It is even more difficult for people whose fields lie outside of the realm of computer science to learn programming when instructors assume a fixed mindset about programming: “You either get it or you don’t.” Because games have been shown to increase learning and engagement with the material (Gari, Walia, & Radermacher, 2018), they are a viable way to fix this problem. However, simply using a game to teach programming does not guarantee results; games need a set of relevant criteria that can be used to measure pedagogical effectiveness.

To discuss games that teach programming, the terms “video game” and “computer science education game” need to be defined. For the first term, Jesse Schell’s The Art of Game Design defines a game as “a problem-solving activity approached with a playful attitude” (p. 37). According to Schell, “play [is] a manipulation that indulges curiosity” (p. 30). Based on these definitions, it would be reasonable to say that video games involve problem solving, manipulation, and curiosity from the player in a virtual setting. Meanwhile, Gibson and Bell (2013) define a computer science education game as being fun/free, in a separate space/time, uncertain in outcome, governed by rules, make-believe, and educational. To synthesize these definitions, this paper will be regarding video games for computer science education as fun, open-ended, rule-governed activities that exist in a virtual fantasy setting and involve problem-solving and educational value for the player.

The goals of this paper are (1) to review, analyze, and compile
existing literature for the use of games in computer science education, (2), to use that literature to construct criteria to evaluate the effectiveness of games for use in computer science education, and (3) to evaluate some existing games for computer science education based on these criteria.

Method

Research Questions

1) What are the most important game elements and design strategies that research has shown to benefit learning?
2) How well do existing video games for computer science education implement these elements and strategies?

Source Search and Selection

The Google Scholar search engine and the University of California, Davis library database were searched for articles related to video game use in computer science education. In addition, the books used in this review were found by recommendation from a faculty mentor and through an internet search. The games to review were found through an internet search for games used in computer science education. All sources were filtered based on their adherence to the definition of computer science education video games previously given. In addition, many sources had to be removed because they analyzed how creating video games can teach programming, not how video games themselves can teach programming. Results were further narrowed by excluding games and articles oriented towards children. The desired target age for articles and games in this study is high school to early college. This search resulted in eight articles and eight games.

Data Collection and Game Evaluation

The articles were parsed for the authors’ design or evaluation choices and which parts of the design or evaluation correlated with higher levels of learning. Certain chapters of the books were extracted and read for use in general strategies for game design or teaching computer science. Notes were then compiled and analyzed to develop the criteria detailed below, which were used to evaluate the chosen games. The beginning levels of each game were played for the evaluation. Two of those evaluations are given below as characteristic samples for using the criteria.
Results

The criteria identified within the literature are active learning, flow, learning objectives, game design, and accessibility. Critical media perspectives and debriefing also appeared in the literature and evaluations, but they are not aspects of game design and development.

Active Learning

Active learning is learning by engaging with the material and using it in applicable contexts. Problem solving or working on a project are examples of active learning. This is opposed to passive learning, which is intake of information through lecture, video, or another medium. Sentance, Barendsen, and Schulte (2018) advocate for similar styles of learning through student-led exploration called “enquiry-based learning” or through the five E’s: engage, explore, explain, extend, and evaluate (p. 101). Both of these tactics exemplify active learning because the teacher presents a hook (a problem or mystery to solve) and the students explore a solution of their own making, therefore using the material actively. Active learning in educational video games improves learning in several of the studies examined for this report. Sitzmann (2011) found that the activity level of a learning group was a moderator of the effectiveness of an educational simulation game. Gibson and Bell (2013) used active learning as a criterion in their evaluation of games for computer science education, asserting it as a necessary component of educational games. Papastergiou (2009) found that a game designed with high student control and interactivity increased the retained knowledge of the students. The existing literature supports active learning as a vital part of games seeking to teach computer science.

Flow

Flow is a term coined to refer to player immersion in a game. A game with good flow will allow the player to progress without having it feel like a chore or obligation. This is especially important for educational games because flow involves adjusting to the increased difficulty of the game, which would also apply to the incrementally increasing complexity of the material the game teaches. Appropriate progression of the learner, from a consumer to a producer of technology,
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is an effective way of addressing difficulties in teaching computer science (Sentance, Barendsen, & Schulte, 2018) that mirrors the idea of flow. In fact, Schell’s *Lens of Flow* (2020, p. 122) bears striking resemblance to Vygostky’s Zone of Proximal Development (1978), which claims people learn best when they are being challenged but not so far past their ability that the challenge is impossible. Achieving flow by matching the player’s skill to the skill required to complete a goal, with a high degree of player control, allows the player to build confidence in a risk-free environment and further develop their skills (Gibson & Bell, 2013). Games designed with challenging, clear goals of progressive difficulty have the ability to increase learning in their students (Papastergiou, 2009). Gari, Walia, and Radermacher (2018) found challenges and levels were common features of games that effectively taught their players. In addition to the actual goals of the game, a good analogy or story is important for the gameplay. Analogy and storytelling are important methods of teaching computer science, and it was found that a metaphor of spells and wizardry effectively taught Java programming concepts to players of an educational game (Sentance, Barendsen, & Schulte, 2018; Esper, Foster, & Griswold, 2013). Therefore, flow is a key aspect of games that seek to teach computer science.

Learning Objectives

The learning objectives of a game not only include what the game designers have decided to teach their players but also the way in which they order those learning objectives, how well they scaffold, and how broadly they cover programming. There are numerous games that can teach a very narrow learning objective, but this is less effective when the goal is to teach the player to program. In addition, there are pedagogical choices to make for learning goals which go beyond the teaching of syntax and structure for a specific language or languages. As previously mentioned, Schell (2020) describes a game as being a primarily problem-solving endeavor; correctly oriented goals are important, so it is important to ensure that these goals are appropriate for the audience. The goals can be thought of as problems for the players to solve. The IEEE Curriculum Guide is cited as an important source for topics to teach (Papastergiou, 2009; Sentance, Barendsen, & Schulte, 2018) and can be used as a comparison for the curriculum of educational video
games. In addition, Bloom’s Taxonomy of Learning Objectives is a good framework for evaluating these goals by making sure that multiple levels of the taxonomy are met (Sentance, Barendsen, & Schulte, 2018). In addition, these goals address common difficulties new programmers face, such as the properties of the computer a programmer must control or the methodology that goes into writing a program (rather than memorizing a language’s syntax and structure) (Sentance, Barendsen, & Schulte, 2018).

**Game Design**

This criterion seeks to assess how a game has been designed and if that design is effective. While many of these criteria ultimately evaluate some aspect of the game design, an effective educational video game must also be an effective video game—which this criterion is meant to ensure. The main elements of game design are present in Schell’s Lens of the Elemental Tetrad (2020). This lens describes the four elements that constitute a game—mechanics, story, aesthetics, and technology—and that this review uses to evaluate the design of a game. In particular, the mechanics and story elements were observed across the games. Because mechanics are the primary function by which the players act, they have great influence over the players’ learning. Points are a primary motivating factor in video games (Gari, Walia, & Radermacher, 2018), and similar mechanisms are important to motivate players and learners. Story is vital because the fantasy of a game is both part of what makes it fun and what makes it educational (Papastergiou, 2009; Malone, 1980). All elements are vital because they affect the entertainment value of the game, which is a moderator of the effectiveness of a game (Sitzmann, 2011).

**Accessibility**

The accessibility of a game takes into account several factors including the platform, price, and accommodations made for players of differing backgrounds. A truly accessible game would not only be simply available (low-cost and on an easily-accessible platform) but would acknowledge the players of the game are a potentially diverse group of learners and seek to be effective in complement to a player’s background. In Schell’s (2020) terms, this would belong to the Lens of the Player, which asserts a game designer needs to know their audience in order to make an effective game. Multiple studies have shown enduring access
to a game is important for its educational potential (Sitzmann, 2011; Lawrence, 2004; Gibson & Bell, 2013). In addition, it is obvious a game without accommodations for different players would lose value for some of its players, so this must be evaluated as well.

A note on critical media perspectives: Critical media is the idea of a consumers asking themselves questions about the purpose of the media they are consuming and the tools used to accomplish that purpose (Mirra, Morrell, & Filipiak, 2017). It includes consumption, production, distribution, and invention—all with a lens of critiquing the existing social, economic, and political bodies that made the media. This is important for this review because the purpose of an educational game may not be to actually educate its players—it may be to make money. Such a purpose may detract from the educational value of a game as the designers favor qualities that garner more purchases, subscriptions, or website hits. However, this is not included as one of the criteria because any lessened educational potential from this will be evaluated by the other criteria.

A note on debriefing: Debriefing is the process of explicitly linking the experiences of a game to the curriculum of a course. Multiple studies show debriefing is beneficial to learning through a game (Sitzmann, 2011; Gibson & Bell, 2013), but given this is a review of the games themselves, it is impossible to judge on this criterion. In short, the usage of these games should accompany debriefing for maximum effectiveness, but will not be evaluated here.

Game Evaluations

The following are two examples of how games may be evaluated according to the selected criteria.

**CodeCombat**

CodeCombat is a browser-based role playing game (RPG) that gives the player a choice from one of four champions. The player must code in a language of their choice to get their champion to move, fight, and interact with the challenges.

**Active Learning**: CodeCombat fosters active learning through making the players actually code. The interface has a coding environment on the right and the champion and level on the left. The player is forced
to use the language they choose to code in, and even with the fantasy flavor, they are learning by doing.

**Flow:** CodeCombat has challenges that increase in difficulty—although slowly. This makes it easier for younger audiences to tackle the challenges, but it may be slower than late high school or college students would prefer to handle. This may reduce the immersion and motivation for that demographic.

**Learning Objectives:** CodeCombat has great learning objectives with broad areas of programming covered including logic, functions, objects, and even web development. The game seems to cover several levels of Bloom’s taxonomy, including knowledge, understanding, and application; however, it contains less analysis, synthesis, and evaluation.

**Game Design:** The aesthetics of CodeCombat serve the game’s purpose well; everything is oriented towards the fantasy theme, and the art is simple enough to keep the animation smooth. The in-game coding environment effectively features facilitating the writing of code. The mechanics seem a little rudimentary to start, as the character can only move at the beginning, but more features and interesting mechanics come with time. Lastly, there does not appear to be anything of a recurring story; each individual level has its own tasks as a kind of story but nothing recurring.

**Accessibility:** CodeCombat is free to play and online, so it is easily accessible. It does not have multi-language support or closed captioning, but since it is in-browser, Google will translate for the user and screen-readers are available.

**Lightbot**

Lightbot is a puzzle-based mobile app where the player uses a graphic interface to give a robot instructions to move and activate (“light”) certain tiles. The game presents a series of puzzles of increasing difficulty.

**Active Learning:** In much the same way as CodeCombat, Lightbot has the player create their own solution to the puzzles, solving the puzzle with the graphical interface. It does not involve actually typing code, nor does it include any programming language.

