# AUSPEX

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Auspex: an augur, or diviner, of ancient Rome who watched for omens in the flight of birds

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# Cultural Cultivation In The Face Of The Powers That Be

Ethan Talbott

Trevor Nail

It's oftentimes hard to qualify an experience as anything other than a story, especially if that experience could better be called a struggle. It only follows that there's a fair bit of catharsis in telling these stories. We greet you with this because the idea of storytelling captures what we've seen in these pieces: shared struggles, and through them, attempts at cultivation and catharsis. Beyond this page you'll find a petri dish filled with often unexplored narratives of struggle against those imposing forces that we all must face. If there is one thing certain about our lives, it is that this struggle is necessary to the human experience; it is necessary to understand how we can exist within the groups we choose to thrive in, and the people we choose to protect and love. Our interests are a reflection of our struggles. What can be gleaned from them is a *culture of culture* if you will. Indeed, these inspiring stories of resistance, of striving for progress that has been denied to us, fill the following pages. Here you'll see the results of a thoughtful campus that has decided to elucidate the incredible narratives that color our lives. We hope you'll take this opportunity to appreciate the growth at hand and empathize with the struggles around us.

Warren Wilson College actively encourages ideas and thoughts that are not standard, and so it makes only logical sense that our capstone projects, our final grand efforts in Wilson academics, would also reflect this open-mindedness. Each of these pieces illustrate such narratives. Our first four pieces build a core of creativity, examining the various challenges facing artists and the possible ways they can circumvent them. Take, for example, our first piece: "How To Kill People In A God Honoring Way" looks at the tension between Catholic traditionalism, the critiques offered by larger society, and how this tension manifests in horror media. "Intellectual Prop-

erty And Art" examines the effect of copyright in art, how it can be a useful tool in developing a persona, but its abuse can stifle the creative efforts of the less privileged. Running along the same vein, "Using Embodiment to Boost Creativity Among Musicians" challenges the existing tradition of mind-body separation that has historically been used as a tool of oppression. We then explore how artists can make their process their own by finding ways to circumvent the use of industrial-made dyes in "Alkaline-Tolerant Bacterial Species Associated with Small-Scale Indigo Fermentation Dye Vats." Unexplored avenues of thought are the beauty of *Auspex*: to create an educational journey that reflects the true passions and specific, niche interests of Warren Wilson students.

These academic endeavors from our own community serve as a rich source of inspiration. There is something uniquely Warren Wilson about these pieces, yet we would not say that Wilson has an essential element to it; rather it is this distinct negative space that allows ideas to flourish within this community. Still, however, there is something that binds these pieces to Wilson, and we would have to say that it is the thoughtfulness in these works. There is a level of care and dedication put not only into the work itself, but into the choice of topic as well. There is a marked choice to illustrate the non-dominant narratives that are so often swept over in society. You can see this incredibly clearly in our final four pieces. "Motivation in Recovery" is an inspiring piece looking at community-based accountability programs that combat addiction. "Maíz Libre para el Mundo" is a captivating tale of battling biopiracy, displaying the resiliency of the Totontepec community as they defend their agricultural traditions from exploitation. Another often ignored narrative is explored in "Treatment for Transgender and Gender Non-Conforming People With Disordered Eating," which causes us to think about the standard method of eating disorder treatment, how this could be altered based on a person's gender identity, and how cis-normative methods may be failing. Lastly, we have

"Masquerading a Monarchy," an incredibly in-depth dive into the subversive oppression brought about by the Moroccan monarchy and how it has attempted to co-opt its non-dominant ethnic groups. In all of these topics our writers display a sense of sensitivity and treat the issues at hand with a deserved level of esteem and humility. To question authority or the standard way of doing something seems to us to be the most Warren Wilson thing out there, and this is just what *Auspex* 2023 is showing us.

If we were to sit still and silently accept the narratives taught to us by dominant culture, by government, by scientific and academic institutions, then we would be betraying what makes us fit for a place like Warren Wilson. Our professors support us because they see, too, how passionate we are about changing the narrative, and making it our own. Here, our stories *are* our own, and there is nothing (not Catholicism, cisnormative institutions, NFT brokers, or Moroccan monarchs) that will stand in our way. We trust you'll glean something valuable from these pieces, whether it be knowledge of a new facet of oppression to fight, or simply some inspiration for your own capstone, whatever that may be. Within this volume you'll find these stories, and we hope you'll enjoy them as much as we at the Writing Studio have.

**Mya Goodman**
**"Untitled"**

# How to Kill People in a God Honoring Way: How Catholicism Functions in the Horror Genre

## Abstract

Horror, as a genre, reflects the standards and thoughts of the people, acting as a social commentary. The intersection of Catholicism and horror goes back to the Gothic era. The surge of the usage was in outcry against ongoing scandals. When we look to more recent eras, like the rise of the satanic panic of the late twentieth century, it was used more as an attempt for us to return to faith. In current works, we see more of a complex narrative of a critique of how religion functions in exposing human behavior. Looking into three different works, *The Exorcist* by William Peter Blatty, *A Head Full of Ghosts* by Paul Tremblay, and *Midnight Mass* created by Mike Flanagan, we can see how the narrative shifts. Each of these works takes a different approach to how Catholicism functions as a means to deliver horror: as a savior from evil, the evil itself, or the device that allows people to expose their true selves. The horror genre is moving in the direction of allowing the audience to make judgements for themselves and expose the nature of human beings–as not good or bad, but something more complex.

## Clairissa Hitcho | English

Clairissa graduated from Warren Wilson in the spring of 2022 with a double major in English and Creative Writing. During her years at Wilson, she worked on three different work crews, learning a variety of skills that helped lead into future passions. She held an internship in her senior year, working on a play, *Bloodbath: Victoria's Secret*, written and directed by Jamieson Ridenhour, as an assistant stage manager. She now works as the first Inside Out fellow for Wilson. She made so many good memories and friends at this beautiful place.

If your hand causes you to stumble, cut it off; it is better for you to enter life crippled, than, having your two hands, to go into hell, into the unquenchable fire. –Mark 9:43

Horror has long used Catholicism as a device to shape the world. Often a societal remark, it either begs us to return to our faith or acts as an outcry of anger at the ongoing scandals within the Catholic Church. Catholicism in horror dates back to at least the eighteenth-century Gothic Novel. We can see this throughout novels like *Dracula* by Bram Stoker, *The Monk* by Matthew Lewis, and *The Mysteries of Udolpho* by Ann Radcliffe. These novels have a critical and intense view of Catholicism, making people focus on the harm it has created. The Gothic period pointed to the nature of Catholicism while speaking against it.

Another significant surge of Catholicism in horror came in the 1980s with the satanic panic. The panic rose in the 1970s with the recent Manson Family murders in 1969. People saw the ritualistic string of violent killings, and then in the same year, *The Satanic Bible* by Anton LaVey was published (Romano). People had these intense worries about the rise in Satanism when William Peter Blatty published the novel *The Exorcist* in 1971, and a hit film by the same name in 1973. *The Exorcist* examined fear of what can happen to good and innocent people if they end up involved in some aspect of the occult.

The worry of society did not stop here; it continued to rise in the 1970s when many Satanists said that the world would soon be ruled by ritualistic satanic cults (Romano). The 1970s were also the period in American history where the most serial killers were active at the same time. The Zodiac Killer and the Alphabet Killer both had intense ritualistic manners to their killings, and neither got caught until recently. These cases paired well with the other high-profile serial

killers like Ted Bundy, John Wayne Gacy, and David Berkowitz. Society's general fear grew immensely during this period, when Americans began to feel threatened in their own homes, not being able to trust their neighbors. The satanic panic prevailed and fed off the intensity of people's emotions, and some people even claim the panic has not ended yet.

In many ways, the fear brought society back and closer to God. Since the early 1970's about 25 percent of Americans have identified themselves as Catholic, so for many people–the fear led them back to the Church (Reuters Staff). Catholicism, however, began to lend itself to horror in many new ways. The tone of horror in media switched from people turning to the Church to help them fight against evil, back into fighting against the problems in the Catholic Church.

Catholicism has long been used in horror to reveal what is happening in society. Horror functions as a way to take people's fears and allow them to be faced and released in a safe environment. Catholicism has a similar function, allowing us to feel safe in the world.

There are many aspects of Catholicism that then begin to function like horror in and of itself. Catholicism is an inherently restrictive religion that relies on the idea of people being afraid of what happens to them if they do something terrible. People are rewarded for their good actions, but most religions rely on fear from their people.

Catholicism, similar to satanism, has a lot of ritualistic practices, though these two are supposed opposites. A Church calendar follows a specific time in which things happen. Masses are often candle-lit with incense; every mass has a call and response, with a chanting-like aspect. Things are done with an element of pageantry, but coupled with gore. Some of these things are beautiful and intricate, such as the garb of the priest, stained glass windows, and statues. However, most brutality is not hidden in what the Church says or what is present in the chapel itself. A crucifix is always hung above the altar, usually having a realistic statue of Jesus. He is bloody and

dying, but this is something to look to for guidance, a reminder of what people are there for. The horror of mass also plays into the Eucharist, or Host, which is a piece of bread taken as a sacrament. In each mass, everyone receives the body and blood of Jesus; during the consecration of the Host, Catholics believe that it turns into flesh and blood.

Catholicism and horror have changed a lot throughout the contemporary age, from looking towards the Church for salvation to rejecting the Church for its exploitations, to finally looking at it objectively as not the Church itself as good or bad, but the people within it shaping what it becomes. *The Exorcist* by William Peter Blatty, *A Head Full of Ghosts* by Paul Tremblay, and *Midnight Mass* examine these ideas perfectly. The genre reflects how society feels about the Catholic Church at the time of release, and expresses their fears. *The Exorcist* gives us a 1970s viewpoint of returning the Church, *A Head Full of Ghosts* displays distrust, and *Midnight Mass* combines both ideas to show that people are the real fear–not religion itself.

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William Peter Blatty's *The Exorcist* looks at the political climate of the 1970s and makes it clear that we should be turning back to our faith in the Catholic Church. If we do not, the book suggests, 'look how bad things can turn out.' Blatty's story of Regan MacNeil makes it clear that the real help within the novel is the Catholic Church: *He* can save us from true evil.

The story functions so well because Regan, freshly twelve, is devoid of personality. She is a blank slate at the beginning of the novel, and as she transforms into merely a body and a vessel for demons to speak through her; it becomes clear that she is primarily a plot device. She serves to push Blatty's point that even the most ordinary, pure, and innocent people might fall victim to the devil; this is an overar-

ching theme within the story, making us wonder how safe *we* are. The MacNeil family--the divorced mother, Chris, and her daughter, Regan–are examples of a family open to sin during the early 1970s when the novel was released. Chris is an actress, not looking for love, who likes to party and socialize. She has not raised her daughter with religion, as Chris claims to be an atheist. Blatty critiques her lifestyle by showing us the lack of stability that Chris could provide–no father for Regan and no religion in the household–and perhaps the most critical piece, a mother who does not *only* function as a mother. She has a job and a life outside of her child. Her mother's actions are an apparent reason for Regan's vulnerability as the demon tells Chris during the exorcism, "Are you pleased? It is *you* who has done it. Yes, *you* with your career before *anything*, your career before your *husband*, before *her*–" (343).

Regan, in the novel, has very few actions or lines that allow her to show her personality. Her only trait is caring about her mother. Through Chris and Sharon, Regan's private teacher and Chris's secretary, we can tell that Regan is sweet, caring, and kind. She exemplifies the young American girl. In the film, Regan comes across as a bit spoiled but not to the point of contention. She is still a young girl with no problems in her health or life. This idea of Regan is something we only get to see at the beginning of the story–the rest takes place in a world revolving around Regan without her being in it.

Horror uses Catholicism here to show us how weak and vulnerable we are. Why Regan becomes possessed is not entirely clear; she plays with a Ouija Board, implying some force within the home, but it is never made explicitly clear. Her possession shows us that even straying from the path of morality a little can lead to the death of several, and the body being taken over by evil itself. Regan serves the purpose for the audience to look at her and think that if she can become possessed, couldn't we? The function of Catholicism here is to show us the world, to say, "Look at all of this bad. Look at all of the things we cannot control. Look how far we have

strayed from God's path." These things can be fixed easily by seeking out The Church and finding ourselves to fit into what God wants and what society wants from us.

Chris has difficulty tying herself down to doctors and taking Regan through several tests and trials to figure out what is wrong with her. Doctors prevent her from seeking out a psychiatrist but then prescribe her Ritalin. Through the extensive tests and doctor visits, a neurologist tells Chris, "Now I know the temptation is to leap to psychiatry, but any responsible psychiatrist would exhaust the somatic possibilities first" (118). Chris spends the majority of the novel trying to figure out what is wrong with Regan without considering the idea of the occult or supernatural things happening. Chris's direction implements the idea in our heads that science is not always a worthy venture, that sometimes our problems lie outside of structure—Catholicism and belief in God that can cure Regan in the end, not medication nor therapy. In *The Exorcist*, it takes until the last fifty pages before the exorcism even begins. We run through the inner workings of The Church, of medicine, fear, and confusion–before we even get to the most haunting part of the story. While it does play mostly on fear, the novel is not quite a horror novel. It works more towards suspense and the slow build of trying to figure out how to help a child.

The evil in *The Exorcist* is what the Church thrives on. Catholicism tells us that not only is the devil real, but he is tangible. He impacts the lives of everyone every day. The symptoms of Regan's possession are abnormal strength, speaking in different languages, speaking backward, telekinesis, and knowing secrets that she would not be able to know. This pairs with the physical symptoms of change in body–her stomach becomes extended, she vomits and defecates with no control, and distinct smells come from her. By the peak of her exorcism, she is no longer the girl we once knew, neither in personality nor physical appearance. The thing that convinces Father Karras that she is possessed is that they can see the words "help me" in Regan's handwriting from inside her

stomach. While the other paranormal events might be traced back to other explanations, there is nothing Karras can do to explain this event. He sees it as the work of the devil.