**Flow:** Lightbot has an excellent progression from easy to difficult puzzles. Playing the game is a seamless progression to new levels and difficulties, and new concepts are introduced without breaking the flow of the game.
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Learning Objectives: The learning objectives of Lightbot are somewhat limited. Basic programming concepts like functions and recursion are introduced, but a wide range of programming concepts are not addressed. In addition, many of the concepts are not tied back to code.

Game Design: The aesthetics of Lightbot are well crafted and simple, and the animation is very clean. The technology is used nicely with a clean and accessible mobile interface. The mechanics are simple enough to be easy to use but allow for complex solutions to challenging puzzles. There is no story, as the game seems to be devoted entirely to its role as a puzzle game.

Accessibility: Lightbot is a paid mobile app, so it is not easily accessible for a wide range of students. It is not a game that requires much language, as it is mostly visual.

Discussion

In general, the games either focused on the puzzle aspect of programming (like Lightbot) or the RPG aspect of game-playing (like CodeCombat). While the levels of CodeCombat can be thought of as a type of puzzle, they were more oriented towards getting the player to control a character. Active learning seems to be a common aspect of the games, which makes sense because a passive game would be less interesting and less likely to motivate play. However, the games were almost all lacking a recurring storyline—one that would keep the player invested in the events of the game and their actions within it. Also, each game seemed to be made with the intent of garnering a purchase or subscription rather than a purely educational purpose.

It is certainly possible to make a game that adheres to all the criteria outlined above, and this paper calls for the creation of such a game. It would have to be created with a purely educational purpose, and it would ideally be tested for its educational potential and improved according to that testing. The most noticeable gaps this game would fill are those of a compelling story and an orientation towards high school- and college-age students learning to code for the first time. As programming and computer literacy becomes more important to today’s workforce and general needs, such a game would be an important step in improving the state of computer science education.
References


A Review of Analytical Methods Used to Identify Fentanyl and Its Analogs

LACEY CONLON

Writer’s Comment: Chemistry goes beyond the general and organic courses that people more frequently remember. So, as a fourth-year chemistry major when Dr. Melissa Bender assigned our UWP class a literature review which would cover a scientific topic of our choice, I immediately knew I wanted to cover a topic in the Chemistry field. I drew inspiration from my chemistry courses and spent several days narrowing down the focus of my paper. I ultimately made the decision to write about the chemical analysis of Fentanyl, which is extremely dangerous and poses a risk to first responders and the general public, in most cases unknowingly. I used the literature review as an opportunity to compare the different analytical methods that have been proposed to identify fentanyl in the field and how the research that has been conducted may not have accounted for factors in the field which cannot be controlled, but are normally controlled in a laboratory setting. I hope this review makes people consider how experiments may be adapted from a laboratory to a field setting.

Instructor’s Comment: According to the Centers for Disease Control and Prevention, almost 450,000 people in the U.S. died as a result of opioid overdose between 1999 and 2018. Yet, while significant efforts to control the opioid epidemic have been made recently, and the overall opioid-related fatality rate decreased by 2% from 2017 to 2018, deaths caused by synthetic opioids, such as fentanyl, increased 10% in the same period. A reader need look no further than these statistics to appreciate the significance of Lacey Conlon’s literature review topic. To turn this disturbing trend around and save lives, first responders need safe and efficient methods for detecting fentanyl and its analogues, while also protecting themselves. In this review, Lacey presents recent research on three such methods. Never losing sight of
the fact that these methods will be employed by human beings in the field, and under emergency circumstances, Lacey also addresses the crucial issue of training first responders to employ these methods optimally. There is much here for a novice literature review writer to emulate, as Lacey handles two of the most challenging aspects of writing a literature review—evaluating research articles and synthesizing material from various sources—with grace and clarity. Notably, Lacey met the usual, considerable challenges of writing a literature review during a time of additional complications—spring quarter 2020, when UC Davis courses had shifted quickly to online delivery due to the COVID-19 pandemic. Hats off, Lacey!

—Melissa Bender, University Writing Program

Abstract

Fentanyl is a synthetic opioid similar to morphine, except that it is significantly more potent. Fentanyl has many analogs and all forms of fentanyl have raised concerns due to their involvement in illicit drug use since a few milligrams can cause a fatal overdose. The low lethal dose poses a risk for first responders, medical personnel, and law enforcement. More research needs to be conducted regarding the field instrumentation for the identification of fentanyl and its analogs. The purpose of this review was to identify the weaknesses in the most current instrumentation—Surface Enhanced Raman Spectroscopy, Ion Mobility Spectrometry, and Paper Spray Ionization-Mass Spectrometry—that has been proposed for the identification of fentanyl and its analogs when outside of a laboratory setting. Web of Science and PubMed databases were searched for peer-reviewed pieces that covered “fentanyl identification,” “Surface Enhanced Raman Spectroscopy,” “Ion Mobility Spectrometry,” and/or “Paper Spray Ionization-Mass Spectrometry,” and were published after 2010, while precedence was given to articles published in the last five years. In the field, the consistent result found for the three instrumentations was that researchers did not consider the effects that would be encountered outside the controlled setting of a laboratory, which may interfere with the reliability and reproducibility of the instruments’ analysis. Lack of research involving possible environmental interference by researchers for the instrumentation in a field setting emphasizes the need for future research that addresses the performance of the instrumentation in the
analysis of fentanyl in the field.

Introduction

Fentanyl is a man-made opioid that was first synthesized in the late 1950s and is known to be significantly more potent than morphine. In the past few years, fentanyl and its analogs have raised concern for its illicit drug use (Kuczyńska, Grzonkowski, Kacprzak, & Zawilska, 2018). The concern stems from the low lethal dose of fentanyl since only a few milligrams can cause an overdose. The threat of an overdose from a trace amount of fentanyl or its analogs is hazardous for first responders, medical personnel, and law enforcement officers since illicit drugs have become more commonly contaminated with fentanyl and its analogs. This hazard concern has brought researchers to present effective analytical methods that can be made portable and that could identify fentanyl and its analogs in the field so that sufficient precautions can be taken to protect first responders, medical personnel, and law enforcement communities (Goodchild, et al., 2019). Traditionally implemented analytical methods, such as gas chromatography-mass spectrometry and liquid chromatography-mass spectrometry, are generally used because of their known reliability and reproducibility. However, they require large amounts of the samples being tested, take a longer time to produce results, are cumbersome, expensive instruments that require a laboratory setting, and are not available in the field to help reduce the risk fentanyl poses (Haddad, Comanescu, Green, Kubic, & Lombardi, 2018).

More research is being conducted to find effective and court-admissible methods to identify fentanyl and its analogs when in the field (Haddad, Comanescu, Green, Kubic, & Lombardi, 2018). This review describes the research involved in three promising field identification methods: Surface-Enhanced Raman Spectroscopy, Ion Mobility Spectrometry, and Paper Spray Ionization-Mass Spectrometry. The research behind all three methods confirms the successful identification of fentanyl and its analogs. While the methods can successfully identify fentanyl and its analogs, there are cases where the analogs cannot be uniquely identified, or the portable method proposed does not account for the variability of the environment in the field. Further research needs to be conducted to improve field identification methods for fentanyl and its analogs.
Surface-Enhanced Raman Spectroscopy

Raman Spectroscopy utilizes laser light excitation that results in a Raman scattering of photons that reveal a molecule’s vibrational energy states. Vibrational energy states are unique to a molecule, and their detection creates a spectral fingerprint for the molecule or molecules being examined that allows for the identification of molecules as well as its characteristics (Hoppmann, Yu, & White, 2014). Raman spectroscopy is known to be an effective method of analysis for illicit drugs. However, it is a weak method for distinguishing the materials when there are trace amounts. In order to compensate for the weak Raman scattering of photons, Surface-Enhanced Raman Spectroscopy (SERS) is used to permit the identification of pure fentanyl as well as fentanyl mixed with other drugs. When the AgPaper substrate was used in SERS, it successfully identified fentanyl by itself in addition to successful identification when it was in a mixture in trace amounts. This experiment was performed in a laboratory, but the portable Raman instrumentation has become more available, which would allow swabbing to facilitate the identification of fentanyl when in the field. Raman instrumentation is classified as paper-based, so it is considered to be a low-cost sampling and analysis method that is able to identify and confirm drugs of abuse at a rapid speed, which makes it ideal for usage in the field (Haddad, Comanescu, Green, Kubic, & Lombardi, 2018).

In a study, SERS was used to analyze fentanyl from common surfaces that would need to be examined in the field, including the inside of the plunger on a syringe, the inside of a plastic bag, the inside of a glass vial, the surface of a glass slide, the inside of a needle, and the surface of a razor blade. These surfaces were selected to best represent the reality of where fentanyl may be found in the field, and the analysis was proven to be effective (Fedick, Pu, Morato, & Cooks, 2020). This method provides a quick and effective analysis of illicit drugs, including fentanyl and its analogs, whether they be pure or in mixtures. While studies have proven SERS can be a successful analysis method for the identification of pure fentanyl and other fentanyl compounds, there are some obstacles the method faces that must be addressed. The method can produce false negatives due to the light in the environment where the sample is being tested. The study that was completed to validate the method was only completed in a controlled laboratory setting where
interference of the environment can be eliminated within the setup of the experiment (Chen, et al., 2019). Further studies in SERS should be completed to improve the portability of the instrumentation and take into account where the methods may be used and what would enhance the effectiveness of the identification.

**Ion Mobility Spectrometer**

Ion Mobility Spectrometers (IMS) utilize the ionization of a sample to analyze the ions formed at the sample’s environmental temperature and pressure. In the instrument, gas-phase ions are made through radioactive ionization, commonly by 63Ni. After the sample has been ionized, the resulting ions are separated by their different speeds in the instrument’s drift gas, which is positioned in an electric field. The separation achieved by the IMS is based on the ion’s mobility through the instrument and that depends on the weight of the ion, the charge of the ion, and finally its shape (Mäkinen, Anttalainen, & Sillanpää, 2010). IMS is a commonly used technique for the identification of illicit drugs because it is a rapid and sensitive technique that can be adapted for portable instruments (Chen, et al., 2019). IMS is not only an instrument that can efficiently be used in the field, but it is designed for a non-technical user to be able to detect trace amounts of illicit drugs, including fentanyl and fentanyl present in heroin (Verkouteren & Staymates, 2011).

IMS often faces challenges in analysis when there is an absence of a reference compound, and when samples that must be taken are complex mixtures that have a trace amount of fentanyl or its analogs. While the absence of reference compounds presents an obvious challenge for the detection of the analyte of interest, complex mixtures raise concern for the loss of signal for an analyte due to competitive ionization of compounds in the mixture. A study was conducted to determine if IMS analysis is a reliable method for detecting a single substance in a complex mixture of illicit drugs and determined that IMS was a reliable method for many commonly found controlled substances, which included fentanyl (Verkouteren & Staymates, 2011). Further studies were completed regarding IMS with a sole focus on fentanyl and its wide range of analogs. One study confirmed the successful identification of fentanyl and its analogs and suggested the sensitivity of IMS may allow wiping a bag for collection of a mere 10 nanograms of substance or less.
for successful identification of fentanyl (Sisco, Verkouteren, Staymates, & Lawrence, 2017). The presented possibility would allow the personnel trying to identify the substance to detect if fentanyl or its analogs are in a bag without having to open the bag and put themselves at greater risk of accidental exposure.