Another element that takes place in *The Exorcist* is the question of faith, even among the faithful. Father Karras is the priest most connected to Regan MacNeil's case. He has struggled with a complicated past in the priesthood, which comes to a head when his mother dies. Karras harbors guilt for having left his elderly mother alone as he has been transferred out of New York City and into Georgetown, where the story takes place. He is also the psychiatrist here, working with other priests to work through mental health issues. The burdens he feels weigh heavy on his heart and make him question his faith, even as he moves into the exorcism of Regan. Father Merrin, the expert on exorcisms, helps lead Karras through the journey. However, even in these moments, Karras feels weak: "He felt a sudden envy and admiration for the exorcist's strong and simple faith" (347). This part of the narrative makes faith into dynamic power. It is not steady or powerful at all times in life. Perhaps these events are what makes Karras unable to continue with the exorcism but instead invites the demon into his own body before committing suicide, setting Regan free. This remark shows us that if we put all of our faith in God, in the idea that all things are possible through him, we might be able to escape life without harm.

These parts of the novel make it very interesting to unpack precisely what role Catholicism has in making horror function. Primarily, the story attests to the fact that evil is real and no medicine or treatment can help, but only God can. The novel agonizes through the reality that Regan and those around her are suffering greatly, but it takes a while to find an answer to help them. It is true, then, that God is what ends up saving Regan and those around her. Catholicism here does not have its roots in evil itself but in the fight against evil. The world is full of evil and even young, innocent girls can fall

victim to it. Catholicism functions as the true hero by being able to right the wrongs that the world has presented outside The Church.

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In contrast to *The Exorcist*, another possession novel, *A Head Full of Ghosts* by Paul Tremblay, shows us a more progressive idea of what the Catholic Church is capable of. It uses the idea of how religion can be exploited and create more harm than initially present. Catholicism in *A Head Full of Ghosts* intertwines itself with class, gender, mental health, and an element of voyeurism. All of these work together and prove to be the downfall of the entire family and those watching at home. Catholicism feeds off these other elements and exposes supernatural horror elements realistically. *A Head Full of Ghosts* uses Catholicism to unveil the darkest elements of truth in the Church.

We see how religion is capable and often preys upon those in their weakest moments of financial strain. The Barrett family is experiencing a realistic situation of the patriarch of the family losing his job and then relying on the mother's income to provide for their two children and their household. It is John Barrett, the father, who is the one that brings religion into the household. Though we do not get to know him as a character to a great extent or specifically get into his thoughts, we understand that he is having difficulty dealing with a moment of weakness within himself and his family. It is hard for him to realize that he is no longer a solid figure without his household: losing his job, fighting with his wife, and the onset of mental health issues in his eldest daughter Marjorie. He reasonably collapses back into his beliefs of Catholicism and tries to integrate them into the family; he asks the children and his wife to pray with him before dinner. The integration of religion in the household is not done without protest from his wife, Sarah. When John does not take Mar-

jorie to one of her doctor's appointments, she tells him: "Go ahead, say it. Crazy. Right? Your daughter was going crazy. So why not stop at church? Makes perfect sense to me" (59). Sarah says this before the events of Marjorie grow worse and worse, which states her point early on in the novel. It is interesting to see his downward spiral within a novel where John is not the character of interest. After trials of therapy and medication with Marjorie, and her condition still worsening, John turns to bringing the Church more directly into the household.

In the novel and in life, the Catholic Church also serves as a reinforcement for the gender binary. We see men of The Church and the television show looking down on the condition of Marjorie, saying "fourteen-year-old girl couldn't possibly know all that she claimed to know–" without considering what she wants (179). The Church reinforces the idea of men's control over women, both by the beginning of the Bible and the continued roles of power that men can hold. When God created Adam, he decided he needed a companion and then took Adam's rib to make Eve; he is then in charge of her and her downfalls. It is a traditional and fundamental Christian idea to believe that a man serves God and a woman serves her husband. Only men can become priests or deacons when looking inward at the Catholic Church. Men of the priesthood are also told to reject their sexuality as if sex and women might be the downfall of faith. When we look at *A Head Full of Ghosts*, we can see that Marjorie, as a young girl, is trapped within the confines of what men and the Church have set up.

The biggest battle we can see in *A Head Full of Ghosts* is mental health versus Catholicism. We see a real-world example of how the exploitation of the Church worsens Marjorie's condition. They turn the idea of mental illness into the devil's work, putting the idea of possession onto Marjorie. The idea that rational belief and reason cannot take over the powers of God is horrifying. When the parents should have stepped in

to make a case to help Marjorie medically, they instead fall victim to priests that almost seem to believe that the weaker Marjorie is, the more successful the exorcism can be.

Mental health within the Catholic Church is almost a taboo topic. It was not until 1983 that the Church decided that suicide would no longer be considered a mortal sin, that is a sin that destroys the relationship with God and makes it so that the person would not be able to get into heaven. The Church is still willing to overlook the idea of mental health by making the problems more tangible and easier to overcome in order to support their agenda. It is powerful to see that Marjorie's situation is not purely fiction. In the case of Anneliese Michel in Germany, she was a young woman who had sixty-seven Catholic exorcism rites. She had been diagnosed with epilepsy, but "when, after four years of medical treatment, her condition and mental depression worsened, she and her parents became convinced that demons or the devil had possessed her, and the family turned to the local church for the cure" (Getler). Her story is a horrifying one, one where she ended up dying of starvation because even after months of barely eating, her family refused to seek proper medical care for their daughter. We can see how the Catholic Church, here, in a real-life example, used mental illness as a reason to perform an exorcism on a young woman. In this example, both in the real world and in fiction, we can see how mental illness is treated as a weakness, and that weakness is temptation or separation from God. Most Catholics think mental illness could be fixed if brought closer to God.

It is interesting how *A Head Full of Ghosts* then shifts inward and looks at itself through the same lens of mental health and connection to God. Tremblay does this by creating the element of *The Possession,* a reality television show of the Barretts' journey through the exorcism of Marjorie, where the viewers both believe in the power of the Church and the fear of mental illness. We are then looking at ourselves as what sort of media we consume. We assume a voyeuristic role by

watching what we might see on television. We recognize that Catholicism is scary, particularly the possession roles and whether or not God can save us. We look at how watching these events unfold enamors us on a surface level and how we might long for some sort of evidence to believe, even if that is the proof of the devil himself. We turn to horror to cope with real-world problems, and then we also turn to religion in a way that might help us make sense of those things that we can't understand. We want, maybe even crave, to watch the idea of God being real and that he could save us from the bad things in life that we cannot explain.

We then can examine the true horrors of religion to us personally. When we see religion having a part in horror, we can be genuinely horrified by the idea of the failures of God. When we invest everything into something, especially in the hopes that everything can be fixed, we are entirely dependent on that thing working. When we come face to face with the outcome when those things fail us, we experience a sort of inner horror.

There are a lot of roots of the thought of being alone without a purpose in horror. What do we do when the Church fails us? What do we do when God fails us? We experience a loss of meaning in ourselves and the things we do. In the case of the Barretts, we see that this leaves each of them as shells of themselves, particularly John. He had invested everything into the idea that he would be able to save his family but only made it worse. In the time of loss, we might feel like nothing matters. Marjorie has constructed a story of how her father had planned on killing the whole family. The ending leaves the truth open to ambiguity, but the thoughts that John is experiencing might not make the possibility unreasonable.

Another element of what makes the story so hard to understand, in terms of religion, is how we place blame when we do not think we have done anything wrong. According to the belief of Catholicism, if we ask for forgiveness, we are forgiven in the eyes of God. Even if we have done unspeakable

things, we can still get into heaven as long as we ask forgiveness and mean it. This allows much room for exploitation. If we realize that we might not have to place the blame on ourselves for our downfalls, then we cannot grow by learning to fix these mistakes. Then, we can also take that blame and place it on something external. Catholicism believes that the devil is a natural and tangible thing all around us. Suppose we can use him and the powers of temptation to explain why we did what we did. In that case, we can feel even less responsibility. We cannot escape the devil being around us, no matter how close to God we find ourselves, so what is the point in resisting temptation?

When these thoughts influence us and recognize that we cannot live without sin, we become a victim of Catholicism's preachings. We become corrupted by the Church in a way that moves us closer to God, out of fear, and away from rational choices. Thinking back to Anneliese Michel's case, we can see how the Church could have such power over the family that they were willing to ignore any apparent signs. We can also see the willful ignorance in the Barrets, whether it is belief in God, financial support from the television show, or a pure mixture of both. The family has been pushed to their breaking limit, at a loss for answers, and then they are used by the Church and spit back out. It is hard for us to understand what might happen if we were in this situation: devoutly religious and desperate. The best and sometimes only place we know where to turn does not care about us. It does not want to make things better; it only has an interest on its own.

Catholicism functions as a means for a downfall for the Barrett family, specifically letting down Marjorie. It proves to be the root of horror in the story, the driving force behind all horrible things. *A Head Full of Ghosts* could not be the novel it is without Catholicism playing its role and making the family spiral into something that could have been prevented. This comes from how it functions as a bonding force between the other problems presented in the novel and the pure horror of

being desperate enough to put trust in something that cannot be seen.

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Mike Flanagan's television series *Midnight Mass* is the most complex of media examined in this research. *A Head Full of Ghosts* takes an objective stance on how Catholicism is harmful. In *The Exorcist,* Catholicism is treated as an ultimate good. *Midnight Mass*, however, does not take either of these things as a single approach; it looks more deeply into what faith means and what that reveals about how we interpret it.

The things that make the story function so well are that we can see what is truly evil about belief. The surface-level horror of *Midnight Mass* relies on the depiction of an angel, murder, and the drinking of blood. However, what lies underneath that are images of what people turn Catholicism into. It becomes hard to distinguish if the faith was ever perfect and if people can ever be expected to be good.

*Midnight Mass* feels like the most honest and truthful approach to examining what makes Catholicism function within horror. While much of it deals with the imagery of battling for God, angels, the body and blood of Communion, it has so much more to deal with how people take something subjective and twist it to fit whatever image they want. The show examines five types of characters. It shows devout Catholics that are made worse by their faith, devout Catholics that are made better by their faith, those that reject Catholicism as a whole, dynamic characters that shift their perspective on faith throughout the show, and lastly, a character that embodies all those elements at once.

Beverly Keane is the most prominent figure who is worsened by her faith in *Midnight Mass*. Bev is a woman so devout in her faith that she has a way to explain away any conflict or wrongdoing with a Bible verse and narcissistic behavior. The first examination of Beverly causing active harm is

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when she kills a dog of the outcast town drunk, Joe Collie, for revenge, inflicting pain on those she thinks to deserve it. This immediately transforms Bev's character from being unlikeable to being evil. *Midnight Mass* slowly reveals more information about Bev's nature. We learn that during the time of an elder priest with dementia, who had no idea of what was happening, Bev urged people on the island to take settlements from an oil spill that ruined the livelihood of most families on the island. In this gift from God, she urged them to give back to God by donating to the church. It appears she pocketed the rest. In the name of God, Beverly continued to profit from the individual's downfall but was using it for her benefit.

Bev's actions continue forward to where her belief in God and the priest, Monsignor John Pruitt/Father Paul Hill, allows her to justify horrific actions that are objectively wrong, such as covering up murders and helping lead a mass suicide. During this moment, too, Beverly hides in the backroom to escape the carnage of death, not stepping up to her faith in God. This scene where Bev hides in the back highlights her inherent hypocrisy while demonstrating just how far the tables have turned. She is no longer attacking the people around her for their lack of faith but demonstrating it herself. By the end of the show, it is clear that Beverly has taken on the form of God herself; she is gatekeeping the idea of religion and who is worthy of saving and who is not—burning down houses and killing people that were not Catholic. Here is also when she rejects shelter seats for people because of their lack of faith. Beverly demonstrates the idea that being Catholic is more important than being a good person. In the show's final moments, she is the only person in town that sees no wrong in anything she has done; her belief is so strong that she will not ever be able to admit that her actions were not meant by God's will.

To juxtapose the way that Bev strays further from morality, we also see characters who use their faith to bring them to be better people. The figureheads of these types of charac-

ters are Ed and Annie Flynn. While they make mistakes and hurt others, they apologize and right their wrongs. They experience true faith without being blinded by it. In the end, where the town is driven to chaos, it is essential to look to the Flynns for what they choose to do. Ed ends up sacrificing himself so his wife, son, and the other rebels can make it out of the church alive. In Annie's case, she distracts Beverly and Sturge (two of the antagonists during this time) by trying to humble Beverly and then slitting her own throat. Annie and Ed know that faith is powerful enough to benefit them for being good people, but so much so that they want to be good people of their own volition. When speaking to each other in one of the final scenes, where most of the townspeople have fallen victim to becoming vampire-like creatures, killing and drinking blood out of a terrible hunger, Ed tells Annie something that summarizes the entire meaning of Catholicism functioning in *Midnight Mass*: "When I saw them at the church, I thought it was something they really couldn't help. Like…something impossible not to do. But it isn't, Annie. I feel it too. I'm starving too, but I didn't. I didn't. Whatever this is, it don't change who you are." People are acting out of a feeling without considering the consequences but that the urge is, in fact, controllable. Applying what Ed said shows that the people acting out of greed, hunger, and pain have always been that way. They just needed a reason to behave the way they wanted. However, it does not change who these characters are fundamentally.

Those who reject Catholicism function to show us a better argument for understanding the forces; it is not just The Church that causes harm, but people themselves. Riley Flynn is the most prominent example of this. He makes it very clear and evident to the audience that there are real problems surrounding the Catholic Church and faith in God. Riley is a lapsed Catholic, where at the beginning of the show, he is returning home from prison after a drunk driving accident, resulting in the death of a young woman. He struggles with the idea of how God can let terrible things happen and how

he can fail to show up when we need him most. He wants to know how we can sit by and let these things happen in God's name. The most straightforward time we get to see these thoughts from Riley is during his AA meetings with Pruitt/Hill. The priest explains to him that the idea of alcohol is not good or bad; not in and of itself; it is people. He also tells Riley that part of the beauty of God is that he can take pain and suffering and make it good, make it useful. Riley, however, takes real issue with that sentiment. Here, he explores the idea that God could erase all of the bad and all of the suffering in the world but just does not. God sits by while people struggle and die and get hurt, and the phrase, "God works in mysterious ways" does not cut it. Riley impacts his meaning by allowing himself to really sit with the idea and then telling Pruitt/Hill, "And the only thing, the only fucking thing that lets people stand by, watching all this suffering, doing nothing, doing fucking nothing, is the idea that suffering can be a gift from God." He does not feel comfortable with the idea of letting God be an excuse to negate personal responsibility. Later on, Pruitt/Hill and Riley are having a much more honest conversation, where Riley is trying to figure out how to cope with his failures. Pruitt/Hill tells him, "Sometimes it's okay to just look at the world and say, 'Why? Why? Why? I don't understand.' And I will not." It is hard to look at the situation of Riley Flynn and not question why God will not help him. Digging deeper, we look into how God cannot help us with our failures, to help and let us grieve, and give us hope. Riley had lost his faith because he could not fix his problems or right his wrongs when he needed God most. How can God cure some suffering but leave others alone?