A subsequent study found that IMS could successfully identify fentanyl and its analogs through detection of trace amounts of samples that were taken from the exterior of a container, and established that the trace amounts found on the exterior of the bag were what was being kept in the container. This study established successful identification of fentanyl and its analogs using IMS with a sample size as small as 100 nanograms. However, the study also ran into an obstacle in the identification of the fentanyl compounds that were chosen for analysis. The study found that IMS could not uniquely identify all the fentanyl compounds outside of establishing the presence of fentanyl. Certain instrumental steps were proposed to improve the resolution of the instrument and updates that could be made to the library of data that provided the basis of analysis to improve the instrument’s unique identification of the many existing fentanyl compounds (Verkouteren, Lawrence, Verkouteren, & Sisco, 2019).

**Paper Spray Ionization-Mass Spectrometry**

Mass Spectrometry (MS) is a well known and defined analytical technique that can identify nearly every element in the Periodic Table by measuring the mass-to-charge ratio of the ions produced from a sample that is introduced to the instrument (Skoog, Holler, Crouch, 2018). Paper Spray Ionization (PS) is a variant of electrospray ionization in which a paper substrate is loaded with the analyte of interest, sprayed with a solvent, and then a high voltage is applied to the paper substrate to yield ions (Meher & Chen, 2017). Paper Spray Ionization and Mass Spectrometry are coupled together for cost-effective and rapid detection of illicit drugs. PS is one of the simplest techniques for the introduction of a sample for a portable MS since it eliminates the need for time-consuming sample preparation and the use of a portable MS implies the need for quick and efficient identification of the substance in question (Fedick, et al., 2018). PS is one of many ambient ionization methods that can be coupled with MS, but it is the simplest to couple with a portable MS.
A study in the last few years validated PS-MS analysis for drug analysis because this form of ambient ionization mass spectrometry has high sensitivity. Surface swabbing is the preferred method of sample collection since the limit of detection ranges from a low- to mid-nanogram range, and although it is susceptible of user error, the error was found to be minor (Lawton, et al., 2016).

A recent study confirmed that PS-MS can directly identify fentanyl, its analogs, and its presence in a mixture. The study evaluated the quality of the paper substrate that is used in the paper spray ionization portion of the method and determined that it plays a role in the quantitative analysis of the substance. Since the paper substrate is used to load the miniature mass spectrometer in this method, the positioning of the paper also affects the quantitative analysis of the sample of interest (Vandergrift, Hessels, Palaty, Krogh, & Gill, 2018). Another study also confirmed that PS-MS is a high-resolution method that can screen, identify, and quantify fentanyl and its analogs. The study was performed in a laboratory and determined that high-resolution mass spectrometry and tandem mass spectrometry can identify drugs when references are not available (Kennedy, Palaty, Gill, & Wiseman, 2018). Although that is possible in a laboratory setting, the study does not establish if a reference is necessary for the portable method. Few research projects have been completed for PS-MS with a solitary focus on the identification and quantification of fentanyl and its analogs. Further research needs to be conducted on the effectiveness of the PS-MS analysis of fentanyl, the characteristics that affect the quality of the analysis in the laboratory, and whether more reference materials are needed to improve the number of fentanyl analogs that can effectively be analyzed. In addition, research should be conducted on the portability of PS-MS and how the environment affects the results of the analytical method.

**Conclusion**

Fentanyl is a synthetic opioid that was first created for medical use in treating pain and has since become a serious contributor to overdose in illicit drug use because of the minuscule amount that is necessary for the lethal dose. Since its development, fentanyl is now commonly found in mixtures of illicit drugs and it poses a risk to anyone who is coming into contact with it, especially since the contact is often accidental. The biggest
Methods Used to Identify Fentanyl and its Analogs

communities that this drug puts at risk are first responders, medical personnel, and law enforcement communities. Several identification techniques for fentanyl and its analogs have been designed for field use to help reduce the risk of death for those who are coming into contact with substances that are suspected to contain fentanyl. Recent studies have suggested the use of Surface-Enhanced Raman Spectroscopy, Ion Mobility Spectrometry, and Paper Spray Ionization-Mass Spectrometry. These three methods have been established as effective methods of analysis for fentanyl and its analogs in pure form, as well as identification of them in the more commonly found mixtures of illicit drugs.

The three methods covered in this review are adaptable to portable instrumentation for analysis of fentanyl. This is an important characteristic of the method for it to be successful in the identification of fentanyl in the field. These methods are all sensitive and able to analyze the suspected fentanyl compound by swabbing or wiping the outer surface of the container that is storing the substance, rather than requiring the user to open the container and put themselves at greater risk of toxic exposure. SERS, IMS, and PS-MS need further research that considers how testing in the field may cause false-negatives or false-positives. While each method can successfully identify fentanyl and its analogs, they each need further research that considers the effect of testing in the field, the education and training of the instrument operator, and improvements that can be made to the portability of the instrumentation as well as the efficiency of the instrumentation in the analysis of fentanyl.

References


I’ll Be Able to Walk When You’ll Be Able to Fly: The Impact of Spinal Cord Injury

Shreya Kumar

Writer’s Comment: Before I took UWP104F: Writing in the Health Professions, I do not think I truly realized how strong my passion for narrative medicine was. Writing had always been close to my heart, but as I traveled further down my path to medicine and enrolled in this class, I grew more and more aware of this concept of storytelling in science. As an aspiring physician, the idea that medical professionals can uplift patients’ lives with their ability to write honestly about the obstacles of their patients’ conditions—and even inspire change in healthcare policy—was revolutionary. I decided to write about a man I have had the privilege of knowing all my life, whose strength and discipline knows no bounds, even with an injury that modern medicine still cannot repair. I hope my piece sheds light on the intersection between government policy and human lives, and how every patient is affected by the decisions we make as a society.

Instructor’s Comment: Shreya offers us a poignant and insightful case study on a family’s ordeal with a father’s devastating spinal cord injury. Purposefully crafted for a healthcare lay audience, Shreya’s readers learn about the horrific accident, about spinal cord injuries, and about a family’s life. With clear and precise detail, the case study weaves Dev’s story with that of significant contextual medical information, and we learn the stark reality that this family faces every day, while at the same time feeling the love that keeps them together. We also learn about the fragile hope of spinal cord patients and their families when they face the political landscape’s power over science research. Without judgement—and with so much honesty—Shreya conveys to us all what’s at stake in the debate about the use of embryonic stem cells.

—Agnes Stark, University Writing Program
When Dev Khanna’s\textsuperscript{1} five-year old daughter sat on his lap and asked him a question she had asked countless times before, he could not help but feel yet another wave of exhaustion wash over him.

“Papa, why can’t you get up and walk?”

“I can’t walk for the same reason you can’t fly, \textit{gudiya}.\textsuperscript{2} It’s impossible.”

Seventeen years ago, at only forty years of age, Dev lost an ability he had taken for granted his whole life. He and his family were involved in an accident on the freeway returning home from a road trip to Shenandoah National Park. A mere few moments was all it took for everything to change—a deer jumped in front of their minivan, and his wife lost control of the vehicle. It turned over a few times, killing his aunt in the process and smashing his neck forward, causing a contusion to his spinal cord.

What came next was the start of a harrowing medical journey. Horrified bystanders to the accident called 911; helicopters rushed Dev to the nearest hospital while paramedics stabilized his neck and back to prevent further injury. Once there, doctors dosed him with methylprednisolone, a steroid, in a desperate attempt to bring down the swelling in his spine, a key step taken to prevent the death of nerve cells ("Spinal Cord Injury: Hope"). Then, they operated. Two vertebrae in Dev’s neck had partially shattered, so they took a piece of bone from Dev’s hip and used that along with a titanium plate and titanium cage to repair the damage. They attached trails of tubing to his body that remained there for a month: a ventilator covering his face, and a gastrostomy tube and jejunostomy tube for feeding, respectively attached to his stomach and small intestine. In the beginning, he was unable to move any part of his body from the neck down. Time passed. Three different hospitals and three months later, Dev would emerge alive but forever changed.

The spinal cord is composed of nerves running down the length of the spine. It is a vital part of the body’s central nervous system, serving as a conduit for electrical signals to travel to and from the brain to the rest of the body ("Spinal Cord Injury"). On both sides of the spinal cord exit nerves that connect to the peripheral nervous system, allowing movement

\textsuperscript{1} Patient name and medically irrelevant details have been changed to maintain confidentiality.

\textsuperscript{2} Hindi epithet meaning “doll”.

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of the extremities (Rubin). An impact to the vertebrae—the bony disks of the back—causes corresponding damage to the soft spinal cord beneath ("Spinal Cord Injury: Hope"). Nerve cells die or become too badly damaged to conduct signals, resulting in either incomplete paralysis, in which some movement and sensation below the site of the injury is preserved, or complete paralysis, in which no movement or sensation is preserved ("Spinal Cord Injury: Hope"). No two SCI patients are exactly alike in terms of the extent of their paralysis, which depends on what vertebral area of the spinal cord was affected and individual differences beyond that. Generally, the higher the site of the injury, the more widespread the paralysis. Starting from the neck down, the four sections of the spinal cord are: seven cervical (C) vertebrae, twelve thoracic (T) vertebrae, five lumbar (L) vertebrae, and five sacral (S) vertebrae (Rubin).

Dev’s injury spans the C4-C5 vertebral area. He has incomplete quadriplegia, which affects him neck down in all four limbs. Just after his accident, the right side of his diaphragm was paralyzed. Over time it recovered enough so that he is able to breathe on his own, but his ability to cough is diminished, leading him to struggle to clear his throat. His bowel and bladder functions were also impacted, requiring catheterization every four to six hours. He retains some sensation in his legs, though no movement, and he has limited movement in his arms, so he can only use a power wheelchair for mobility. He cannot type, write, or firmly grasp objects, but with the little movement he retains in his left hand, he is able to feed himself, which is something he remains grateful for.

Spinal cord injury (SCI) is a relatively rare medical condition in the United States. A quarter of a million Americans are currently living with SCI, and about 12,000 new cases arise every year ("Spinal Cord Injury: Hope"). Yet the human toll it takes on the lives of those affected is immeasurable. Though Dev has made peace with how his life is now, he admits that sometimes it is hard for other people to understand his condition. “They see people in wheelchair[s], but they don’t know too much about it . . . [T]here’s a very great misconception that if we work hard enough we would be able to walk,” he says, as his fingers twitch on the joystick of his wheelchair, a reminder of the lingering spasticity in his body that remains despite his medications.