A character also shifts their perspective on Catholicism and their belief in God throughout the show's journey, Erin Greene. She left The Church and then returned to it after an abusive romantic relationship, her abusive mother's death, and after getting off the island. Through these experiences, she feels more compelled to be part of The Church. Erin is

truly a good person; she fights against Bev Keane, is a passionate teacher, and wants to further her own life and future. She and Riley build a deep connection stemming from being teenage sweethearts. After Erin suffers a miscarriage, Riley and Erin spend the day grieving together; in Erin's home, they pray together (despite Riley's disbelief) and talk about what happens after they die. Erin speaks for her baby, not for herself, making the idea of death more tangible and more hopeful for her. Erin says about her unborn child, "God didn't send her to suffer life on Earth," even in her moment of pain, she still feels a deep attachment to her faith, something to help her through the struggle she is facing. She then remarks on the idea of heaven, "And that's what we mean when we say heaven. No mansions, no rivers of diamonds, or fluffy angel wings. You are loved. And you aren't alone. That is God. That is Heaven."

By the end of the series, we see Erin's turn. After experiencing more loss and pain through Riley's death, the falling apart of the church congregation, and the evil that is happening through Pruitt/Hill's plan. As Erin lies dying within the last few minutes of the finale, she is taken back to the memory of Riley and her on her living room couch. There she is again, with Riley asking her what happens when we die. This time she relates to Riley's idea that she is part of everything, that she is too busy remembering to feel pain and to fight against death. She parallels her earlier thought by saying:

> You, me and my little girl, and my mother and my father, everyone who has ever been, every plant, every animal, every atom, every star, every galaxy, all of it. More galaxies in the universe than grains of sand on the beach. And *that's* what we're talking about when we say "God."

Erin has left her feelings about religion behind but instead interprets them differently. There is no Heaven in this version of Erin's journey; it is just the expansion into everything that is and ever will be. She finds God to be practical and anthro-

pocentric. It is not about the things we cannot see, but now about seeing God everywhere. That in some way, we are all God.

The focal point of *Midnight Mass* revolves around Monsignor Pruitt/ Father Paul Hill. He is a character that embodies all the other tropes set up to function within the show. The charismatic and confident figure of the church is allowed to get away with more than other characters because his intentions are well-meaning. In the beginning, he is introduced to us as Father Paul Hill, replacing the elderly Monsignor Pruitt while he is in recovery at Saint Patrick's Catholic Church, but as we come to find out, they are the same man; he is just made young again through the gift of a so-called "angel." The young priest restores life and vigor into the church and community; while his power grows, he begins to perform miracles. Pruitt/Hill shows us how harmful blind faith can be. In him we see the actual function of horror.

He wants to bring new life to the island, but he has to create harm first. For the angel to feed, it must kill. For Pruitt/Hill to feed, he must kill. In the final episode, we see that he calls for all the people in church on the Easter Vigil to commit suicide to resurrect from the dead and be able to feel new life. These thoughts, though so wrong, seem to be based on a pure and genuine belief in God. In some ways, Pruitt/Hall is made worse by his blind faith. He finds an angel, a truly horrifying, vampiric creature, and is convinced that it is God's gift to him. In some ways, he was made better by his faith; he is a kind man that genuinely wants to bless his community and help it be restored from its lack in life. He believes in everyone he meets sincerely and purely–it allows the townspeople and the audience to fall in love with and find comfort in him.

Despite being a devout figure throughout the show, Pruitt/ Hill rejects the idea of Catholicism in the final moments of the series finale. He is reconnecting with a woman he had an affair with when he was much younger, revealing

that the doctor on the island is his daughter. He reveals at this moment that why he brought the angel to the island: while in some part it was to help everyone, it also was to restore himself and his love to youth, to give them a second chance:

> Yeah, but another chance? Now that we can be a family this time. Can you think of a miracle more amazing than that? I mean, curing…cure blindness, sure. Or part the seas, all right. But a second chance? That's a real miracle.

At this moment, he rejects the idea of Catholicism, saying that if he had another chance at life, he would not be a priest again. It is not necessarily true that he is turning away from the belief itself but instead realizing its faults. He is taking a moment to reflect on all the bad he has created, the hurt he has inflicted, and what was once done in good faith is now turned against everything he believes in. Here is where he begins to feel that God is no longer with him but instead has left him in the dark. This parallels nicely with the idea of Pruitt/Hall both rejecting Catholicism and shifting his viewpoint–similar to both Riley and Erin, respectively. He is moving away from the idea of Catholicism in a way that changes his beliefs, but by rejecting it more outright than Erin does.

The final episode, Book IV Revelations, points to understanding what is happening within the small town of Crockett Island. Saint Patrick's Catholic Church parishioners have died and turned into vampire-like creatures; they destroy and kill–ruining their homes, relationships, and community. It ends in their demise. However, in these moments, we can see that being told that they are part of God's army, to spread the word and love of God, has led them to commit sins that cannot be forgiven. It is here that Bev is the one to turn away people from finding a place to reside because they did not come to mass. It is hard to understand that the love of God has limits. When people corrupt the power of religion, it has tangible harm that impacts individuals and the community.

*Midnight Mass* examines how people make religion

into whatever they want—like Pruitt/Hall said, early on, that it is not alcohol that is good or bad, but people. When characters are allowed to function in whatever means they see fit, they can exploit something meant to be helpful. They are also allowed to justify their actions by blaming God's will or acting through their faith. *Midnight Mass* leaves us with questions about the morality of humans and what religion allows them to be. These elements are genuinely human and balance the dynamic approach to different character types within the series. These are the most terrifying elements of horror, letting us see what people can be–how evil they are.

Looking at the Church as a whole separates us from it. We can make out Catholicism to be evil and be inherently scary. However, it is not the act of religion itself that makes us feel this way. It is the way people cherry-pick and shape the meaning of words and faith; they can use it for their benefit. When we look at the people inside the Catholic Church, we begin to see true horror. *Midnight Mass* examines this beautifully, showing that some characters, some people, are good and strengthened by faith, but others are worsened. In these moments, we become attached instead of separated to the horror. There is no villain in this world, but instead, just us or even those in our community.

*Midnight Mass* shows us an idea of suspended belief grounded in reality. How do we look at miracles? How far are we willing to push logic away? For some, the answer is vastly different, but moments of clarity within a system that begs for blindness are perhaps the most horrifying. Father Pruitt/ Hill says it in a homily: "The more that we know, the less we bend. The more brittle we become, the easier to break." He examines the idea that The Church is asking its parishioners to stop leaning on what they think they know and instead let go of that and rely purely on faith in God. That is what many of the characters of *Midnight Mass* do and what leads us to the surface level horror of blood and violence. However, underneath that is where the true horror and evil lie.

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     The trend of using Catholicism and horror together will continue forward, as more creators come to the conclusion that it is a helpful tool for the genre. The ritualistic practices and the inherent gore in Catholicism are alone scary enough for film and novel, but with a deeper look it becomes easier to see why we find it scary. It is the idea of not knowing if we are in control, if we can trust people, and if we are being exploited in the name of faith. Allowing space for creator and audience to make those decisions will lead to more options than explored here.

     Overall, it seems that recent horror is making strides in the right direction. It examines the society in which it was created and allows us to see people for what they are. Horror is no longer writing off certain things as good or bad but instead allowing the audience to make those decisions for themselves. Allowing the audience to make their own decisions is a perfect way for horror to keep using Catholicism in the future, by pointing out how genuinely harmful it can be–giving those who have felt exploited by it a voice—but also not condemning everything that it does and can do for people. Religion, for many people, is what keeps them going through life. It gives them a reason and a purpose. Making good people who use their religion for good feel guilty does not further the point that the work is trying to serve.

     However, a large part of horror is always catharsis. Through the genre it becomes easier for the audience to make peace with their religious trauma, by externalizing those fears into a safe place. Whether the audience feels like they need to be welcomed back into the Church, need to find a way to condemn it, or that they have a complex mixture of both–there is media that will represent them.

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# Works Cited

Blatty, William Peter. *The Exorcist*. Harper Collins, 2011

Flanagan, Mike, creator and director. *Midnight Mass*, Netflix, 2021. Getler, Michael. "Cries of a Woman Possessed." *The Washington Post*, 21 Apr. 1978, https://www.washingtonpost.com/archive/politics/1978/04/21/cries-of-a-woman-possessed/94bf2fd3-8e64-482d-869d-1f929851ca8f/.

Hansen, Regina. "Netflix's 'Midnight Mass' Joins a Long Line of Horror That Plays with Catholic Beliefs." *The Conversation*, 4 Nov. 2021, https://theconversation.com/netflixs-midnight-mass-joins-a-long-line-of-horror-that-plays-with-catholic-beliefs-170767.

Purves, Maria L. *The Significance of Catholicism in Gothic Novels, 1790-1816: A Revaluation*. 2004: University of York, PhD dissertation.

Reuters Staff. "Factbox: America's Roman Catholic Population." *Reuters*, 10 Apr. 2008, https://www.reuters.com/article/us-pope-usa-catholics/factbox-americas-roman-catholic-population-idUSN0945928720080410.

Romano, Aja. "Why Satanic Panic Never Really Ended." *Vox*, 31 Mar. 2021, https://www.vox.com/culture/22358153/satanic-panic-ritual-abuse-history-conspiracy-theories-explained.

Tremblay, Paul. *A Head Full of Ghosts*. Harper Collins, 2015.

# Intellectual Property and Art: Why We Want to Own Our Ideas and Why It Matters

## Abstract

This paper explores intellectual property as it functions in artistic spaces, specifically how ownership of ideas relates to self-expression and self-actualization. This paper does not explore more technical legal issues related to intellectual property protections, but rather focuses on creative or original ideas pertaining to art or academia to consider the ways in which American society currently conceptualizes ownership of thought in ways that reflect its hyper-individualist, capitalist system. This paper aims to locate potential concepts that exist within Western thought which influence one's cultural understanding of the value of ownership in order to consider how these understandings can be reimagined to support a more collaborative conception of a creative network.

## Hannah Ellison | Philosophy

Hannah Ellison graduated in the Fall of 2022 with degrees in Philosophy and Creative Writing. Her interest in doing this research began when she got her feelings hurt after having her poetic ideas copied and wanted to know why it made her so upset. She probably won't go to grad school unless things get really bad. Until then, she will be residing in Philadelphia (City of Brotherly Love) with her friends and taking it real easy.

In attempts to own certain phrases, song titles, or names, Taylor Swift has filed countless trademark registrations. One can find a list of 211 specific trademarks under Swift's name on Gerben Law's website, a large patent attorney based in Washington, D.C. These trademarks limit the use of titles and phrases for the selling of any merchandise not affiliated with Taylor Swift. The lists are deeply specific, for example limiting the use of the phrase "Look what you made me do" to appear in sound clips, videos, artworks, downloadable ringtones, hypertexts, and so on.[1] Swift is not the only celebrity who owns such trademarks. Kim Kardashian owns the names of her children, "North West," "Saint West," and "Chicago West."[2] Paris Hilton has trademarked "That's hot."[3] While these trademarks were legally possible by attaching them to tangible, sellable products, they also show the ways in which celebrities' personalities become brands and operate in themselves as products.

Traditional copyright rules require a physical object to sell, such as a perfume or tote, but now it is much easier to copyright words and phrases for "endorsement purposes," which is essentially just a trademark of the celebrity and their influence. It is impossible to limit what others say or use in conversation, but when slogans become trademarked, others are prohibited to use them to market or sell other products. Consider an influencer who sells skincare products on Instagram; the container of moisturizer does not need to say "that's hot" on the front for it to be in conflict with the copyright law. The copyright would prohibit them from posting a

1. "Taylor Swift Trademarks," Gerben Law Firm, accessed March 5, 2022, https://www.gerbenlaw.com/trademarks/musicians/taylor-swift/.
2. Kaitlyn Tiffany, "Why Celebrities Try to Trademark Their Catchphrases and Baby Names," Vox, April 19, 2019, https://www.vox.com/the-goods/2019/4/19/18507920/celebrity-trademark-history-baby-names-taylor-swift.
3. *Ibid.*

video promoting their products using that slogan whatsoever. The effect of this seems slight, but it essentially creates certain associations with certain celebrities. According to William McGeveran, celebrities trademark words and phrases in order to control their public persona as much as possible. He writes an essay on this where he refers to these copyrights as "self-marks," which are defined as "branded personal identifiers that can be protected as trademarks."[4]

The capitalist culture in America seems to have progressed so far that the concept of ownership has developed into something where one can even own one's persona. It is inevitable in this type of commercial environment that people will own and trade various types of capital, some being tangible (the perfume or tote), and some being intangible (a phrase, idea, or persona). Copyrights, trademarks, and patents are all legal attempts to contain and protect such an intangible object. Identifying these types of capital is useful in considering the questions: What place ought ownership have within the context of intangible, intellectual property? Or, how ought one even be able to own ideas which are products of one's own creativity?