Dev’s daughter, only four years old at the time of the accident, found it especially difficult to understand why her father was not able to carry her on his shoulders anymore. He tried to explain it to her as gently
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as possible: the same way she was not able to fly like the butterflies she chased in the backyard, the same way he was unable to stand and walk like her. The frustration only settled in when he found himself explaining the same thing to his adult acquaintances, who wondered why he couldn’t work. After all, Dev still needed to provide for his young family at the time: his wife, his daughter, and his eight-year-old son.

This remains to be one of Dev’s most pressing problems. Financial troubles have plagued him ever since the accident. He used to be an engineer and had been pursuing an advanced degree at the time. Now, Dev regards it as nothing short of a miracle that his ten years of work prior to the accident allows him to receive Social Security disability income. However, the total is only a fraction of what he used to make seventeen years ago, and it is a fixed income, meaning only about half of it adjusts for the rising inflation each year.

Dev’s wife cannot work since, as his primary caregiver, she must stay home all day. When asked about her, his voice quiets. “My wife is a petite woman,” Dev says, staring off into the distance. “She was never built for the heavy work of lifting or turning an adult male . . . but we cannot afford to hire a caregiver.”

Dev and his family are in a very difficult situation. In Dev’s case, there is no long-term disability care plan offered by Medicare for in-home care. They had limited benefits for a few years following the accident, which included having a home health aide come by for two hours in the morning to help Dev get ready. When those benefits ran out, the burden fell on Dev to pay for it out-of-pocket. Unfortunately, he cannot afford more than those two hours of help, even as Dev’s wife has developed arthritis and struggles more to take care of him every day.

His only other option is to go to a nursing home as a permanent resident, but this is the last thing his family wants for him due to a bleak past experience. Dev’s condition makes him susceptible to catching urinary tract infections (UTIs); a few years ago after a routine hospital procedure, he contracted a severe UTI that required treatment by intravenous antibiotics. He was sent to a nursing home covered by Medicare to stay for a little over a week, during which he was routinely ignored by staff, who refused to perform parts of his bowel management program, and where he was surrounded by other ill patients, which posed a danger to his weakened immune system. He reflects on his experience with chilling honesty: “The day my wife is unable to take care of me, I
can go to a nursing home and they’ll take me, [but] I know [with] the kind of care they’ll be able to provide, I’ll likely fall sick very quickly... then die.”

As for a cure? The medical community seems miles away from a substantive answer on how to completely restore mobility, sensation, and function to SCI patients. Part of the answer may lie in research into stem cells, undifferentiated cells in the body that can develop into any cell—including nerve cells. In particular, fetal stem cells, which are harvested from discarded embryos from fertility treatments, have the greatest potential to differentiate into any type of cell, whereas adult stem cells are more limited in the types of cells they can produce (“What Are Stem Cells?”).

However, the politics surrounding abortion stand as a significant roadblock to promising stem cell research. Conservative administrations in the past, such as that of George W. Bush in 2001, have repeatedly denounced the use of human fetal tissue stem cells from elective abortions and leftover embryos from in vitro fertilizations in stem cell research, claiming the government cannot support the “destruction of human life” (Park). This is despite the fact that these tissues would be thrown away regardless (Park). At present, the Trump administration is placing restrictions on the use of fetal tissue despite provisions that ensure informed consent from would-be donors (Andrews). The Administration’s Health and Human Services (HHS) department says on its website that it will strive to find alternative ways to advance stem cell research without using fetal tissue, but top researchers in the field have their doubts (“Statement”).

Dr. Lawrence S.B. Goldstein of UC San Diego School of Medicine notes that there is a common misconception that our knowledge of stem cells is extensive enough to find viable alternatives to the stem cells found in fetal tissue. In an interview with Julia Haskins from AAMCNews, he explains that there is no easy replacement for fetal tissue. Adult stem cells have limited potential to develop into different types of cells, so when researchers use them in experiments, they must check these experimental cells using fetal tissue as a reference to make sure the correct cell type has formed. Because stem cells in fetal tissue have the unique ability to differentiate into almost any type of cell, they serve as a necessary validation step for comparison (Haskins). Further adding to the confusion and hampering stem cell research are new federal restrictions on research...
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involving fetal tissue (Haskins). These policies now call for redundant ethics reviews that slow down progress and discourage new researchers from starting projects looking into cures for SCI (Haskins).

SCI is a devastating diagnosis with lifelong impacts. The search for a cure remains politicized, and it is the patients and their families who must pay the price. While Dev remains hopeful for a cure, he ruefully reflects on how ever since the potential of fetal stem cells was discovered, a cure has been promised every five years, only to be repeated as another five years passes. There is a long road ahead for him as well as for many other SCI patients. He can only hope that the road comes to an end before it is too late.

Works Cited


A Present for Sonia

Shira Tikofsky

Writer’s Comment: After returning from a study-abroad internship at the pediatric hospital of Ghana, I could not walk away from the people I met and the experiences they shared with me. I spoke with many child-mothers who had never been given a chance to learn about sexual education, consent, or their own physiology. I wanted a platform to recognize and draw attention to the struggles faced by these women, so when Professor Herring gave us the task of writing a narrative case report describing the life story of someone who was hurt or sick, I found my opportunity. My mind jumped to the heartbreaking case of one patient in particular with whom I became especially close during my volunteer work. Sonia’s story embodies many all-too-common battles experienced by women who are sex workers, HIV positive, mothers, and those who are impoverished. I feel very lucky to share her complex narrative and honor one of the most resilient woman I have ever met. A Present for Sonia.

Instructor’s Comment: The single most important thing you do in medicine, working doctors tell me, is take good patient histories. For that reason, in my Writing in the Professions: Health course, I assign two case reports based on what actually happened to two people who have been hurt or sick. In the first, the tone remains cold and clinical, but the second is informal. The students explain the condition so anyone can understand it, and at the same time tell the life stories of the people involved, tasks science students are not often allowed to practice. I ask them to write like professional writers, and with some feeling. Shira’s winning essay excels at all these skills, the last one especially. Like so many of our students, Shira, as an overseas volunteer, had the day-to-day reality of healthcare in the developing world brought home to her. For the details, which are wildly complex, you will have to
turn to her essay. It is easy to feel overwhelmed on such journeys, but Shira and her fellow team members did everything they could not to give in to the sense of powerlessness that should have come naturally. They allowed a better impulse take command—another important thing you do in medicine.

—Scott Herring, University Writing Program

Nurse Auntie Serwah was the angriest I had ever seen. She was furious with an HIV-positive mother who stopped taking her HIV medication while pregnant, thereby infecting her baby with the virus. After a firm scolding, she sent the mother away, took a deep breath, and remembered her other patient sitting in the corner. Both the nurses and I guessed that this petite girl with the oversized dirt speckled clothes was fifteen years old. We were shocked to discover that she was actually eighteen. Between laughs, she told me her name. This was the first time I met Sonia, a patient at the only pediatric hospital in Accra, Ghana where I was a volunteer.

When Sonia tested positive for HIV, we learned that she knew nothing about HIV or AIDS. This is not surprising, as sexual education in Ghana is very limited and the stigma of HIV often prevents it from being discussed. Accordingly, Auntie Serwah and the other HIV nurses in the hospital were determined to prevent the spread of HIV and were strong advocates of the UNAIDS board’s “90-90-90” target of managing the worldwide AIDS epidemic: by 2020, ensure that 90% of HIV positive people know their status, 90% of this group is on antiretroviral medication, and 90% of people on treatment have viral suppression (UNAIDS 2014). Following this, the nurses knew that Sonia had to understand what it meant to be HIV-positive before they could move forward. Auntie Serwah was a special woman; she had mastered explaining HIV in an urgent yet clear way that minimized upsetting or scaring patients. Every day, she would deliver the same speech to the patients who landed in her office. In her speech, she always included her favorite catchphrase: “HIV is the virus, AIDS is the disease.” She often elaborated, “If you take your medication, you can live as long as God wants you to live in this world.” As our conversation shifted, Sonia’s eyes wandered. It seemed as if there were ten other things on her mind.

In our investigation, it soon became clear that Sonia is homeless. Every day she roams the streets until men approach her and “take advantage and sleep with her when they want.” Some days, she works
for a friend who pays her 80 cents to wash dishes and, with that, she can afford a meal. On these nights, he lets Sonia stay at his house but she doesn’t sleep because she is always too scared to close her eyes. Instead, she forces herself to stay awake by watching TV in anticipation of random men who stumble into her friend’s home and try to persuade Sonia to sleep with them. In exchange, she may receive 50 cents or a dollar, and these evenings act as her main source of income. Nurse Auntie Serwah explained that Sonia “spends everything she makes to survive without thoughts about tomorrow.”

Female sex workers account for 7.9% of people with HIV in the region. They are one of the key infectious populations to target for the 2020 goal of HIV eradication because they can so easily expose others to the virus (Aban 2019). While this was an obvious source of Sonia’s infection, Auntie Serwah wondered aloud whether she might have contracted HIV from shared needles and gave a head nod towards the tattoo on Sonia’s forearm. When I asked Sonia about her tattoo, she blushed and shyly told me it said “Elisebaby,” a nickname given by her baby’s father. Auntie Serwah smiled and teasingly chanted: “elliiissee-baaaaaby,” Sonia started giggling, and we all burst out laughing. Once the laughter ended, Sonia’s shy smile and the look of amusement in her eyes remained, but now her fear was all I could see.

It was through this conversation I learned that eighteen-year-old Sonia had a two-month-old son. A week prior, he tested positive for HIV while in the ER for a breathing problem. Accordingly, Sonia was tracked down through an old caregiver entrusted with Sonia’s baby. Because she was hesitant to go to the hospital, the caregiver had to trick her to come in for testing by telling her the hospital had a present waiting for her. “Where is my present?” Sonia asked Auntie Serwah. “You’ll get it next time you come in,” she replied.

Four days later, Sonia walked into the hospital’s social welfare office and a sense of relief flooded the room. We had all become attached to her case and wanted to find a fast solution to her “hand-to-mouth living.” As we asked about her background, Sonia responded with conflicting, incongruent narratives. By the end of our session, we had heard at least five different stories about where she slept every night, whether she used contraceptives, and whom she slept with.

As she spoke, I noticed blood seeping through her white shirt. My eyes wandered to a deep scab above Sonia’s eye, and a social worker named
Bona caught my gaze. He leaned back in his chair and whispered in my ear that Sonia’s odd behavior stemmed from epilepsy. She was not taking her medication as prescribed and was experiencing avoidable symptoms such as memory lapses, odd behavior, and seizures (Adamolekun 2018). While wandering through different cities, she would often seize in the streets and fall to the ground. Sometimes people would be around to catch her, and sometimes they wouldn’t. Her hand wandered to the growing red stain on her shirt; she did not know she was bleeding.

Bona explained that Sonia attributed her symptoms to spirits. They followed her, and for this reason, she refused to settle in one place and was homeless. Her only way to make the spirits dissipate was through a ritual performed by her mother. Oddly, because her mother was aware of the spirits, Sonia believed she and her child were not safe to stay with her. They lived in a small rural village, and Sonia’s pregnant forty-year-old mother was a single parent to nine children and two grandchildren, without resources to provide for everyone. Therefore, she had sent Sonia away at only three years old to live with the caregiver as a house servant. This was the same woman who tracked down Sonia to bring her to the hospital. The caregiver took on the role of a mother to Sonia until she ran away at age eleven because she did something bad—I never was able to find out what it was. Six years later, Sonia showed up on the caregiver’s doorstep with her three-week-old baby and disappeared five days later. From the caregiver’s view, Sonia’s baby was “dumped on her.”

If Sonia could not stay in one place without running away, how would she take either of her medications? How could we prevent her from being taken advantage of? If she did not want her child to stay with his grandmother, could he stay with someone else in her family or the caregiver? The social workers believed that Sonia was “a risk to herself and society,” as she did not understand that she was infectious and therefore did not take preventative measures of caution. She needed to begin treatment for both HIV and epilepsy and “she needed someone to watch over her” and ensure she took her medications.

Because of the negative stigma of HIV, society is quick to reject those who are HIV-positive. Although HIPAA laws do not exist in Ghana, patient confidentiality associated with HIV follows the same procedures. Clinics disclose a patient’s HIV status individually and privately, even between partners. This way, the negative stigma associated with HIV is less likely to prevent patients from coming in for testing or treatment.
However, the fact that patients are given the power to share or withhold knowledge of their HIV status comes with a cost. Sonia’s mother, the baby’s father, and his parents all wanted custody of the child because he is “good looking,” which to my surprise meant fair-skinned. The caregiver explained that this is desirable because “he will have opportunities that we don’t . . . He is not one of us, he doesn’t look like us.” However, none of these family members knew that Sonia or her baby was HIV-positive. The caregiver was the only one who knew the truth about their status, and she was unable to maintain custody of the child. Given the stigma surrounding HIV, I feared that no one would want to care for the child or Sonia upon learning the truth.

A custody battle erupted between Sonia’s mother and the baby’s father, Samiru. The social workers debated in whispers whether they should share the status of Sonia and her baby. If the family knew, Sonia and her baby could lose a “place to stay where someone cares for them and gives them medication.” The baby’s paternal family had already shown a strong negative reaction to Sonia’s epilepsy and hid from her when she came to visit (they thought her evil spirits would also pass to them). If they knew Sonia and her child were HIV-positive, their reaction could be more severe. In addition to violating Sonia’s rights, telling the family would reinforce the stigma against HIV testing due to the fear of public exposure. On the other hand, if the nurses kept Sonia’s status a secret, who would make sure that Sonia took her medication and that she didn’t infect others? The true battle at play was between the rights of society to be secure from HIV, the right of family members to know the truth, and the patient’s rights. Ultimately, the nurses decided to reveal the HIV status of Sonia and her son to those in the custody battle.

When we met the child’s extended family it became clear that Sonia’s mother was not the most suitable choice for full custody of the child. When the baby was first born, Sonia and her son stayed with her mother. After three weeks, Sonia took her baby and ran away because her mother had tried to feed the infant solid foods and he became severely malnourished. She went to her second mother, the caregiver, a woman she knew that she could trust. When they arrived at the caregiver’s doorstep, the baby was only made of “skin and bones.” Her mother lacked the resources to provide for her nine children already, so how would she care for Sonia’s baby? However, cultural barriers prevented the baby from going elsewhere even though Samiru’s mother was described by the social
workers as the ideal choice.

According to cultural tradition, if a baby is born out of wedlock the child’s father must pay the mother’s family to customarily claim the baby as his own. Furthermore, the baby’s father is supposed to pay for expenses during the mother’s pregnancy. However, Samiru was not only absent during Sonia’s pregnancy, but he “got Sonia pregnant before they were married.” Until his debts were paid, his family could not claim custody of the baby. A separate issue at play was that the baby formula was unaffordable for all parties; it was almost nine times more expensive than the average cost of living in Ghana every month. We decided as volunteers to raise money for the rest of Baby Sonia’s formula to remove it as a consideration in the final decision. Nonetheless, Samiru never paid Sonia’s family the money they were owed and Sonia’s mother ended up with full custody of the child. With our donation, she was able to pay for the baby’s formula and with proper education from the hospital, I was happy to hear, she was “doing a good job and the baby is doing well.” Sonia, on the other hand, was not doing as well. She was still controlled by her spirits and could not stay in one place, meaning she was not taking her medications.

On my last day at the hospital, Auntie Serwah took me on a tour of a nearby market and we bumped into Sonia. She was roaming the streets, and I momentarily forgot the reality of Sonia’s existence outside of the hospital. I gave her a long hug, said my goodbyes, and was surprised by her disappointment that her “friends” were leaving. As I walked away, I heard a faint voice ask, “Auntie Serwah . . . when can I have my present?”

References


The International Trophy Hunting Controversy and Its Toll on ESA-Listed African Species

Veronica Guerra

Writer’s Comment: As a Junior, I took Water Law to fulfill one of my minor requirements. I enjoyed the class so much that I enrolled in Environmental Law the following year. We were encouraged early on to think about topics for our law paper, which was to cover an ongoing environmental law controversy. The topic that came to mind is one that breaks my heart every time I see it pop up in the media—the hunting of exotic animals for sport. As I was researching, I was fascinated by the intricacies of this controversy and just how secretive the U.S. is in the way it regulates trophy hunting. I hope that this paper not only raises awareness of some current issues in our government, but also encourages students to feel free to explore a little outside of their main area of study. I never would have delved into something like this in my geology coursework and am so glad that I had the opportunity. I thank Professor Winsor and my TAs for their support throughout the quarter.

Instructor’s Comment: In ESP 161 (Environmental Law), students work on a research paper about a current environmental law controversy throughout the quarter. In the paper, we ask that they introduce and explain the importance of the controversy they have selected, describe the parties involved, identify the relevant laws, and evaluate the likely outcome of the controversy. Students are expected to research and identify a topic, then analyze relevant laws, articles, and court documents to support their final paper.

Veronica’s International Trophy Hunting paper is a testament to her resilience, work ethic, and intellectual curiosity. Veronica was thrown into a remote learning environment with 141 classmates in the spring 2020 Environmental Law class. Despite the challenges of remote learning, from her paper topic through the final paper, her analysis of the issues presented by the
I. Introduction

The international trophy hunting industry has become a major source of income and recreation on almost every continent on Earth (Ref. 1). Lawsuits, policy changes, and media coverage over the last decade have also made it a major source of controversy in the United States. Trophy hunting is the recreational killing of animals and subsequent collection of “trophies,” or body parts such as antlers, horns, skin, or teeth (Ref. 1). Trophy hunting regulations are created and enforced by the range country, where the hunted species resides (Refs. 1, 2). While this means that other countries cannot directly regulate trophy hunting, they can instead regulate trophy imports (Refs. 1, 2). The United States is no exception, leading with more trophy imports than any other country in the world (Ref. 1). However, recent changes under the Trump administration have raised questions about the U.S. Fish and Wildlife Service’s (FWS) trophy import decision-making process and the conservation of the species involved.

Much of the controversy surrounds trophy imports of species listed under the Endangered Species Act (ESA). Under Sections 9 and 10 of the ESA, species that are listed as threatened or endangered cannot be imported unless permitted by FWS (Ref. 3). Imports may only be permitted if the hunts are carried out for scientific purposes or if they somehow enhance the species’ survival or conservation (Ref. 3). However, after a recent change to trophy import decision-making, it is unclear if FWS is currently adhering to this statute. Since 2018, FWS has evaluated applications and processed permits for trophy imports on a case-by-case basis (Ref. 4). This approach enables FWS to make decisions without public input, raising concerns about the agency’s transparency and the reliability of the science that it bases its decisions on (Ref. 5). In response,
several organizations over the years have asked FWS to release records from their trophy import decisions under the Freedom of Information Act (Ref. 6). FWS occasionally releases requested records online, but many requests are ignored or avoided altogether without explanation (Ref. 6), keeping the public out.

The international trophy hunting controversy is a challenging issue because of the indirectness by which the U.S. can regulate species kills in other countries and ensure their conservation. It is therefore crucial that trophy import decisions are based on reliable science and proof of conservation efforts made by the range country, which can only be verified if these decisions are open to comment from scientists and the general public. Otherwise, we risk greater species losses amidst already declining populations in the wild, especially for African species. The population of African lions, one of the top five trophy-hunted animals in Africa (Ref. 1), has dwindled from about 200,000 individuals to 20,000 over the last century (Ref. 7). Even so, trophy hunting persists.

But not without criticism. The controversial killing of Cecil the lion in Zimbabwe in 2015 prompted the U.S. to establish greater protections for lions under the ESA (Ref. 7). Now, there is no way to tell if import decisions are mindful of such protections, especially with the recent lift on the Zimbabwe elephant trophy ban and approved imports in 2019 for a rhino trophy from Namibia and a lion trophy from Tanzania for the first time in years (Ref. 2). If trophy imports continue to be approved without first ensuring some benefit to wildlife conservation, then species that are already experiencing population declines may continue to dwindle until perhaps there are none left.

The fate of this controversy may depend on the outcome of an ongoing lawsuit. On March 20, 2018, four animal protection and conservation groups filed suit against FWS and its parent agency, the U.S. Department of the Interior (Refs. 6, 8). The lawsuit addresses the lack of trophy import records available to the public (Ref. 6), which may prompt changes in FWS’ decision-making process in the future.

II. Parties and Issue Description

A. Parties

The parties involved in the aforementioned case, *Humane Society of the United States, Humane Society International, Center for Biological...*
Diversity, and Born Free USA v. U.S. Fish and Wildlife and U.S. Department of the Interior, are as follows (Ref. 6):

**Plaintiffs**

1. Humane Society of the United States (HSUS) is a non-profit organization devoted to “ensuring the humane treatment and continued survival” of endangered species around the world, in particular African wildlife. It often sends information to FWS about the negative effects of trophy hunting. HSUS uses trophy import applications and related documents to act on behalf of its members, which FWS has not made accessible (Ref. 6).

2. Humane Society International (HSI) is a global non-profit organization that promotes animal protection and welfare, sometimes working with African range state authorities to improve the welfare of local elephants and lions. HSI also informs the public of wildlife issues, including trophy hunting, making the documents at issue especially relevant to their mission (Ref. 6).

3. Center for Biological Diversity (CBD) is an Internal Revenue Service Code §501(c)(3) corporation that works to “secure a future for all species” nearing extinction. It advocates for greater protections of African elephants and lions. CBD also informs its members and the public of conservation issues like trophy hunting (Ref. 6).