While this paper will not explore the more technical legalities related to intellectual property protections, it will focus on the function and purpose of intellectual property in terms of self-expression and self-actualization, as well as the ways in which capitalism influences one's views of creativity. I focus specifically on creative or original ideas pertaining to art or academia to consider the ways in which American culture currently conceptualizes ownership of thought in ways that reflect the hyper-individualist, capitalist system in which American culture operates. I aim to call for a revision of these expectations regarding ownership of ideas. In these considerations, I hope to argue that one can reimagine a creative network that is not fueled by direct ownership, but

4. William McGeveran, "Selfmarks: Published in Houston Law Review," *Houston Law Review* 56, no 2 (December 17, 2018), https://houstonlawreview.org/article/6777-selfmarks.

rather recognized as a communal and collaborative space. My argument will be three-fold. First, I will describe Romantic notions of creativity that came about during the Enlightenment, as well as G.W.F Hegel's Personality Theory which argues for the importance of intellectual property regarding self development. I will then offer a revision of this theory by exploring Postmodern principles such as the fluidity of meaning, pluralism, and the rejection of hierarchies to argue that replication within a creative sphere is extremely nuanced and cannot be reduced to singular, definitive credit such as that given via trademarks or copyrights. I will then bring in a Marxist perspective to consider how economic structures, specifically that of capitalism, influence one's view of intellectual property. This paper will not offer an explicit formula for redefining the ways in which credit is given to thinkers, nor is it calling for total anonymity of creators. Rather, I aim to locate potential concepts that exist within Western thought which influence one's cultural understanding of the value of ownership in order to consider how these understandings can be reconsidered in more fruitful ways, towards a more collaborative conception of a creative network.

## Romantic and Modern Conceptions of Creativity

To begin, I will locate a rather dated theory of creativity which arose during the Enlightenment Era: the Romantic understanding of creativity regards ideas to be born entirely from one's mind, as if creativity is vacuum-sealed within an individual. This notion disregards all outside influence of other thinkers, content, and an individual's placement within a cultural and social context. This view is problematic because it ignores the volume of information that thinkers and creatives come into contact with which then influence their own beliefs. Individuals are situated within specific contexts, and thus, their own ideas and positions are specific to that context. A contemporary understanding of creativity no longer accepts

this 'immaculate conception' regarding coming up with and engaging with ideas. It is important to define and recognize this Romantic notion, however, because it has influenced theories about creativity which still hold (at least subliminal) significance within American culture. It is further important to differentiate this Romantic version of creativity from a more contemporary version which considers how one's cultural context influences one's thought. For the sake of clarity, I will refer to this conception of Enlightenment era creativity simply as *romantic creativity*. I will begin to address a different, more contemporary notion of creativity—referred to as *intersubjective creativity*—in this section, which challenges certain aspects of the Romantic notion.

One argument against a Romantic notion comes from Jessica Litman, a scholar who engages with concepts regarding authorship and legal ownership of intellectual property. She claims "all works of authorship, even the most creative, include some elements adapted from raw material that the author first encountered in someone else's works" and that "the very act of authorship in any medium is more akin to translation and recombination than it is to creating Aphrodite from the foam of the sea."[5] She claims that this intersubjective understanding of authorship is extremely common, but often goes unmentioned. She articulates it well in stating that authors create work without distinguishing where inspiration comes from, whether that be from new ideas, past experiences, or other works they have read.[6] Instead, works take this entire range of experience where the author filters them through a "combination of absorption, astigmatism, and amnesia."[7] Rather than being mere "parasitism," borrowing is "the essence of authorship."[8]

With these critiques, one can better envision an updat-

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5. Jessica Litman, "The Public Domain," *Emory Law Journal* 39, no. 4 (Fall 1990): 916.

6. *Ibid,* 1010.

7. *Ibid*, 1011.

8. *Ibid*, 967.

ed understanding of creativity, which still accepts an individual creator, but also recognizes an intersubjective, cultural context. This new understanding relies on the shifting conception of individuality; individuality is expanded and understood more broadly. This individuality then depends on more than one individual, as multiple individuals make up a social, intersubjective context.

When trying to reimagine intellectual property as more intersubjective, however, the ethics regarding the delegation of credit naturally arises, which I will further expand upon later in the paper. Although the goal is to shift into conceptualizing a creative network which is cooperative and intersubjective, recognizing individuality is inevitable simply because individuals make up a community. So, how does individuality manifest in a creative network? Further, how does creativity reflect one's individuality, and how can we recognize both individuality and collectivity in order to foster a more inclusive and generative creative world?

One method that has influenced the discourse on intellectual property is that of G.W.F. Hegel, referred to as the "personality theory." This theory adopts a similar notion of creativity to that of the Romantic vision. I am addressing his theory, however, because I believe it maintains insights which address these questions of individuality that arise from the aforementioned contemporary, intersubjective notion of creativity.

## The Personality Theory

In his writing titled *Philosophy of Right* [1820] Hegel claims that property is an avenue for self-actualization, self-development, and self-expression. Ownership allows recognition of one's personhood.[9] He specified that this property includes

9. Muhamad Helmi Muhamad Khair and Haswira Nor Mohamad Hashim, "Justifications of Intellectual Property Rights: A Discussion on Locke and Hegel's Theories," *Jurnal Hukum Novelty* 11, no. 2 (2020): p. 117, https://doi.org/10.26555/novelty.v11i2.a16595.

"mental aptitudes, erudition, artistic skill, even things ec-clesiastical…inventions, and so forth."[10] He recognized that "it may be asked whether the artist, scholar, etc, is from the legal point of view in possession of his art, erudition, ability to preach a sermon, sing a mass, etc., that is, whether such attainments are 'things,'" because "while possession of these may be the subject of business dealings and contracts, as if they were things, there is also something inward and mental about it."[11]

It is tough to grasp how something "inward and men-tal" can serve as a "thing" with legal implications of own-ership. However, one can intuitively understand that one's creative works serve as direct self-expression, for it acts as a physical manifestation of one's mind. This assumption around creativity is a direct product of Hegel's version of philosophical idealism. Hegel believed that one's mortal state comes before this immortal and infinite being; one is not born with some metaphysical legacy, but must create it for oneself. Recognizing one's thoughts and internality as something to be manifested physically in the world is a way to transcend this mortality and act in alignment with this 'Absolute Idea.' The 'Absolute Idea' is the highest form of reason; it is seen as a near perfect endpoint where no situation or truth contradicts itself. So, given this concept, manifesting these internalities into the physical world becomes a way to pursue this Abso-lute Idea. There is satisfaction in creating something new; of course a painting or an essay will feel like a reflection or product of the creator's own mind. The personality theory relies on an idealist perception of transforming something intangible into something tangible. This process and transfor-mation constitutes Hegel's larger concept of work, which is necessary for self-actualization. Hegel's reasoning rests in this notion that a person has an internal existence and an external

10. Jeanne L. Schroeder, "Unnatural Rights: Hegel and Intellectual Property," *SSRN Electronic Journal*, 2004, https://doi.org/10.2139/ssrn.518182.
11. Schroeder, "Unnatural Rights: Hegel and Intellectual Property," 453.

existence.[12] This internal existence is a will or a potentiality, while the external existence refers to the "sphere of freedom."[13] For Hegel, controlling and manipulating objects, both tangible and intangible, is how one is able to obtain a measure of freedom: their will takes form in the world. This theory asserts that a thinker or creator has moral rights to their works due to the fact that their creativity is a part of their internal existence. Creation is thus attached to one's will, and is an avenue for self-actualization and obtaining freedom. If one's intellectual creations are an extension of their personality, then property rights are justified.

Hegel also asserts that ownership of this intellectual property is important for the development of one's personality not through the creator's relationship to the property, but rather how the property affects one's relationships that exist in the external world. These relationships with others—and the *recognition* which they provide—are what transforms abstract ideas into physical 'potentiality' for self-actualization. In other words, the **"**intersubjective *recognition* by others of the person's property rights over the object is what matters, not the relationship with the object itself."[14]

Within the discourse of intellectual property, there are a few arguments against the personality based theory, mostly which are concerned with the more technical or legal implications of property rights. How can one claim ownership of thoughts, feelings, and experiences when these are all inward? It is true that these inward realities are all a part of an individual's lived experiences and make up one's personality, but it is difficult to establish relevant moral claims when these things are not attached to a tangible object. Even if claims could be made to protect one's thoughts, it does not necessarily follow that one's personality is fundamentally infused in one's

12. Khair and Hashim, "Justifications of Intellectual Property Rights," 117.
13. *Ibid*, 117.
14. Adam Moore and Ken Himma, "Intellectual Property," *The Stanford Encyclopedia of Philosophy* (Winter 2018 Edition), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/win2018/entries/intellectual-property/.

work.[15] So, in general, the argument against the personality based theory rests in the fact that it is impossible to own one's personality and create legalities solely around this idea. The 'selfmark' example does a good job of showing how abstract this kind of ownership can become. 'Selfmarks' are quite Hegelian, in the sense that they rely on external recognition and reify one's influence. While they do not accurately display Hegel's definition of intellectual ownership ('that which…'), they do provide an example of how these modern conceptions have manifested in a contemporary landscape. Holding the personality theory next to our tedious, legal processes of copyrights and trademarks demonstrates how highly we value personal ownership.

Here, Hegel's theory holds merit in helping one understand the emotional reaction that takes place in having one's ideas copied. There is an intuitive appeal to it; it makes sense to want credit and recognition for one's own thoughts and articulations of one's experience. Further, if one's creations (art, writings, etc.) are part of the public sphere and influence one's reputation/define one's role in society, replication of one's creations by others without giving due recognition to the original creator does seem to be ethically wrong. Even any direct reference to one's work without giving credit and recognition to the original creator would be robbing them of their potential to self-actualization, per Hegel's reasoning, because they would not be getting recognized for the impact they are having on the culture or subculture in which they are operating.

In the following section, I will address a Postmodern critique of this highly individualized perspective of creativity. Postmodernism offers a third notion of creativity, separate from both the Romantic vision, as well as the intersubjective vision, which I will refer to as *anonymous creativity*. This notion requires a complete separation of author from a creative

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15. *Ibid*, under "Personality-Based Justifications of Intellectual Property."

work. These postmodern ideas often surface in discussions around the "death of the author."

## Postmodern Approach to Authorship

In an essay titled "Kant and Fichte: Modern Foundations of the Notion of Copyright," Gilbert Lorachelle addresses the Romantic notion of creativity and offers a critical analysis of plagiarism within a postmodern context. This essay focuses specifically on works of writing, but the ideas which arise are relevant to all forms of creative thought expressions. He begins by setting up an infrastructure for what became the publishing industry. He calls this development the "legal administration of individualism," specifically focusing on the technical distribution of ideas, which he describes as a product of the Romantic notion of creativity.[16] He offers a vocabulary to orient one within this framework: there is the *author*, the text becoming *literary property,* a contract with a *publisher*, the public sphere (which is the presumable destination of the text) as the *readership*, mass production of the text into a *copy*, commercial regulation through a *bookstore,* and lastly, the registration of an intellectual work known as *copyright*.[17] Explicitly stating this linear progression, as well as naming the objects which are involved, helps one clearly see all the moving parts of publishing. Much like notions which align with the Hegelian personality theory, this infrastructure allows one to locate the author as the source of thought. The groundwork for publication is also necessary in understanding the Modern principles which allowed such an industry to form in the first place, and thus, understanding the Postmodern principles which challenge it: postmodern discourse has worked to challenge the above notion of authorship.

16. Gilbert Larochelle, " From Kant to Foucault: What Remains of the Author in Postmodernism," in *Perspectives on Plagiarism and Intellectual Property in a Postmodern World* (Albany: State University of New York Press, 1999), 121.
17. *Ibid,* 121.

Postmodern thought asserts that meaning is constantly evolving and changing, and thus, challenges the idea of plagiarism. One argument against plagiarism takes into consideration the ways context and content interact. If meaning is constantly evolving, context is a key component in one's understanding of a work. If context affects the meaning of a work, then perfect  replication is almost impossible. Thus, postmodern thinkers believe that plagiarism becomes an "idealization of the report of other's ideas."[18] While this perspective theoretically works to express the complexity of information, it is realistically absurd. Context does influence a work, but it does not make the work totally exempt from replication. Also, in terms of legality, plagiarism cannot be written off so simply. Consider someone publishing an essay for a certain literary journal, where months later the same essay is published verbatim by another writer under a different journal with a different theme, mission, or readership. In that instance, the context is completely different, but claiming the second published essay a separate work worthy of its own creative value would be incorrect.

A postmodern response to the modern conception of authorship is severe and claims that *any and all* work is a result of intersubjective thinking, and thus, considering anything to be original is inaccurate. Larochelle writes, "Any recognizable or simply communicable work goes through a network of signs, through the multiplicity of voices that proliferate within linguistic experience. So much so that nothing exists that is not already subject to a practice of intersubjective nature."[19] While this response is perhaps quite extreme, it does a good job at highlighting the importance of contextual shifts and complexity. These ideas are imperative for understanding that any process of thought relies on external factors; ideas are not perfectly formed alone in one's mind. However, one must still recognize that these ideas from postmodernism often push the

18. Larochelle, "From Kant to Foucault," 127.
19. *Ibid,* 127.

idea of subjective meaning so much so they ignore the importance of an immovable cultural context.

To take the issue of plagiarism further, Larochelle considers Lyotard's ideas around literary property, in which Lyotard states, "Literary property does not represent a big problem" but simply "a case of application of the law of values in the capitalist system."[20] Here, Lyotard suggests that plagiarism is simply a product of the industry created for this distribution of thought. He claims that attention would not fall on it otherwise. He is thus not interested in the intricacies of law in protecting intellectual thought.

Postmodern thought views the very activity of writing as extremely relational to preexisting thought, meaning it is discursively embedded in a historical, cultural interworld. This view claims that writing is a matter of reconstructing and reorienting material that already exists. The end point—or the 'postmodern utopia,' Larochelle claims—is total anonymity; all works of writing would be considered communally owned. This utopia would require a total dissolution of the self. It argues against a concept where the author in a contemporary context is nothing more than a product of regulation and commercialization of writing, similar to that of the Romantic author. The contemporary notion of authorship which this postmodern argument is critiquing refers to that which prioritizes a product, or what Larochelle refers to as the copy, which can then be sold to a readership. This process is less concerned with the content or free flow of information, which would be the postmodern priority, and more so concerned with the potential value of and the ways in which this content and information can be sold.

I am not calling for total anonymity of the creator/author, nor do I think anonymity would be the proper response to the issue of ownership within creative spaces. I do, however, think one can glean certain points from postmodernism to

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20. Larochelle, "From Kant to Foucault," 128.

help reimagine a network that is less concerned with owner-ship. These perspectives are helpful in recognizing the complexity and nuance that arise when trying to tie down credit. Further, they suggest that there is a rich ecosystem of ideas which are already present, and one will unavoidably engage with this ecosystem during the process of one's own thought.