4. Born Free USA (BFUSA) is a non-profit organization for animal welfare and conservation. It campaigns against trophy hunting and “successfully petitioned the Department of the Interior to list lions under the [ESA].” BFUSA needs access to trophy import applications and supporting documents to influence government decisions in the future (Ref. 6).

**Defendants**

5. United States Fish and Wildlife Service (FWS) is a federal agency within the United States Department of the Interior. It enforces the ESA together with the Department of the Interior and processes trophy import applications of threatened species. It has possession of the records at issue in this lawsuit (Ref. 6).

6. United States Department of the Interior (DOI) is a federal agency that is responsible for implementing the ESA and for
FWS’ compliance with the Freedom of Information Act (Ref. 6).

B. Issue Description

The issues associated with this controversy arguably began with the court ruling on Safari Club International et al. v. Zinke et al. On December 22, 2017, the U.S. Court of Appeals ruled that FWS was required to follow the “notice-and-comment” procedures under 5. U.S.C. § 553 whenever it issued enhancement findings (Ref. 9), findings that the killing of an animal will enhance its species’ survival (Ref. 4). FWS responded with a memo that was quietly released in early 2018 (Ref. 8). The memo announced the recall of several ESA enhancement findings and other findings for African elephants, lions, and bontebok (Ref. 4). Moreover, it announced that trophy import applications would begin being processed on an individual basis—that is, without input from the public (Ref. 4).

At issue in this case are records of trophy import decisions. Each of the plaintiffs has “routinely” requested that FWS post the following under the Freedom of Information Act: applications filed under the ESA for trophy imports of African elephants and lions; copies of the permits issued for approved imports; and the enhancement findings made by FWS (Ref. 6). Despite these continual requests, FWS has failed to make the majority of requested documents available to the plaintiffs (Ref. 6). The basic facts underlying this controversy are FWS’s new policy of approving elephant and lion trophy imports without public input and, correspondingly, its refusal to regularly post requested records in compliance with the Freedom of Information Act.

III. Relevant Laws

The trophy hunting controversy calls attention to two environmental laws: the Endangered Species Act (ESA) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The ESA is a federal statute that restricts the import of species listed as either endangered or threatened, including animals relevant to this controversy such as the African elephant (endangered), a subspecies of white rhinoceros (endangered), and two subspecies of lion (one
The International Trophy Hunting Controversy

endangered, one threatened) (Ref. 10). Section 9 of the ESA makes it unlawful to import any endangered species of fish or wildlife or to “violate any regulations” for threatened species (Ref. 3). Under Section 10, the Secretary of the DOI may permit such actions if they are carried out for scientific purposes or enhance the species’ propagation or survival (Ref. 3). A permit will only be issued if the applicant submits a conservation plan detailing the impact of the action, mitigation measures they will take, and their reasons for not pursuing alternative actions (Ref. 3). If the terms and conditions of the permit are not followed, the Secretary may revoke the permit after giving the public the opportunity to comment (Ref. 3). This means that FWS must confirm that trophy hunts ensure the conservation of the imported species and allow the public to review trophy import decisions before issuing a permit.

CITES is an international treaty designed to ensure that international trade of plants and animals does not threaten their survival (Ref. 11). Appendix I of the treaty requires both the importing and exporting countries to make a “non-detriment finding,” a finding that the trade does not harm the species’ survival (Ref. 11). It applies to all species “threatened with extinction” and which are or could be affected by trade, including the majority of African elephants (Ref. 11). For species listed under Appendix II, which includes African elephants from four particular countries and all African lions, only the exporting country must make a non-detriment finding (Ref. 11). 183 countries, or “Parties,” have agreed to be bound by CITES, including the United States and major African countries for trophy imports such as Botswana, Mozambique, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe (Refs. 1, 11, 12). Consequently, to import trophies of species listed under Appendix I into the United States, the U.S. would need to make a non-detriment finding beforehand.

FWS’ current practice of processing trophy import applications without public review has necessitated action pursuant to the Freedom of Information Act (FOIA). The FOIA allows citizens to request access to records from any federal agency, which the agency must disclose unless the records fall under one of the statute’s listed exemptions (Ref. 6). It also requires agencies to make certain categories of records public by posting them online without waiting for a request (Ref. 6). These include the following: (1) final opinions and orders; (2) “statements of policy and interpretations . . . adopted by the agency and are not published
in the Federal Register”; and (3) copies of all records that (i) have been released to anyone under a FOIA request, and (ii) that (a) have become, or will likely become, the subject of similarly-requested records, or (b) have been requested at least three times (Ref. 6). Despite receiving several requests from the plaintiffs in the aforementioned lawsuit, FWS refused to post several records of trophy import applications, permits, and related documents (Ref. 6). It is therefore impossible to tell if FWS is complying with ESA Section 9, Section 10, or CITES.

To address this issue, the House of Representatives introduced the Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act, or CECIL Act, so named in honor of Cecil the lion (Refs. 5, 13). Proposed in April 2019, this bill would amend the ESA by creating tighter restrictions and ensuring conservation efforts and transparency (Ref. 14). ESA Section 9 would expressly prohibit trophy imports of threatened as well as endangered species without a permit, as outlined in Section 10 (Ref. 14). Section 10 would also be amended to require the Secretary of the DOI, after public notice and comment, to make the following determinations before issuing a permit: (1) the range country has a “management plan for that species based on the best available science” that is “being actively implemented”; (2) the range country can verifiably demonstrate that the benefits of the trophy hunt “directly and substantially” aid the species’ conservation; and (3) the hunting of the species enhances its propagation or survival in the range country (Ref. 14). Most recently, in September 2019, the CECIL Act was ordered reported and will be voted on by the House at a future date (Ref. 14).

IV. Evaluation

It seems almost certain that FWS will be found in violation of the FOIA for continuously refusing to make trophy import records available to the public. The essence of this controversy, though, lies in whether FWS is ensuring the conservation and survival of endangered and threatened species imported into the U.S., notifying the public of trophy import decisions, and opening these decisions for public comment. This controversy will likely not be resolved for many years; the current lawsuit against FWS is just one step in the right direction.

It is uncertain whether FWS will be found in violation of the ESA because of the statute’s somewhat ambiguous wording. The ESA
prohibits the import of endangered species but does not explicitly protect threatened species from being imported. This would mean that a trophy import permit is required for many, but not necessarily all, animals relevant to this lawsuit. The issue then is whether FWS is ensuring that permitted trophy imports benefit the hunted species’ survival and that the permittees provide acceptable conservation plans. This will likely not be found out until the Supreme Court reviews the current lawsuit against FWS, unless the agency posts the documents at issue sooner. Once the documents are made accessible, the public will be able to see if FWS is permitting trophy imports on the basis that they enhance the species’ conservation or survival, as well as the science which these decisions are based on, and if their logic is consistent between different trophy import cases for the same species. The current lawsuit, however, is primarily concerned with FWS and DOI’s violation of the FOIA. If, upon release of the documents, FWS is thought to be in violation of the ESA, it will take another lawsuit and potentially several more years before a court can issue a writ of mandamus if this relief is sought.

It will also likely be many years before a formal determination is made regarding FWS’ compliance or violation of CITES. CITES’ wording is less ambiguous than the ESA regarding which species cannot be imported because there are no classifications like “endangered” or “threatened”; rather, there is one large list of species protected by the treaty. However, not all species relevant to this controversy require the U.S. to make a non-detriment finding, as outlined in Appendix II, which includes African lions and some African elephants. For FWS to be responsible for ensuring the conservation of these species at all, the species may need to be explicitly listed as “endangered” under the ESA, given the current ambiguity. If these species are not listed as such, then a permit may not be required to import them, putting their conservation at risk. Of course, it would take a follow-up lawsuit to address any alleged violations with CITES, as with the ESA.

The CECIL Act may be the best way of resolving the issues at hand. The act would remove the ambiguity of whether species listed as “threatened” require a permit under the ESA by explicitly prohibiting import of threatened species. It would also provide clear guidelines for FWS to follow in order to determine if the species’ range country is adequately providing for its conservation and survival, while simultaneously requiring the public to be allowed to comment in the
process. The CECIL Act gets to the heart of the issue by creating a system that requires FWS to be transparent with the public, base trophy import decisions on reliable science as verified by the public, and ensure the conservation of the species by examining the actions and arguments made by the range country. Of course, as with any other bill, the CECIL Act needs to be passed by the House of Representatives, the Senate, and the President before it is implemented. It will take widespread agreement for FWS to fundamentally change its trophy import decision process in the interest of the people and the species at risk.

V. Conclusion

The international trophy hunting controversy admittedly goes beyond the conservation and well-being of species listed under the ESA; it addresses issues in our government’s infrastructure and stresses the need for transparency and international cooperation. Many trophy import decisions are a mystery because of the lack of public involvement in FWS’ current trophy import decision-making process, a grave issue when the populations of many listed African species are declining. While the current lawsuit against FWS addresses the agency’s noncompliance with the FOIA, FWS is not being explicitly investigated for noncompliance with the ESA or CITES, which directly pertain to species conservation. The outcome of the lawsuit is likely to pave the way for much-needed change by revealing some documentation from their trophy import decisions. Going forward, though, it is uncertain if FWS would begin to regularly publicize trophy import documents and decisions, which is critical for checking FWS’s adherence to the ESA. Perhaps the best chance of securing a future where trophy imports are mindful of species conservation is support for the CECIL Act. The bill would redefine the trophy import permit process by explicitly protecting all species listed under the ESA and providing clear guidelines to ensure that trophy hunts benefit the species’ conservation. There may still be many steps to take before the trophy hunting controversy is effectively resolved in the U.S., but with the current court case underway and the CECIL Act in consideration, the time in which this happens will hopefully be soon enough for us to see positive change for the world’s rarest and most vulnerable species.
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References


Gary Snyder's Pleistocene Environmentalism

Michael P. Montgomery

**Writer’s Comment:** Gary Snyder retired from UC Davis in 2002. I started school here in 2016. While I never had the chance to study under Snyder in person, I have studied under him nonetheless. Snyder’s poems and essays have complemented and even guided my scientific coursework over the past two years, particularly in the realm of paleoclimate, one of my favorite subjects. This paper is one outcome of that dual education. It is also a forerunner and subset of a larger project, a senior thesis I call “Living in the Glacial Landscape,” which collects and explicates Snyder’s many references to glaciers and the Ice Age. Here I focus on the mid-twentieth-century narrative about the Ice Age, and Snyder’s contribution to it—sort of an Ice Age intellectual history with Gary Snyder at its heart. Writing it meant making a substantial portion of a mostly literary and scientific thesis work explicitly as a history paper. That process yielded insights I know I would otherwise not have had.