Contemporary examples can display how these post-modern principles manifest. The internet is a rather obvious example, as it is a space with a seemingly infinite depth which fosters such diverse thought and communities. Social media especially highlights the ways in which the internet cultivates such complexities. In a space where one chooses who one interacts with, there are frequent incidences of content being replicated. Instagram has a feature where a user can repost something that has already been posted to one's story profile. Naturally, trends or social developments are easy to locate by noticing the frequency at which something is reposted. From memes (an online visual which communicates a joke) to info-graphics (a condensed, digestible slide which are meant to be politically informative), images are constantly being reposted in different contexts. Both memes and infographics have been critiqued for their efficacy in communicating certain ideas. Infographics have been so overused that users have begun to mock them, claiming that the information is typically untrue or easily forgotten. Likewise, memes sometimes require so much context, the thesis is sometimes lost.

Reposting an infographic could mean something completely different on one person's profile than another, depending on the intended sincerity. Some users will post an-other user's sincere post, making fun of it and thus changing its meaning. In order to locate the meaning of a repost, the viewer must understand the context of the reposter's person-ality and general online presence. In this sense, anonymity would not work, because authorship—or rather, who chooses to disseminate certain content—becomes vital in understand-ing a post's context and meaning. In this instance, however,

authorship and viewership blur together a bit. A new kind of anonymity surfaces, where it is not really important who came up with the original content of the post: if someone reposts it in an agreeable way, the reposter gets "credit," as in, their online persona is aligning correctly with the image they are attempting to promote.

The postmodern goal of completely decentering the self does hold a few flaws. These postmodern views are not wholly about anonymity, but also about critiquing the notion that authorship is singular. Anonymity is a result of this critique, and does not hold up for a few reasons. First, thinkers and artists must be held accountable for what they produce: in a climate of total anonymity, one could publish hateful art or slander without consequence. Assuming anonymity could also potentially lead to the loss of pride, and therefore a loss of care in what a creator produces. Further, if authorship becomes completely anonymous, then the important points from Hegel's personality theory—such as the actualization which is allowed in being identified with specific works—are totally dissolved. Maintaining some level of credit allows for these issues to be avoided.

## Hermeneutic Conceptions of Meaning

Hermeneutics, or the study of interpretation, could offer a way to balance these realities of both the subjectivity of a creator and the ways in which a creator exists within and is influenced by certain contexts. This understanding of authorship recognizes the intersubjective reality of creativity in a shared interworld, while also naming the ways in which creativity exists in a shared interworld. Thinkers like Merleau-Ponty, who heavily influenced postmodern thought, were able to identify the generative nature of creativity which still exists within specific cultural contexts.[21]

21.Diane Leonard Hinkle, "The Voices of Silence," *Colloquia Germanica* 8 (1974): 240–51, http://www.jstor.org/stable/23979715.

This claim allows for space to imagine a form of creativity that balances both a Romantic, Hegelian individualism which fosters self development, as well as a recognition of the collectivity in creative spaces. This balance recognizes the importance of accepting both the ways in which artists and thinkers are influenced by those around them, and the ways they are already sedimented into the contextual history of their medium. These influences are such an important element in this conception of creativity that it shifts the ways credit ought to be determined in a broader sense. With these hermeneutical perspectives, one can reject the notion of total anonymity or "death of the author" from postmodernism and recognize the merit in individual self development without falling into the naive assumptions of Hegelian idealism or hyper-individualistic Romanticism.

So, in taking these understanding of creativity into account, the Hegelian personality theory can be reconsidered, especially the aspect of the theory which relies on the idea that owning thought is imperative for self-actualization. Moving forward, I will address the ways in which one can reconsider this aspect of personality theory in order to make it more contemporary (with a contemporary understanding of intersubjective creativity) and more fruitful.

I would like to argue that the personality theory— more specifically, the aspect of the theory which states that one's inner experience shapes their selfhood—is not problematic in itself. However, under a capitalist system, this theory becomes problematic because it creates a tendency to attach self-actualization to commodification. Instead, I will argue that this personality theory requires modification, after considering the above notions of creativity, to create a more holistic understanding of how thinkers and artists self-actualize. This modification highlights the positive aspects of the theory—such as the importance of pursuing creativity with the goal of understanding and defining oneself within their social context—as well as the hermeneutic notion of creativi-

ty, which recognizes the ways interpretation of one's context influences the ways in which one engages with their own creative nature. In the following section, to my reading of this "personality theory" that includes the hermeneutic aspect of the creator/author, I will also adopt a Marxist perspective regarding individuation under capitalism to explain how self-actualization and self-commodification merge together, and why a modification of the personality theory is necessary.

## Self Commodification and Capitalism

Marx describes *labor power* as one's capacity to do work. This is different from the term *labor* which is the physical act of work. Marx identifies that labor power determines one's worth in a capitalist society. He writes:

> [The worker] represents his capital in commodity-form, which yields him a continuous revenue. Labour-power is indeed his property (ever self-renewing, reproductive), not his capital. It is the only commodity which he can and must sell continually in order to live, and which acts as capital (variable) only in the hands of the buyer, the capitalist. The fact that a man is continually compelled to sell his labour-power, i.e., himself, to another man proves, according to those economists, that he is a capitalist, because he constantly has "commodities" (himself) for sale.[22]

Marx's claim here, that one is forced to commodify oneself in order to live under capitalism, is interesting to look at next to Hegel's personality theory in which one can self-actualize via their intellectual pursuits. In a contemporary economic context, labor power is increasingly understood as one's ability to generate creative ideas, or one's ability to manipulate or use language correctly. I will refer to this type of

22. Karl Marx, *Capital Vol. II*, trans. I. Lasker, (Moscow: Progress Publishers, 1958), 444.

labor as *intellectual labor*. For example, a lot of jobs available to college educated, middle class workers include positions with titles such as 'development,' 'human resources,' or 'consulting,' which largely entail communicating with other companies or workers about the inner workings of said company. The product here is intangible communication instead of a tangible product. This type of labor can be contrasted to that which was more commonly described at the time of Marx's writings, which is physical and repetitive labor, such as a position in a factory. An example of such would be a worker completing one task over and over in a factory to create a physical object for sale, where the product is tangible.

 With these types of labor, Marx describes their effects as a type of alienation. This alienation occurs because a worker's labor, which Marx describes as a fundamental social aspect of personal individuality, reduces the worker to an instrument. This reduction is thus dehumanizing, and does not allow for an individual to ever truly self-actualize.

 All of that considered, it is worth considering the consequence of how one's creative thought serves both as an avenue for self-actualization (à la Hegel) and labor power which reduces them to an instrument of capitalism (à la Marx). To consider this, we can return back to the example of celebrities copyrighting things in order to control their public persona. A public persona is typically something created by one's actions, personality, and general reputation among a community; it is a reflection of one's character. Now, one's persona can be both an expression of the self for actualization or self-development, as well as a way for one to capitalize off of their personality. This example displays how the line between self-expression—an external impression of one's identity—and commodification can easily become blurred.

 It is important to consider that this type of self-commodification is not always the case; art has value in itself, and does not always exist to be sold for capital. I am arguing that this potential for capital is often what leads to the complica-

tions of self-actualization getting tied up with commodification. In the below section, I will explicate a few contemporary examples of this complication taking place.

## Contemporary Examples of Art, Authorship, and Ownership

With the understanding that an artist can own their own ideas, such reasoning allows one to understand that these ideas can then potentially be owned by someone else, through the form of purchasing the manifested object of art. Here, I would like to offer some contemporary examples of the ways in which art has become commodified, in order to show the ways in which commodification can potentially override expression. Some ownership of art completely undermines the purpose of self-expression at all, and simply exists to display status. Of course, this has been happening for all of history, but the contemporary example of the NFT illuminates more complexity when it comes to the commodification of art.

An NFT, or non-fungible token, is a tradable unit of data stored on a blockchain. These units are specific files, such as a JPEG image or video clip, which function similarly to Bitcoin or Ethereum. This means they are currency in themselves instead of just files up for purchase. However, NFTs differ from other types of cryptocurrencies because they all hold different values: they are all unique and assigned an arbitrary price. There are arguments which claim that NFTs allow for artists to finally get proper payment for their work, which would not happen in the art world before.[23] The explanation for such an argument follows that these art pieces hold higher values, and the money goes directly to the artist. This functions differently than a lot of other art markets, where money is also delegated to those who publish, distribute, and so forth. Although NFTs offer a way to bypass this barrier

23. Martin Zeilinger, "Digital Art as 'Monetised Graphics': Enforcing Intellectual Property on the Blockchain," *Philosophy & Technology* 31, no. 1 (2016): 15-41, https://doi.org/10.1007/s13347-016-0243-1.

that is so common for artists getting proper payment, it is also a clear example not only of how capitalism dictates the art world, but also how ownership of art is so highly valued. When purchasing an NFT, the buyer is not granted copyrights to the file, but only a separate certificate which proves ownership.

To highlight how lucrative this trading can be, one can look at the example of the Bored Ape Yacht Club, a website owned by two men who generate avatars of apes for purchase. New Yorker writer Kyle Chayka describes, "BAYC's initial batch of NFTs brought in more than two million dollars. The collection has since seen almost a hundred million dollars in trading, with the cheapest apes often going for almost fourteen thousand dollars."[24] He explains that Twitter users will buy one of these gorilla avatars to use as a profile picture to get a larger following, show 'allegiance,' or belong to a specific group of people online.[25] Simply put, it is a way to show status and build one's platform online.

The example of an NFT is relevant because it indicates how extreme capitalism is in the West. Because of the way NFTs are used and traded, these currencies breed an ownership-minded trading culture. They are mass-produced and traded for social capital, which greatly influences an artwork's purpose. Further, artworks which are turned into NFTs are not always made by people; some of them are AI generated.[26] This clearly shifts the priority away from creative artworks being that of human self-expression to that of status, ownership, and profit. In such a climate, how can art be seen as avenues for self-actualization at all?

While NFTs are a clear example of the ways in which

24. Kyle Chayka, "Why Bored Apes Avatars are Taking Over Twitter," *New Yorker*, July 30, 2021, https://www.newyorker.com/culture/infinite-scroll/why-bored-ape-avatars-are-taking-over-twitter
25. *Ibid.*
26. "The Decentralized Autonomous Artist," *Botto*, accessed March 14, 2022, https://botto.com/.

monetary value coupled with new technological possibilities skews the ways art functions as a self-actualizing practice, it does not totally consider art as direct reflections of the self, such as what Hegel described. However, their function in building online status and allowing for individuals to align themselves with certain subgroups does display how capitalism and the internet are influencing art's function. The internet offers platforms for individual artists to publish themselves and have a voice, but in order for such content to be consumed, one would need an online following. Sites such as Patreon or Substack are membership platforms that allow for individuals to set up subscription based services, which often consist of podcasts, essays, or any content one wishes to sell. Oftentimes these pages are advertised on individuals social media platforms. With this, one naturally creates a certain personality to go along with their account. While perhaps not completely intentionally, one's online persona quickly turns into a tool used to sell their art and content. This function creates a type of creativity separate from both the romantic and intersubjective vision: online personas are in themselves a commodity, while also functioning as a vehicle to promote one's creative pursuits.

  This function is similar to that of the celebrities building a public persona, but on a smaller scale. The main point I would like to make with this example is that it is nearly impossible to authentically—meaning perfectly in line with one's own vision and values—curate a platform for oneself when the interest aligns with creating sellable content for one's work. While making money from selling one's art or writing is not inherently reductive, money does inevitably influence the ways in which a persona is created; the monetary aspect will always be considered in this context and thus art, unless it is a non-monetized hobby or otherwise exists outside of monetary pursuit, can never be solely about self-expression and will lead to some form of self-commodification. That is not to say some artists are able to maintain authenticity while

also having patrons, but rather that commodifying self-expression skews its function in self-actualization, because the goal becomes oriented around an audience, and thus the influence one has. Further, attention must be divided between one's work and the ways in which they can promote themselves or obtain an audience. One's work must then mesh with one's persona, and the two could potentially influence one another.

I argue that reimagining thought to be recognized as communally owned and unattached to commodification would allow for an authentic creative network which fosters self development and exploration without limit. Such a concept would create total creative liberation free from the need for capital.

## A New Vision For Artistic Expression Free of Ownership

Another perspective which highlights the complexity of authorship, as well as offers a more fruitful architecture for creative collectivity, is copyright scholarship regarding the public domain. It is argued that the existing notion of the public domain is generally negative due to the connotation that what exists in the public domain is the "overflow" of thought that does not have enough merit to be copyrighted or protected. This notion suggests that there is a hierarchy of thought which is determined simply by its monetary value, since that which does not exist in the public domain can only be accessed by paying for it.

Because of that negative connotation, as well as the potential such a domain has to foster free thought and access to information, there is a call to provide clear, affirmative theory which advocates its importance. As it currently stands, the public domain is considered to be a place where the 'leftovers' live; anything that is 'not substantial' enough to receive legal copyright protection falls into this domain.[27] While this

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27. Christopher S. Yoo, "Rethinking Copyright and Personhood," *University of Illinois Law Review* 2019, no. 3 (2019): 1072.

is generally seen as a bad thing, current scholars argue for its potential in forging a space of free access to and abundance of diverse thought. Jessica Litman defines the public domain as a completely free space which contains works which do not require permissions to access. In such a space, nothing is copyrightable.[28] Copyright scholars like Litman argue that this freedom and open access makes the public domain extremely positive and redeemable, because it fosters a rich environment of thought. To have a space where information is totally accessible and free of copyright would create a principle which aligns with the goals of a more decentered and dynamic creativity.

This position is fruitful in reimagining what it means to have a collective creative network, because it offers a more concrete ground of what a network can look like with the concept of a public domain. Further, it defines authorship as inexorably tied to a collaborative of some sort. It still nods to the fact that creators have their own ideas, but it also recognizes that these ideas mesh with ideas that are preexisting. To set up a clearer avenue for understanding what this new conception of creativity would look like, I would like to modify the three aforementioned notions of creative authorship to offer a fourth, which places emphasis and merit on the process of development which takes place in a creative pursuit, rather than on a finished product: this would be a notion of something called a dynamic creativity. This notion not only suggests that self-actualization is constantly ongoing, but it also resolves the issues of commodification which arise when viewing expression alongside labor, because this notion ensures that one's creativity is ever changing, and thus, the identity and recognition which comes from these creative pursuits is also fluid. Then, the product, or influence that a work has, is less im-

28. Litman, "The Public Domain," 965-1024.

portant because one can accept that there is no true endpoint. This shift would push back on any ideas around scarcity of new thought, and encourage a more prolific pool of creative ideas.