**Instructor’s Comment:** This is Michael Montgomery’s 4th appearance in Prized Writing, which I assume to be a record in the history of this publication. Even more remarkable is the evidence that Michael’s writing provides of his creative range and intellectual flexibility. His previously published works have been on the subjects of desertification, the history of science fiction, and spotted owl conservation. In “Gary Snyder’s Pleistocene Environmentalism,” Michael works across his varied disciplinary interests—history, literature, science, and ecology—with a lively prose style and nuanced analytical dexterity that one is more likely to expect from a professional writer than an undergraduate. Drawing upon sources as varied as peer-reviewed research in science and history, mid-twentieth century magazine articles and television cartoons, and Gary Snyder’s own writing, Michael
argues persuasively for the seminal role that the poet played in establishing an Ice Age worldview (or Pleistocene environmentalism, as Michael dubs it) within the environmental movement of his era. With such an extraordinary start, Michael Montgomery’s writing career will certainly continue long after his graduation from UC Davis.

—Melissa Bender, University Writing Program

In 1873, as he was wont to do, John Muir effused about glaciers. Imagining Tuolumne Canyon covered by ice, which Muir believed had long ago carved its topography, he wrote, “The last days of this glacial winter are not yet past; we live in ‘creation’s dawn.’”¹ Nearly a century later, in 1955, the poet Gary Snyder wrote of the same landscape, now protected—thanks largely to Muir—in Yosemite National Park:

In ten thousand years the Sierras
Will be dry and dead, home of the scorpion.
Ice-scratched slabs and bent trees.
No paradise, no fall,
Only the weathering land [. . .]²

When they wrote these passages, Muir and Snyder were at the forefront of broad shifts in American environmental sentiment. For both authors, knowledge of an Ice Age was at the core of their environmental vision. What set Snyder apart, aside from a projection of future climate that would have been mostly speculative during Muir’s time, was that he extended his Ice Age worldview to more than just glaciers. Snyder was not alone in doing this. During the mid-twentieth century, the Ice Age was a prominent part of a wider conversation on Earth’s past and future in a way it no longer is today. Snyder’s work serves as a window into that conversation, and particularly into a strain of thought I term Pleistocene Environmentalism, whose calls for reform were founded in an ecological awareness of the Pleistocene epoch and its succession of glacial periods,

known collectively as the Ice Age. Focusing on two of Snyder’s poems, their Ice Age subjects, and other contemporary authors associated with those subjects, this paper traces the development of Pleistocene Environmentalism in the 1960s and ‘70s, and argues that it owes much of its historical significance to Snyder.

Snyder’s engagement with the Ice Age began early in his life and, like Muir, in alpine terrain. He climbed glaciated Mount Saint Helens in 1945, at age 15, and Mount Rainier two years later. Summitting the latter he narrowly avoided a collapsing icefall, which he wrote in his journal loosed “chunks of ice as big as houses, grinding, crashing, falling in an ear-smashing roar” toward him and his companions. A month later, Snyder recorded a rock formation in the Olympic Mountains that he interpreted as “piled up through the efforts of an ancient glacier.” In 1952 and 1953 he spent the summer as a fire lookout in the North Cascades, a vantage which afforded daily observation of the region’s “ice-scoured valleys / swarming with plants.” Again like Muir, Snyder understood that nutrient-rich soil deposited by retreating glaciers allowed trees and shrubs to take root where otherwise they could not. Such ideas and experiences gave him an appreciation of the power and beauty of Pleistocene ice, some of it remnant, as on Mount Rainier, and some of it long since melted away, as in the Sierra backcountry he wrote of in the excerpt that opens this essay. But it was not until 1964 that Snyder drew on this appreciation to craft the most direct statement anyone had yet made of an Ice Age environmental ethic.

That statement came in Snyder’s poem “To the Chinese Comrades.” Written in 1964 and published in Snyder’s third American collection,
The Back Country, “To the Chinese Comrades” dealt in part with environmental degradation in China. The subject was topical. Since 1958, the Chinese Communist government had rushed headlong toward agricultural collectivization and modernization, accelerating human-induced processes of deforestation, erosion, and desertification that had been underway for thousands of years.⁹ Seen in Snyder’s poem against the inexorable cycles of Pleistocene climate, China’s impatience with and misuse of its landscape became readily apparent:

The ancestors
what did they leave us.
K’ung fu-tze, some buildings remain.
—tons of soil gone.
Mountains turn desert.
Stone croppt flood, stripppt hills.
The useless wandering river mouths,
Salt swamps,
Silt on the floor of the sea.

Wind-borne glacial flour—
Ice-age of Europe,
Dust storms from Ordos to Finland
The loess of Yenan
  glaciers
  “shrink
  and vanish like summer clouds . . .”¹⁰

In the poem, Snyder took the ancestors of Chinese civilization to

Snyder Papers (Box 1:21, folder 46), Special Collections, University Library, UC Davis.


¹⁰ Gary Snyder, “To the Chinese Comrades,” in The Back Country (New York: New Directions, 1968), 100. The poem’s misspellings, such as “croppt” instead of “cropped,” are deliberate. The quotation that closes the excerpt was from John Muir, “The Ancient Yosemite Glaciers,” in The Yosemite (New York: The Century Company, 1912).
include glaciers. And with good reason. For millennia, silt deposited by meltwater from European and Himalayan glaciers had been picked up by the strong winds that characterized the Pleistocene. Many of the winds carried the silt to China, where it accumulated in layers called loess.\textsuperscript{11} In northern China in particular, these deposits are so common and so thick, in many places hundreds of feet deep, that villagers have lived in cave-houses dug into them for at least four thousand years. Not coincidentally, since loess can be highly fertile, this region, known as the Loess Plateau, is where Chinese agriculture began.\textsuperscript{12} Inhabitants of the Plateau—“crawling out that hillside cave dirt house,” as Snyder described them\textsuperscript{13}—live and farm in soil that is a literal product of the Ice Age. “To the Chinese Comrades” implied a responsibility, so far neglected, to manage that legacy sustainably. In its final two lines, Snyder echoed the sense of long-term process and periodicity suggested by his earlier reference to glaciers: “just / Wait.”\textsuperscript{14} Revolution, like the buildup of loess, doesn’t happen overnight. Like advancing and retreating Pleistocene ice, the destruction China had done its environment would one day reverse. At least, that was Snyder’s hope.

\textbf{Snyder wasn’t the only writer} of the time period to use glacial metaphors in this fashion. Another who did, and whom Snyder read in the years leading up to “To the Chinese Comrades,”\textsuperscript{15} was biologist Marston Bates. Humanity’s “tremendous power,” Bates wrote in 1960, was little more than a “split-second explosion” in Earth history. Yet “[w]ith this explosion,” he continued, “man has become a geological force, like glaciation or volcanism. He not only is capable of altering the landscape and the balance of the biosphere; he has altered them.”\textsuperscript{16}

\begin{thebibliography}{99}
\bibitem{13} Snyder, “To the Chinese Comrades,” 99.
\bibitem{14} Snyder, “To the Chinese Comrades,” 102.
\bibitem{15} Gary Snyder, “Journal: September 16, 1963,” Gary Snyder Papers (Box 1:85, folder 1), Special Collections, University Library, UC Davis.
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Bates’ analogy was provocative for its flipside: if human cultures were as implacable and destructive as an advancing glacier, so, too, like Snyder’s “ice-scoured valleys / swarming with plants,” were the disturbed habitats the cultures leave in their wake populated with lifeforms well-adapted to them, chiefly weeds, rats, and domesticated animals.\textsuperscript{17} Eight years later, anthropologist Loren Eiseley invoked the Ice Age in a similar comparison in an article in \textit{Life}. Eiseley wrote that the human species was an evolutionary outcome of a bitter, millennia-long “winter,” a “tropical orphan” who had colonized high latitudes only with the greatest hardship and innovation—hence the article’s title, “Man is an Orphan of the Angry Winter.”\textsuperscript{18} Commenting on Cold War concern over the threat of nuclear war, Eiseley offered a dramatic foil to the archaeological narrative then emerging of human origins in Africa: “The explosive force of suns, once safely locked in nature, now lies in the hand that long ago dropped from a tree limb into the upland grass. . . . We are the genuine offspring of the sleeping ice and we have inherited its power to magnify the merely usual into the colossal.”\textsuperscript{19} Eiseley framed his unholy magnification explicitly in terms of the Ice Age, which he called a “caricature, or sudden concentration,” of natural process, a climatic extreme that had given rise to a biological one—us.\textsuperscript{20}

Once again, historical context of these remarks is elucidated by a comparison to John Muir. What Muir had called “creation’s dawn” in 1873 had become, by 1968, Eiseley’s “angry winter.” Though still romanticized, the Ice Age had taken on a harder edge. As the science grew less speculative, an empirical certainty of something vast and almost inconceivably complex emerged. Far from the four-ice-age scheme that had prevailed since the nineteenth century—four periods of glaciation separated by warmer interregna known as interglacials, of which the Holocene, or current epoch, is the most recent—it became apparent from ocean sediments in the mid-1950s that there had actually been seven complete glacial-interglacial cycles just in the last 300,000 years;

\begin{itemize}
\item \textsuperscript{17} Bates, 241.
\item \textsuperscript{18} Loren Eiseley, “Man is an Orphan of the Angry Winter,” \textit{Life}, February 16, 1968, 77.
\item \textsuperscript{19} Eiseley, 78B.
\item \textsuperscript{20} Eiseley, 78B.
\end{itemize}
the Pleistocene, and presumably the cycling, was older still.\textsuperscript{21} Further confirmation of this multiplicity came from loess deposits, including those in China.\textsuperscript{22} Against such a backdrop, several questions took on new importance. Why had there been so many glaciations in the first place? When was the next one due? Even before the 1950s’ advances, science fiction authors had speculated that nuclear fallout might cool Earth into a new sort of Ice Age, later known as “nuclear winter”\textsuperscript{23}—not quite Eiseley’s “angry winter” of the Pleistocene, but suggestive of it. Only slightly less ominous was a 1956 theory that predicted melting Arctic sea ice would bring a return to glacial conditions in a matter of centuries. “[F]or the first time in the history of the world, the victims of an Ice Age are going to see it coming,” a 1958 feature in Harper’s declared.\textsuperscript{24} Though beyond the scope of this paper, rhetoric like this was fairly common in American culture until discussions of global warming began to replace it in the 1970s.\textsuperscript{25} In one especially zany example, several 1962 episodes of the children’s television show \textit{The Adventures of Rocky and Bullwinkle} seem to have been premised on the 1956 theory. The episodes depicted a sudden melting of the Arctic, resulting in near-overnight climate change that froze unwary Polynesians in blocks of ice.\textsuperscript{26} However exaggerated, inclusion of such subjects on a children’s show reflected the extent to which the Ice Age had captured the public’s imagination. Combining fear, curiosity, and incredulity, it was precisely this kind of consciousness to which writers like Snyder, Bates, and Eiseley were responding.