Christopher S. Yoo writes an article exploring similar relationships, specifically that of copyright and personhood, in which he dissects the Hegelian personality-based theory of ownership and the importance of creativity. Much like the theories that regard authorship as a process of digesting other information, Yoo argues that it is imperative to locate creativity as an ongoing process instead of something which creates a static, finished product. This conception of creativity claims that the *process* of creativity itself leads to the development of selfhood.[29] This differs from the Hegelian notion because Hegel argued that the ways other individuals responded to the external, consumable products of one's thought was more important in self-development than the process of creation itself. So then, self-actualization is seen as a "heuristic journey of experimentation and discovery and not just a matter of the degree of control over a static artifact."[30] With that consideration, one can still self-actualize without "owning" a finished product. The acts of consuming art, considering it, and producing one's own creations are all part of creativity, and can all contribute to self-actualization.

This process generally requires access to open information, as well as a rejection of more traditional, Hegelian ideas of owning intellectual property. If a thought is protected or owned, and claimed to belong to someone, the creative process is then stifled if other artists cannot have access to it. The more conventional version of the personality theory is its interest in initial authorship. In fact, preserving a work's original meaning is considered to be so important, that the initial author is thought to be entitled to controlling not only the original work, but derivative works as well.[31]

29.Yoo, "Rethinking Copyright and Personhood," 1072.
30. *Ibid*, 1073.
31.Yoo, "Rethinking Copyright and Personhood," 1072.

To resist such stifling which arises from controlling ownership of thought, a new vision of a public domain can be helpful. An affirmative notion of the public domain can allow for a broader view of both creativity and ownership to flourish. Under this dynamic view of creativity, rights of ownership would also include rights of dissemination and engagement with preexisting works. A good example of this would be sampling music. Artists will engage with, borrow, and manipulate preexisting works, while still maintaining their own creativity and producing new art.

If these rights of ownership are shifted, then the ways in which creators interact with others' thought, and the overall understanding of the ways in which thought can be owned, can shift. If ownership is about control, in the way that Hegel describes in his personality theory, that is, control over dictating how much influence your art has on the culture, or the overall value which your art has, then the process of creativity is stifled, and there will be less information available to interact with. If we locate the valuable part of creativity as the process of creating something instead, or this in-between space of having an idea and manifesting it into something tangible, then we can recognize that we require other people's art to interact with and be influenced by. Then, the focus is less so on protecting our public persona, or protecting our ideas to be our own, and we can understand ideas to be this pool or resources to explore and locate ourselves in relation to other creators. This still allows for recognition, because we realize that we have a place in the creative pool, but it also allows for a more fluid identity, and we are less concerned with controlling how others see us, because our reputation is no longer an asset we can sell. This shift would allow for a more generative creative process and network.

## Acknowledgments

# Bibliography

Chayka, Kyle. "Why Bored Apes Avatars are Taking Over Twitter." New Yorker, July 30, 2021. https://www.newyorker.com/culture/infinite-scroll/why-bored-ape-avatars-are-taking-over-twitter.

"The Decentralized Autonomous Artist." *Botto*. Accessed March 14, 2022. https://botto.com/.

Hinkle, Diane Leonard. "The Voices of Silence." *Colloquia Germanica* 8 (1974): 240–251. http://www.jstor.org/stable/23979715.

Khair, Muhamad Helmi Muhamad, and Haswira Nor Mohamad Hashim. "Justifications of Intellectual Property Rights: A Discussion on Locke and Hegel's Theories." *Jurnal Hukum Novelty* 11, no. 2 (2020): 114-123. https://doi.org/10.26555/novelty.v11i2.a16595.

Larochelle, Gilbert. "From Kant to Foucault: What Remains of the Author in Postmodernism." In *Perspectives on Plagiarism and Intellectual Property in a Postmodern World* (Albany: State University of New York Press, 1999), 121-131.

Litman, Jessica. "The Public Domain." *Emory Law Journal* 39, no. 4 (Fall 1990): 916-1024

Marx, Karl. *Capital Vol. II.* Translated by I. Lasker. Moscow: Progress Publishers, 1958.

McGeveran, William. "Selfmarks: Published in Houston Law Review," *Houston Law Review* 56, no 2 (December 17, 2018), https://houstonlawreview.org/article/6777-selfmarks.

Moore, Adam and Ken Himma. "Intellectual Property." *The Stanford Encyclopedia of Philosophy* (Winter 2018 Edition), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/win2018/entries/intellectual-property/.

Schroeder, Jeanne L. "Unnatural Rights: Hegel and Intellectual Property." *SSRN Electronic Journal*, 2004. https://doi.org/10.2139/ssrn.518182.

"Taylor Swift Trademarks." Gerben Law Firm. Accessed January 21, 2021. https://www.gerbenlaw.com/trademarks/musicians/taylor-swift/.

Tiffany, Kaitlyn. "Why Celebrities Try to Trademark Their Catchphrases and Baby Names." Vox, April 19, 2019. https://www.vox.com/the-goods/2019/4/19/18507920/celebrity-trademark-history-baby-names-taylor-swift.

Yoo, Christopher S. "Rethinking Copyright and Personhood." *University of Illinois Law Review* 2019, no. 3 (2019): 1039-1072.

Zeilinger, Martin. "Digital Art as 'Monetised Graphics': Enforcing Intellectual Property on the Blockchain." *Philosophy & Technology* 31, no. 1 (2016): 15–41. https://doi.org/10.1007/s13347-016-0243-1.

**Mya Goodman**
"Sacred"

# Using Embodiment To Boost Creativity Among Musicians

## Abstract

This paper aims to develop and explore embodiment theories as they relate to music and teaching and to outline exercises that help foster creativity among individual musicians. This research study compares a well-known method for boosting creativity with a newly developed embodiment technique. The control of walking outside in nature shows a boost in creativity among the musicians, and the embodiment exercise shows a similar effect. This data is used to formulate a set of guidelines for music teachers and educators to use in order to boost and foster creativity among their students in a pedagogical setting.

## Evan Timothy Woody | Music and Psychology



Evan Woody graduated from Warren Wilson with degrees in Music and Psychology. He used the experiences and knowledge from these studies to create his combined capstone. Evan's time at Wilson can best be summarized as participating on various crews and exploring many new activities, including mountain climbing, biking, and performing in the Jazz, Improv, and West African ensembles. He is currently in the final stages of converting a school bus into an RV for travel around the United States.

"You ask me where I get my ideas. That I cannot tell you with certainty. They come unsummoned, directly, indirectly—I could seize them with my hands—out in the open air, in the woods, while walking, in the silence of the nights, at dawn, excited by moods which are translated by the poet into words, by me into tones that sound and roar and storm about me till I have set them down in notes." — Ludwig van Beethoven

As a musician, I am no stranger to the creation process. In fact, I find myself at times actively seeking this. There is an electricity to this act of creating. It is energizing to build upon something until one's work culminates into a complete idea. This work often builds upon the years of study in music, trial and error, or unrelated experiences that one has had throughout their life. Or perhaps it comes from the combination of previously uncoupled ideas, a new take on something well established, or even the rare spontaneous creation of something truly original. Each one of these has a spark of creative thinking from which it ignites.

For me that spark can come from what seems like anywhere. It can ignite from something I picked up in a book, a conversation with a friend, or the natural world around me. But what seems to be remarkably special yet surprisingly common is when a mistake or an accident gives me that spark. The accident or mistake is well known to any musician and can be frightening—or liberating—depending on how you frame it. When this occurs, I find myself being pulled to tease out what just happened. I feel like there is something to be found in that new sound or a way of playing that was previously locked away.

I wanted to lean into this and found myself looking more broadly at how creativity can be induced through novelty and unique limitations. What if we could capture creativity and be able to call upon it? What if we had some kind of

piezoelectric crystal but for creative sparks instead of electrical ones? This idea could mean entirely new ways of writing and learning, and it would be a powerful tool for musicians like myself. Therefore, I am using the research process to explore ideas around creativity and methods for boosting creativity.

This paper aims to create a method for boosting creativity among musicians with the goal of making the benefits of creativity and creative thinking accessible to more individuals. This study is designed to answer the following research question: Can an embodiment exercise be developed to boost creativity among musicians? This research is conducted by comparing and experimentally testing a known creativity-boosting technique—walking outside in nature—with a developed intervention based on embodiment theory. This experiment aims to provide music educators with a new and accessible way to teach creativity to students in a variety of settings that work for any age and experience level.

Creative thinking is often the foundation of huge discoveries, including things such as breakthroughs in science, business, and the arts. Creativity has proven to be a teachable subject, and over the years, it has gained more and more importance in education systems and professional fields (Scott et al., 2004, Gofton, K. 1997). Therefore, teaching and fostering creativity can benefit all people regardless of age and occupation.

## Literature Review

### Creativity

Psychologist J.P. Guilford defines creativity as "behavior, which includes such activities as inventing, designing, contriving, composing, and planning" (Guilford, 1950, p. 444). He states that creativity, no matter how insignificant or infrequent, is a trait shared by all people. Importantly, he then adds that creative people are just more likely than non-cre-

ative people to experience moments where they are creative and that these moments of creativity might be of more significance (Guilford, 1950).

Researchers often differentiate between what they refer to as "Big C" and "Little C" creativity. *Big C* creativity is reserved for the momentous discoveries, inventions, or ideas that only happen occasionally and to a select group of thinkers and achievers. *Little C* creativity, on the other hand, is the creativity that can happen as a result from just living life day-to-day and solving problems as they arise. This could arise from coming up with unconventional ways to fix problems or to more efficiently finish tasks. This is much more common and is often more studied in creativity research. *Little C* creativity is often measured with puzzles or creativity tests (Sternberg, 2020).

These differing definitions of creativity in literature showcase that even in the field of creativity research there is significant variation between what creativity is or how it can be measured and defined. This study focuses on the *little C*. In our minds we often forgo this idea of routine creativity in exchange for the more interesting *big C* creativity. The tendency for us to see creativity as this remarkable event that comes rarely to anyone, but especially not to the layman, is a harmful view. This shields us from recognizing the creativity that occurs in everyday life.

### *How to Measure Creativity*

Due to the complex nature of creativity, a variety of tests and scales have been developed to quantify creativity within the academic community. These different tests vary widely in how and what they measure. The Consensual Assessment Technique or CAT (Amabile, 1982) can be used for any creative domain, and its proponents believe that the best judges of a creative work or piece are experts from within the field (Kaufman et al., 2009). This test is widely accepted as the gold standard for creativity testing because it uses the

expertise of many others that are within the field in question. The problem with the Consensual Assessment Technique is that it requires a lot of time and resources to properly administer to which many studies do not have access. In addition, there is no consensus on what an "expert in the field of study" should be.

James Kaufman developed the Kaufman Domains of Creativity Scale (K-DOCS) to measure creativity using a self-reported survey with Likert style questions (Kaufman, 2012). The survey asks participants to rate how creatively they view themselves compared to their peers in a multitude of domains and situations. The participants' self-rating makes this study much more accessible, although this comes with the limitations of self-report like the inability to verify responses (Podsakoff & Organ, 1986). Questions from Kaufman's questionnaire have been integrated into the survey developed for this research study.

The Creative Solution Diagnosis Scale (CSDS) was developed as a system for rating the creativity of products with non-expert raters. This was intended to replace the need for a domain-specific expert rater who is required for the CAT. The scale uses four main domains: Genesis, Elegance, Novelty, and Relevance/Effectiveness. Genesis measures things such as transferability and vision. Elegance measures areas such as gracefulness and convincingness. Novelty measures how the product relates to existing knowledge and new knowledge. Lastly, relevance and effectiveness measure the product's ability to do what it is supposed to do. (Cropley & Kaufman, 2012). The test has shown high reliability, and components of the CSDS are integrated into this study. The rating scale has been modified to fit the topic of this study by replacing the word "Product" with "Song." Additionally, the rating method has been modified so that the participants themselves serve as the raters (self-report).

In 1991, Joseph S. Renzulli and Sally M. Reis developed the Student Product Assessment Scale. It was created to

measure students' creative products. This scale places importance on "certain characteristics that indicate the quality, aesthetics, utility, and function of the overall contribution" (Reis & Renzulli, 1991, p. 152) This scale is what this research used to develop the first two questions in the survey for this study (see Appendix A), where the participants act as the raters and assess their own products.

### Methods for Boosting Creativity

Ludwig Van Beethoven was known for going on multiple long walks daily regardless of the weather and would always carry a pen and manuscript paper if ideas were to come to him (Beethoven, et al., 1972). Walking has been shown to boost creativity in individuals. This practice can even have a residual effect (Oppezzo & Schwartz, 2014). In their study, Oppezzo and Schwartz showed how walking increased scores on Guilford's Alternate Uses test (GAU). The GAU test examined divergent thinking by having people take four minutes to come up with as many unusual uses for the object with which they were presented. If others in the study group came up with similar uses for the object, the participant's response was not considered as unusual or creative. As a result, Oppezzo and Schwartz found that participants' creativity was boosted from walking on treadmills inside in addition to walking around outside.

Nonetheless, the highest level of divergent thinking was measured when participants walked outside in nature (Oppezzo & Schwartz, 2014). This is likely due to the effect nature itself can have on boosting creativity. In another study, researchers found that hikers who had just spent four days out in nature on a backpacking trip showed better performance on creative problem-solving tasks than a group of hikers before beginning their trip (Atchley et al., 2012). Nature can have a measurable boost on creativity, even in just short exposures (Palanica et al., 2019). While there are many anecdotal methods for boosting creativity, being in nature and walking have

been well studied and provide a good replicable method for comparison (Oppezzo & Schwartz, 2014; Keinänen, 2016).

**Embodiment**

Embodiment has two distinct lines of research that previous studies have focused on (Lux et al., 2021). These two distinct ideas are best differentiated by the terms *environmental approach* and *agency approach*. In the environmental approach, research looks at how the social and physical environment as well as the culture that one experiences affects the mind and body throughout life. The agency approach, on the other hand, looks at how the physiological and neurophysiological aspects of someone affect their actions and thoughts (Lux et al., 2021). This study focuses on the agency approach and how it can affect or be used to promote creativity.

Embodiment has become the dominant idea in study about the connection between the mind and body. Embodiment is the belief that thoughts, feelings, and experiences are informed by our body's experiences and bodily states (Meier et al., 2012). Embodiment explains how our body can affect our state of mind and vice versa. Research by Williams and Bargh (2008) has shown that feeling warmth can increase a feeling of closeness with another person. This idea is also present in our language and thinking where we would describe someone, such as a friend, as warm.

There are many different perspectives on how we might interpret embodiment (Rohrer, 2007). This study focuses on how the body impacts the mind, building from concepts that are used in teaching science. The model for teaching with embodiment has been used to help students understand some of the more abstract concepts in science (Johnson-Glenberg & Colleen, 2017). For example, a teacher might have students take on the role of salt molecules and water molecules to learn about how osmosis works. In this activity students would be given the part to play as molecules of salt and water. Then they are instructed to move along the gradients of sat-

uration just as salt and water would. One group of scientists also developed a method that gives students the tools and opportunity to learn about particle physics through dance. Students get to develop and create choreography that is representative of particle interactions (Nikolopoulos & Pardalaki, 2020).

The current understanding of embodiment theory is split between two different ideas. One theory is based on the idea that we evolved from simpler animals who devoted large amounts of neural resources to perceptual and motor processing. These creatures' cognitive load "consisted largely of immediate, on-line interaction with the environment" (Wilson, 2002, p. 625). This would explain how our cognition as humans is not distinct from our environment and bodies, but is entwined in our sensorimotor processing (Wilson, 2002). The other theory on embodiment is that our cognition and higher-level thinking as adults are shaped by our experiences of interacting with the world in a physical way as a child (Williams et al., 2009). This is to say that how we come to understand our environment and body as babies lays the scaffolding for our ability to think and conceptualize. This use of the word *embodiment* is much more modern in psychology, but since the 1950's, there has been research building up to what eventually has become the field of embodiment in psychology (Meier et al., 2012).

The term embodiment should also be analyzed in its socio-cultural context. We embody the culture to which we are inextricably linked, as in "a particular mind in a particular body is shaped by the particular culture within which it is embedded" (Rohrer, 2007p. 350). This plays a role in the everyday lives of many people. For musicians, this might be related to the musical "rules" of their own culture. An example of this would include a musician from a western culture might see music as being very linear. They likely have a specific idea about how you should divide an octave or how a measure is structured rhythmically. This perspective would be very differ-

ent from a musician from a dissimilar culture where the music can be cyclical and/or use more than twelve notes to divide an octave.

## Measuring Embodiment and Creativity

To test how creativity is embodied, a team of researchers had participants sit inside a small five by five-foot cardboard box (Leung et al., 2012). Inside the box, participants took a test that measured their ability to analyze relationships among remote ideas. Then participants were removed from the box and took the same test in an average-sized room. This method of testing was used to physically represent "inside" and "outside" the box environments, with the idea that participants' thinking would be affected by this. The data from this study found that participants produced higher scores on the creativity test when they were literally outside of the box (Leung et al., 2012).

In this research study, the musical instrument is used as an implement for embodying creativity. The instrument is an important element to consider when one thinks about the music making process. An instrument has its own mechanical properties that apply limits or "rules" that musicians find themselves having to work with and the socio/cultural context that said instrument is from (Worthy et al., 2021). It is also important to note that many cultures and their music ways have been inextricably linked with rituals, religions, dance, time of the year, time of day, and many others. For example, in Afro-Cuban music, the drums, dancing, and singing bring forth a divine quality to its practitioners (Murphy, 2012). If a musician's instrument is a part of their body such as their hands in clapping or the voice in singing, we can also expect the same principles around mechanical properties and socio/cultural contexts to apply. In this study the participants will engage with their instrument in new physical or conceptual ways and in doing so will engage in divergent thinking.

This study will show that the developed embodiment

activity is a good method for teachers to use to boost creativity among musicians. The goal of this research is to test to see how the embodiment exercise compares to a well-researched method for boosting creative thinking. The results and data gathered will be employed to create a new model for teaching creativity in music using embodiment practices (see Appendix B).

## Methods

**Participants**

This study looked at 12 musicians with varying skill levels and instruments. At the time of the research, all of the participants were college students. One participant identified as non-binary, 1 as female, and 10 as male. This study was conducted on students from a liberal arts college in North Carolina, United States. Participants were recruited by responding to flyers posted in and around the music building on campus and direct solicitation and class announcements. Written consent was received from each individual before they participated in the study. The Warren Wilson IRB approved this study, and it complies with the guidelines for research on human participants.

The average age of participants was 21.5 years (SD = 2.66). Participants' experience in playing music ranged from four to twenty years. Participants represented a wide array of genres and musical interests, including but not limited to funk, soul, jazz, metal, folk, bluegrass, lo-fi, rock, blues, hip hop, reggae, and classical. All of the participants were students and represented six different programs of study including the music program, expressive arts therapy, business, art, philosophy, and anthropology.

**Measures**
*Creativity*

My dependent variable, creativity, was measured with an adaptation of three scales: the Student Product Assessment

Form (Reis & Renzulli, 1991), the Kaufman Domains of Creativity Scale (Kaufman, 2012), and the Creative Solution Diagnosis Scale (Cropley & Kaufman, 2012). The first part of the survey was on a Likert scale of 1 to 5, with 1 = Much less creative, and 5 = Much more creative. This part of the survey asks participants to compare themselves to their peers in how creative they would feel in certain situations. For example, one of these questions is "Composing an original song: 1= Much less creative, 5 = Much more creative."

The second part of the survey gathered information about the participants' feelings with their own song. This was on a Likert scale of 1 to 5, with 1 = Not at all, and 5 = Very much. One example from this section includes "The song helps me see new ways of creating future works: 1= Not at all, 5 = Very much." Three of the questions are short answers and their aim is to gather qualitative data. This qualitative data was analyzed for recurrent themes or ideas that the researchers might have missed. See Appendix A for more examples.

**Design**

As stated above, walking has been shown to increase creativity even after the walking has stopped. This boost in divergent thinking has been shown to be even greater in nature (Oppezzo & Schwartz, 2014). For this study we chose to operationalize nature as a trail that goes through the woods. The control of this study was to have participants walk alone through a predefined trail in the woods for about ten minutes. The experiment measure was an embodiment activity developed by the lead researcher. This had participants develop their own way of playing their instrument to embody creativity by asking them to create new or novel ways to play their instrument and to refine the technique. This might look like a new technique involving different hand positions, using an object to play the instrument, using different body parts, holding the instrument differently, or using new conceptual

techniques.

In order to measure creativity, this study gauges how participants feel about their own creative work and themselves as creative individuals through a survey tool. This tool is developed from the integration of these three different scales: the Kaufman Domains of Creativity Scale, the Creative Solution Diagnosis Scale, and the Student Product Assessment Scale. The latter two of these scales are used to gather information about the products of creativity, which in this study is the song, musical motif, melody, or composition written by the participants. The other integral scale included in the survey is the Kaufman Domains of Creativity Scale. This is designed to quantify how participants feel about themselves as creative individuals. Only the questions that are most relevant to musicians and the creative process as it relates to writing music were selected and modified to design the survey tool. It was important to have these as scales formatted for self-report or modified to allow for self-report.

### Analysis Plan

The survey is printed double-sided on a single piece of paper. The participants are randomly assigned numbers written at the top with the first survey having "1" written in parentheses and the second having a "2" written in parentheses beside each participant's number. A peer then codes the information onto a spreadsheet. This is done in order to compare the results from the surveys taken before and after the interventions without the researcher knowing which participant is represented. The data is analyzed to see if group A (the control group) is significantly different from group B (the experimental group) on self-reported product creativity by comparing the Likert question from the first and second surveys. The data is used to look at if participants' self-report of themselves as a creative individual was related to the self-report of product creativity. The first half of the survey contains questions that reflect how the participant feels about

their own creativity in a variety of musical and non-musical situations. The second half of the survey contains questions that represent the participants' feelings about the song they composed. A T-test is done on the data to determine if there is a difference between the change in score for self-reported product creativity between the two groups. A correlation test is done to see whether participants are self-reporting themselves as creative individuals has an effect on the change in their product creativity. A second T-test is done to establish if both interventions have a positive effect on self-report product creativity.

## Procedure

The participants were divided into two groups, control and experimental, using Excel's random number generator where odd numbers were assigned to group one and even numbers to group two. Group one was the control group and group two was the experimental group. All of the participants were brought to a room located in the music building on campus, one at a time over a period of a few months. Each participant was asked to bring an instrument of their choice, and a piano was also provided in the room. Individuals in both groups were asked to write a short song, musical motif, melody, or composition. Due to time constraints, participants were also advised that this did not have to be a fully fleshed out or complete idea. Participants were informed that the research was only being collected on their surveys and that they were not going to be expected to play or perform for anyone. It should be noted that participants were also told that if they finished before the researcher returned, they could find the researcher waiting in the room down the hall. Then each participant was left alone in a room for about eight to ten minutes or until they came out of the room and informed the researcher that they had finished. Each participant was given a minute or two grace period before the timer started in order to give them time to tune or get settled. Participants from both

groups were then given a survey with a mix of open-ended and Likert scale questions. This survey varied widely in time it took for completion from 5 to 15 minutes depending on the participant.

Afterwards, the control group participants were told that they would be going for a short walk outside in nature. The path was pre-selected and measured to take around ten minutes. The route was explained, and most participants already knew of the area. They were told to take as much or as little time as needed, to try and avoid using a phone or talking with others, and to focus on being present for their walk through the woods.

The experimental group was asked to come up with a novel/new way to play their instrument and to then refine this technique. They were given about ten minutes to do so. This was done by describing what an unconventional technique might entail and examples of unconventional techniques from famous musicians. For example, all were told that using a new technique involving different hand positions or some sort of object to play the instrument could fall under this category, as could using different body parts or holding the instrument differently. Concrete examples were also explained such as Jimi Hendrix playing the guitar with his teeth and Freddie Mercury playing the piano backwards while lying on his back. Participants were also invited to come up with a new conceptual way of playing instead of a new technique.

Afterwards, both groups were again asked to write a short song, musical motif, melody, or composition and were left alone for eight to ten minutes or until they came out of the room. The same survey was again given to both groups of participants to fill out.

## Results

There is no statistical significance between the control group (M = 2.8, SD = 11.52) and the experimental group (M

= 7.143 , SD = 5.728) in their change in product creativity between pre and post-test, $t(10)$ = .87, $p$ = .41. No association was found between the prior assessment of oneself as a creative individual and the difference between pre and post-test for product creativity (r = -0.140, p = 0.664). Both the control and the experimental groups showed a positive change in product self-report creativity after the intervention. This T-test was conducted with the outlier and without the outlier. With the outlier, the post-test (M = 43.75, SD = 7.46) was significantly higher than the pretest (M = 38.41, SD = 5.534), t(11) = -2.19, p = 0.05. With the outlier removed, the change is even more significant: t(10) = -4.508 , p = 0.001.

## Discussion

The embodiment exercise had a similar effect of boosting self-reported creativity among participants as did the control of walking in nature. This is substantial because, as shown in the literature review, walking and being outside in nature have powerful effects on enhancing creativity and novel idea generation. This is right at the heart of what we are trying to achieve. The embodiment method would be beneficial to teachers for use in and outside the classroom, and its ability to be used regardless of location or physical ability makes it stand out from the already proven methods of walking or walking outside in nature.

This can be explained by looking back at embodiment theory, which states that the body's actions, feelings, and position in space affect the mental processes that govern thoughts and behavior. From how the participants engaged their bodies in new and novel ways with their instrument, we can see how this would create a situation where the mind might become more creative and able to explore new musical ideas.

The neuro-physical reason for this might have to do with how the prefrontal cortex is affected by the embodiment activity. The activity could somehow help to broaden

the scope of attention by lowering activity in the prefrontal cortex. Or perhaps we see a boost in creativity because the prefrontal cortex is immersed in a creative environment from the embodiment exercise. When this happens the processes that govern thinking get shaped by the environment and the mind can stop being shaped by expectation or beliefs (Thompson-Schill et al., 2009).

Many participants were very excited and jumped at the chance to play an instrument that was not their main instrument of study. One participant wrote, "I enjoy an excuse to play an instrument I'm not familiar with," after playing with a newly acquired instrument. It would be interesting to see if a musician's familiarity with the instrument has an effect on the embodiment exercise, but this study did not collect any data on instrument proficiency. It should also be noted that having access to a piano made for the easiest choice for participants because it did not require them to bring their instrument to the session.

Participants had been given the task of writing two songs, one after the other with the intervention in between them; this might account for the improvement in the second song. However, many of the participants wrote about how the intervention, both in the control and in the experimental, had a positive effect on the output of the second song. One participant from the control group wrote in their survey, "I think part of the reason it was better was due to being more warmed up." A majority of the participants, from both groups, played with more advanced, technical, or complex techniques in the second song. Altogether, 71% of the participants in the experimental group reported a higher rate of using these more advanced, technical, or complex techniques as compared to the control group, where only 60% reported this.

Structured time for creativity was a common theme that popped up among many participants in both groups. Many of these musicians reported that they did not put time

aside for creative songwriting and usually approached song-writing in a fashion that was very much about letting inspiration come to them when they are practicing or otherwise. Many seem to feel that this structured session of being expected to write a song was actually very helpful for them. One participant wrote that having this structured time "persuades me to be a bit more intentional in my creative process."

Many participants talked about how they would have liked having more time in every aspect of the experiment. This short period that I had set aside was a limitation that left participants feeling short on time for the activities. In recruiting for this study, I believe that the short commitment time made it possible for busy students to fit it into their schedule. In replicating this study, I would like to give participants significantly more time on each of the activities. This could be paired with changing the structure of how participants come in for the study. In giving participants more time, a new study could benefit from having participants come in for two separate longer sessions. In looking at the one outlier from this study, the participant reported feeling very distracted after going for the walk outside in nature. The participant felt good about their first song, and having to write another caused some distress in trying to measure up to the previous one. Separating the sessions by a week or so would help eliminate this problem.