After 1967, a fourth feeling entered that consciousness: guilt. Snyder had intimated in “To the Chinese Comrades” that people ought to be

\begin{itemize}
  \item \textsuperscript{21} Imbrie and Imbrie, 137.
  \item \textsuperscript{22} Ian Smalley, Slobodan Markovic, and Ken O’Hara-Dhand, “The INQUA Loess Commission as a Central European Enterprise,” \textit{Central European Journal of Geosciences} 2, no. 1 (2010): 4. See also Imbrie and Imbrie, 156.
  \item \textsuperscript{25} Imbrie and Imbrie, 180.
  \item \textsuperscript{26} \textit{The Adventures of Rocky and Bullwinkle}, season 3, episodes 1-7, “Topsy Turvy World,” written by George Atkins et al., aired April 1962, NBC, accessed via YouTube.
\end{itemize}
more mindful of what the Ice Age left them. He did not, however, make an accusation. Paul Martin, a paleontologist, did. And Martin’s subject was not what the Ice Age left, but what it could have left had humans not interfered. At the end of the Pleistocene, dozens of species of large mammals—mammoths, ground sloths, and saber-toothed cats, to name a few—went extinct. Scientists had debated since the eighteenth century why these so-called megafauna died out. Not until the 1960s, with the wealth of well-dated fossils then available, could a convincing case be made that humans were responsible, particularly in North America. As the timeline then stood, humans had migrated out of Africa, into Asia, and across the Bering Strait, reaching the present-day contiguous United States some 11,000 years ago. Nearly all the continent’s large, terrestrial mammals disappeared from the fossil record around that same time. Martin argued that the coincident timing was, in fact, no coincidence at all. He was not the first to notice this, but he was the first to argue the connection forcefully and coherently to a non-academic audience, which he did in a 1967 essay in the magazine *Natural History*. Martin promulgated the name for his hypothesis as his essay’s title: “Pleistocene Overkill.” The idea had immediate appeal. “[I]t was easy to conceptualize,” Lisa Nagaoka and colleagues wrote in 2018, “because the impacts of (and protests against) human-caused environmental degradation were on the nightly news.” The choice of “overkill” in the name was especially timely. “Nuclear overkill,” the stockpiling of enough atomic weaponry to devastate the world many times over, had become a household phrase in the late 1960s. In *Natural History*, Martin exploited this association. “If fire was used in hunting,” he wrote, “man-caused extinction becomes easier to understand, because fire drives necessarily involve large amounts

of waste—whole herds must be decimated in order to kill the few animals sought for food.” The essay’s first page displayed the title above a drawing of a club-wielding man in a loincloth, one foot astride the downed carcass of a mammoth. The import was impossible to miss.

More than just the fate of long-dead mammoths was at stake, however. Martin’s ideas challenged long-held notions of pre-Contact Americans as ecological stewards who lived in harmony with the land and its animals. He described Paleoindians, as America’s first inhabitants were known, as “superpredators” who had “swept” south from Alaska, decimating naïve “big game” as they went. Concluding the Natural History piece, he wrote, “that business of the noble savage, a child of nature, living in an unspoiled Garden of Eden . . . is apparently untrue, since the destruction of fauna, if not of habitat, was far greater before Columbus than at any time since.” Such iconoclasm was both in vogue and out of vogue at the same time, as it partially exonerated the era’s usual targets of environmentalist ire. Historian Lynn White, Jr., for instance, who traced modern environmental woes to the influence of Christianity and Western science over the last several hundred years, wrote also in 1967 that “no creature other than man has ever managed to foul its nest in such short order.” Martin argued that the nest had been fouled from the very beginning. Thanks to his radical reinterpretation of humanity’s relationship with its Ice Age past, mammoths and their ilk became the centerpiece of a new and sustained conversation, joining the glaciers and people—Bates’ “geological force,” Eiseley’s “tropical orphan”—that otherwise dominated Pleistocene environmental metaphors. Yet the stringency of Martin’s writing left little room for reconciliation. What was missing from his argument was a sense of cultural continuity—and not just as mutual “superpredators”—with the Paleoindians themselves.

30 Paul S. Martin, “Pleistocene Overkill,” Natural History 76, no. 10 (1967): 36. In a fire drive, animals are encircled or driven to injury in ravines by an expanding line of burning grass.
31 Martin, “Pleistocene Overkill,” 32.
33 Martin, “Pleistocene Overkill,” 38.
Snyder offered this continuity. The most notable example was his poem “Toward Climax,” published in 1975 in *Turtle Island*. From African savanna to the war in Vietnam, “Toward Climax” depicted human evolution as a process of ecological succession, soon to culminate in a complex, stable condition similar to that of an old-growth forest.

“[M]aturity. stop and think. draw on the mind’s / stored richness,” Snyder wrote.\(^3\) The old-growth condition he envisioned for humanity was one of retrieval, of “decomposition,” a calm re-immersion in an ancestral ecology. Such a mindset necessarily followed, and learned from, earlier stages in the succession, in which Pleistocene Overkill played an integral part:

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sewn hide clothing, mammoth-rib-framework tent.
[. . .]
opening animal chests and bellies, skulls,
   bodies just like ours—
pictures in caves.
[. . .]
big herds dwindle
   (—did we kill them?
   thousand-mile front of prairie fire—)\(^3\)
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Snyder was responding in part to a 1973 article Martin had published in *Science*, which Snyder had read.\(^3\) In the article, Martin proposed a model he would later call “Blitzkreig,” in which American megafauna were exterminated by a rapidly advancing, continent-wide “front” of hunters.\(^3\) One of the model’s tenets was that extinction took place so rapidly, within ten years along the front itself, that it left few identifiable kill-sites, and therefore lacked any positive proof in the fossil record. Snyder took this image and its uncertainty and ran with them. Framing overkill as a question, and a parenthetical one, no less, he conceived of megafaunal extinction as but one especially provocative misstep in

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36 Snyder, “Toward Climax,” 82-83.
37 Gary Snyder, “Journal: October 24, 1973,” Gary Snyder Papers (Box 1:87, folder 4), Special Collections, University Library, UC Davis.
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a much longer list of human accomplishments and mistakes: “complex grammars” and “drain[ed] swamps for wet-rice grasses,” “great dream-time tales” and “raid[s] for wealth.” All of it, for good or bad, was a step in the human story. The “we” in “did we kill them?” was the poem’s only pronoun. No other was needed.

“Toward Climax” was just one of Snyder’s statements to this effect. Some of the more discreet were date attributions he gave to journals, poems, and essays where he counted years not from the time of Christ, but from the earliest-known cave paintings. Snyder called this “the forty-thousand year time scale,” and explained his rationale in a 1975 talk:

I can’t think about our situation in anything less than a forty thousand year time scale. . . . We can be sure that through the whole of that period man has been in the same body and in the same mind that he is now. . . . In the 40,000 year time scale we’re all the same people. We’re all equally primitive, give or take two or three thousand years here or a hundred years there.40

Dating writing to the year 40,072 instead of 1972, for example, as Snyder did in another of Turtle Island’s seminal environmental poems, acknowledged this prehistoric heritage.41 Such a perspective was historically significant because, at the time Snyder formulated it, the Deep Ecology movement was coalescing around him. The movement formally began in 1973, choosing its name to denote an alternative to the so-called “shallow ecology” of mainstream environmentalism. Its proponents called for a recognition of ecological value independent of human utility or aesthetics. Its practitioners branded themselves “ecocentric” rather than anthropocentric, and argued not so much against pollution and resource misuse as against the fundamental divide humans had erected between themselves and the rest of life on Earth.42 Though credited as

39 Snyder, “Toward Climax,” 83.
Deep Ecology’s “poet laureate,” Snyder offered a vision that was in fact far deeper than simple ecocentricism. Any environmental philosophy, he believed, had to have at its foundation the 40,000-year “vertical axis” of the human species. That was why Snyder turned to Japan and China, to India, to Native America, and to tribal cultures the world over—a “Great Subculture,” he called it, with “songs going back to the Pleistocene and before.” Western tradition was simply too short, and too shortsighted.

Many of Snyder’s contemporaries shared this view, but none put it so consistently and prominently to the public. Like Snyder, authors such as Marston Bates, Loren Eiseley, and Paul Martin looked to the glaciers, people, and animals of the Pleistocene to find antidotes or anecdotes that might be relevant to environmental concerns of the 1960s and ’70s, particularly nuclear war. For the most part, these authors have lapsed into obscurity, or, in the case of Martin and his overkill hypothesis, remained largely confined to the scientific literature. This has not been true of Snyder. In 1975, Turtle Island won the Pulitzer Prize. It has never gone out of print. Neither, for that matter, has The Back Country. “Toward Climax,” one of Turtle Island’s closing poems, and thus a climax in its own right, remains the most visible statement of Pleistocene Environmentalism any author has yet made, including subsequent restatements Snyder made himself, such as in his 1996 book-length poem Mountains and Rivers Without End. To learn from the Ice Age, Snyder suggested in his early writing, was essential to the work of creating a sustainable future. In “Toward Climax,” even as Ice Age hunters killed, and perhaps overkilled, the slaughter was never senseless; indeed, it inspired art: “bodies just like ours / pictures in caves,” Snyder wrote. In “To the Chinese Comrades,” even as farmers stripped in a matter of centuries soil that had accumulated

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45 Gary Snyder, “The Yigin and the Philosopher.” The Old Ways (San Francisco: City Lights Books, 1977), 12. See also Snyder, Earth House Hold, 104.
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over millions of years in the Pleistocene, Snyder made it clear that the agrarian tradition was still preferable to the nuclear one: “You don’t need the bomb,” he wrote, playfully admonishing Mao Zedong; “stick to farming.” Forbearance from hunting the megafauna, patience from farming the loess—for Snyder, and increasingly for those of us facing anthropogenic global warming of the twenty-first century, the lessons of the Ice Age make it as relevant for the present as it was for the men and women, 40,000 years ago, who lived through it.

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47 Snyder, “To the Chinese Comrades,” 102. The misspelling of “don’t” is intentional; see footnote 10 above.


---. Daily Journals and Manuscripts, 1945-2009. Gary Snyder Papers, Special Collections (call no. D-050), University Library. UC Davis, Davis, California, USA.


We are pleased to announce the 32nd Annual *Prized Writing* competition. This competition is designed to find the best writing produced by UC Davis undergraduates during the 2020-2021 academic year.

Contestants must be undergraduates whose work was written for a UC Davis course during the 2020-2021 academic year beginning with Summer Session I, 2020.

For full details, including submission deadlines, please see the contest rules on our website:

*prizedwriting.ucdavis.edu*
Tara Allison
Kaitlin Araghi
Arisa Bunanan
Lacey Conlon
Elena DeNecochea

Eli Elster
David Esparza
Lauren Glevanik
Veronica Guerra
Carrie Hetland

Mia Lakritz
Michael P. Montgomery
Alex Nguyen
Seunghyup Oh
Annabelle Rankin

Hannah Holzer
Janmajaya Kailash
Hufissa Khan
Shreya Kumar
Lisa Lai

Daniel Ritchie
Rebecca Spin
Jeslyn Tatang
Shira Tikofsky
Enhsaruul Zorigt