The sample size for this study was quite small. This was due to a limit on resources and time for the conducting of the experiment. This makes this study more of a trial experiment to test the concept and work out any kinks before scaling things up. In the future I would like to see this as a concept that could be scaled up and done on a wider audience of musicians. These research ideas might also be translatable. I would also like to see how these methods of embodying creativity could be related to other fields.

If there were more time and resources for this research, we can speculate that with more participants we

would see much stronger results. In scaling up we might even see a lean towards the embodiment exercise being more effective in boosting creativity and divergent thinking than the control of walking outside in nature. Due to the limited size of the study, I cannot say that there is statistical significance in the results, although the results look very promising and point in the direction of more research and exploration in this field.

There might be some room to replicate this research without using a control that would be expected to have a measurable effect of creativity. This might involve having a group that would complete an unrelated activity such as reading about creativity or playing a short computer game. It would help to be able to eliminate the possibility that just writing two songs in a row could be positively boosting creativity thinking in a measurable way.

When using the embodiment method for teaching, this activity might best serve as homework or possibly as a take home assignment or activity. Even with very advanced or outgoing students the creative component of impromptu songwriting can be a vulnerable activity. This could also be paired with having the student find or create an object to manipulate their instrument. I suggest that this is an activity to complete alone because of the pressures that can come with feeling like one has to perform. One participant in the study wrote, "It was fun. Knowing that I wouldn't have to perform took lots of stress out of the process." We want to teach and foster creativity in a fun and stress-free way. This hits right at the heart of how this exercise should be, and perhaps to gain the full potential from this activity we need to eliminate any stress and possible hesitations that could hold someone back.

The research also showed a measurable benefit to creativity from walking outside as shown by previous studies. Many of the participants had positive experiences that they wanted to share about their experience in nature or even how it changed their perspective and outlook for the next part of

the experiment. One participant in the control group had great things to say about their experience with walking outside in nature. They said, "As soon as I left the building and hit the spring air, I had a mood shift and was very relaxed. I think this certainly influenced the relative moods my subconscious wanted my music to reflect. Where before my song had a dark, jazzy sound that I enjoyed, this time the chords were more open and happy." This participant was not in the embodiment group but had an experience where the location of their body in space, going from inside an academic building to the outside, influenced their mental state. This was then reflected in the song that was written, with the song after going outside having a more "open" and "happy" sound, thus reflecting the openness and happiness of a nice spring day.

Another participant from the control group stated that, "Taking a little walk was very refreshing. [I] found new ideas in little interactions." This highlights how the environment and what you are being exposed to can inform your thinking, while another participant, also in the control group, stated, "Definitely felt more inspired after the walk, [and it] felt easier to write." Each of these participants' quotes shows the positive effect that walking had on their mental states. After hearing about how beneficial walking was, I would encourage anyone that has the ability to walk around when tackling creative problems, to do so.The data from this study shows walking can produce positive effects on creativity among musicians in the domain of songwriting and idea generation.

Some participants in the experimental group carried over their newly developed technique and attempted to use it in the second short song, musical motif, melody, or composition that they wrote. In talking with the participants, I told them that they did not have to use the newly developed technique when writing their second song, but some were very enthusiastic or perhaps even slightly perplexed by the instructions and decided to write using the technique that they developed. While using the new technique can be beneficial

to play with as a songwriting technique, the purpose of the activity is to get the person in a creative and inventive state of mind. Not to force them to use a new method to try and write or play music.

Two of the participants shared their experiences in employing their newly developed technique at the end of their surveys. The first of these two was a bass player who reported using a bow from a stand up bass to play the upper register harmonics on their electric bass and said that "Bowing harmonics is *hard*." This participant felt quite limited by the technique and even reported that the song was "somewhat limited harmonically by the technique, but that limit also created some interesting forms." Despite the difficulty that they had in playing the song and feeling limited by the technique, this participant self-reported this song as more creative than the previous one. This could show that the difficulty has no effect on the performer's ability to be creative, but more research would be needed in order to make this claim.

The next participant's experience was very different but still produced a very positive change in self-reported product creativity. The participant was a classically trained violinist but had opted to play the flute, a newly learned instrument for them. The participant had chosen to hold the instrument in a different way and shared, "The method of playing I chose was impressively uncomfortable and cramp-inducing." They went on to write, "Hence my song was written quickly and without too much worry." It would be interesting to know if the song was playable in a more conventional fashion, because then this might be a compositional technique that is similar to other restrictive methods of composition.

One participant in the control group had a positive experience that really aligned with what I was trying to achieve. They stated in their survey, "The session of trying to think of a new way to use the instrument definitely inspired my second song." It is clear from this statement that the activity was a beneficial one that left the participant in a more creative and

exploratory state of mind. It is also interesting to note that this participant had the highest change in score from pretest to post-test in self-reported product creativity. I wonder if, time and resources permitted, we could see a long-term change in how musicians create songs and practice after learning these interventions.

## Conclusion

In conclusion, this study shows that the developed embodiment activity is a powerful tool for boosting creativity among musicians of all types and skill levels. The control for this study was a tested and proven method for improving creativity. In seeing similar results between the two groups, we can assume that the experimental method of embodying creativity has a similar effect and boosts creativity. The ability to boost creativity with similar results to walking outside in nature is important for many reasons. The first and most obvious is that one can boost their own creativity without needing to go outdoors. This can be very beneficial for the multitude of people that cannot easily leave their homes for a myriad of reasons. This is also a good tool to know for people that live in areas that don't have easy access to nature.

With the ability to boost creativity in musicians without the need for special tools, books, and teaching methods, I see embodiment exercises as a tool for music teachers and music students. The ease and accessibility of the activity makes it very possible for teachers and students alike to start incorporating these ideas into their own practices (see appendix B). This study shows us that creativity can be fostered among musicians by manipulating and engaging with one's instrument in novel ways.

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# References

Atchley, R. A., Strayer, D. L., & Atchley, P. (2012). Creativity in the wild: Improving creative reasoning through immersion in natural settings. *PLoS ONE*, *7*(12), e51474. https://doi.org/10.1371/journal.pone.0051474

Barnes, J. (2000). *Aristotle: A very short introduction*. Oxford University Press.

Basantia, T. K. (2017). Culture, value and personality: Three flowering agents of creativity development process. *American Journal of Applied Psychology*, *5*(1), 1–6. https://doi.org/10.12691/ajap-5-1-1

Beethoven, L. van, Kalischer, A. C., Shedlock, J. S., & Hull, A. E. (1972). *Beethoven's letters, with explanatory notes by A.C. Kalischer,* Dover Publications.

Bennett, A. (2017). *William Wordsworth in context*. Cambridge University Press.

Cropley, D. H., & Kaufman, J. C. (2012). Measuring functional creativity: Non-expert raters and the creative solution diagnosis scale. *The Journal of Creative Behavior*, *46*(2), 119–137. https://doi.org/10.1002/jocb.9

Gofton, K. (1997, February 27). Creativity drives direct to the top. *Marketing*, *40*. https://link.gale.com/apps/doc/A19321114/BIC?u=swan99740&sid=summon&xid=76d7db75

Guilford, J. P. (19510701). Creativity. *American Psychologist*, *5*(9), 444. https://doi.org/10.1037/h0063487

Johnson-Glenberg, M. C., & Colleen, M.-R. (2017). Em-

bodied science and mixed reality: How gesture and motion capture affect physics education. *Cognitive Research: Principles and Implications*, *2*(1). http://dx.doi.org/10.1186/s41235-017-0060-9

Kaufman, J. C., Baer, J., & Cole, J. C. (2009). Expertise, domains, and the consensual assessment technique. *The Journal of Creative Behavior*, *43*(4), 223–233. https://doi.org/10.1002/j.2162-6057.2009.tb01316.x

Kaufman, J. C. (2012). Counting the muses: Development of the Kaufman Domains of Creativity Scale (K-DOCS). *Psychology of Aesthetics, Creativity, and the Arts*, *6*(4), 298–308. https://doi.org/10.1037/a0029751

Keinänen, M. (2016). Taking your mind for a walk: A qualitative investigation of walking and thinking among nine Norwegian academics. *Higher Education*, 71(4), 593–605. http://dx.doi.org.proxy191.nclive.org/10.1007/s10734-015-9926-2

Leung, A. K.-y., Kim, S., Polman, E., Ong, L. S., Qiu, L., Goncalo, J. A., & Sanchez-Burks, J. (2012). Embodied metaphors and creative "acts." *Psychological Science*, *23*(5), 502–509.

Lux, V., Non, A. L., Pexman, P. M., Stadler, W., Weber, L. A. E., & Krüger, M. (2021). A developmental framework for embodiment research: The next step toward integrating concepts and methods. *Frontiers in Systems Neuroscience*, *15*, 672740. https://doi.org/10.3389/fnsys.2021.672740

Meier, B. P., Schnall, S., Schwarz, N., & Bargh, J. A. (2012). Embodiment in social psychology. *Topics in Cognitive Science*, *4*(4), 705–716. https://doi.org/10.1111/j.1756-

8765.2012.01212.x

Murphy, J. M. (2012). Chango 'ta veni'/Chango has come": Spiritual embodiment in the Afro-Cuban ceremony, Bembé. *Black Music Research Journal*, *32*(1), 69–94.

Nikolopoulos, K., & Pardalaki, M. (2020). Particle dance: Particle physics in the dance studio. *Physics Education*, *55*(2), 025018. https://doi.org/10.1088/1361-6552/ab6952

Oppezzo, M., & Schwartz, D. L. (2014). Give your ideas some legs: The positive effect of walking on creative thinking. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *40*(4), 1142–1152. https://doi.org/10.1037/a0036577

Petress, K. (2005). The importance of music education. *Education*, *126*(1), 112+.

Podsakoff, P., & Organ, D. (1986). Self-report in organizational research. *Journal of Management*, 12, 531–544. https://doi.org/10.1177/014920638601200408

Reis, S. M., & Renzulli, J. S. (1991). The assessment of creative products in programs for gifted and talented students. *The Gifted Child Quarterly*, *35*(3), 128.

Rohrer, T. (2007). The body in space: Dimensions of embodiment. In *Embodiment* (pp. 349–377). De Gruyter Mouton.

Scott, G., Leritz, L. E., & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal*, *16*(4), 361–388. https://doi.org/10.1080/10400410409534549

Sternberg, R. J. (2020). What's wrong with creativity testing? *The Journal of Creative Behavior*, *54*(1), 20–36. https://doi.org/10.1002/jocb.237

Thompson-Schill, S. L., Ramscar, M., & Chrysikou, E. G. (2009). Cognition without control: When a little frontal lobe goes a long way. *Current Directions in Psychological Science, 18*(5), 259–263. https://doi.org/10.1111/j.1467-8721.2009.01648.x

Thoreau, H. D., & Dillman, R. (2001). *The major essays of Henry David Thoreau*. Whitston Pub. Co.

Torrance, E. P. (1990). *Tests of Creative Thinking*. 16.

Williams, L. E., & Bargh, J. A. (2008). Experiencing physical warmth promotes interpersonal warmth. *Science 322*(5901), 606–607. https://doi.org/10.1126/science.1162548

Williams, L. E., Huang, J. Y., & Bargh, J. A. (2009). The scaffolded mind: Higher mental processes are grounded in early experience of the physical world. *European Journal of Social Psychology*, *39*(7), 1257–1267. https://doi.org/10.1002/ejsp.665

Wilson, M. (2002). Six views of embodied cognition. *Psychonomic Bulletin & Review*, *9*(4), 625–636. https://doi.org/10.3758/BF03196322

Worthy, P., Hunter, T., Matthews, B., & Viller, S. (2021). Musical agency and an ecological perspective of DMIs: Collective embodiment in third wave HCI. *Personal and Ubiquitous Computing*, *25*(4), 797–807. https://doi.org/10.1007/s00779-020-01429-9

# Appendix A

## Survey Questions

1. Overall assessment/opinion of the song you created?

2. Do you use any concepts or techniques that are more advanced, technical, or complex than you ordinarily use? Please explain.

For the next 8 questions please compared to people of approximately your age and life experience, how creative would you rate yourself for each of the following acts? For acts that you have not specifically done, estimate your creative potential based on your performance on similar tasks.

| | Much less cre- ative | | Neither more nor less creative | | Much more cre- ative | |
|---|---|---|---|---|---|---|
| 3. Making up rhymes | | | | | | |
| 4. Composing an original song | | | | | | |
| 5. Learning how to play a musical instrument | | | | | | |
| 6. Singing in harmony | | | | | | |
| 7. Spontaneously creating lyrics to a rap song | | | | | | |
| 8. Playing music in public | | | | | | |

| | | | |
|---|---|---|---|
| 9. Making up lyrics to a funny song | | | |
| 10. Writing a poem | | | |

| | Not at all | | Some-what | | Very Much |
|---|---|---|---|---|---|
| 11. The song reflects conventional knowledge and/or techniques | | | | | |
| 12. The song does what it is supposed to do | | | | | |
| 13. The song is easy to play | | | | | |
| 14. The song uses my existing knowledge to generate novelty | | | | | |
| 15. The song makes use of new mixture(s) of existing elements | | | | | |
| 16. The song indicates a radically new approach for me | | | | | |
| 17. The song offers a new perspective on future compositions | | | | | |
| 18. The song provides a basis for further development | | | | | |
| 19. I find the song well done | | | | | |
| 20. Elements of the song fit together | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 21. The song is well worked out and well-rounded | | | | | |
| 22. The song helps me see new ways of creating future works | | | | | song |

23. Anything else you'd like me to know about your experience today?

# Appendix B

## Embodiment Activities Teachers Guide

I encourage you to explore how you and your students might develop your own ways to embody creativity. In order to do this, you should follow some of these basic principles.

Build an environment that is judgment-free or have the students complete these activities on their own. Due to the very vulnerable nature of the embodiment activity, students might limit the amount of exploration and trials that they attempt out of fear of being embarrassed or doing something "wrong."

Create structured time for creativity. This is very important and can be a very powerful tool that most students are not using. This might mean setting a lesson or some lesson time aside for students to practice embodying creativity, or perhaps this might replace a homework assignment. This will be most beneficial as a recurring block of time that is set aside. It's important to note that this does not mean that during other times they do not explore and be creative; this just provides a protected time when creativity can flow.

Encourage them to use objects or new ways of holding their instrument. If this is a take-home assignment, have the student(s) find an object that they can use to manipulate their instrument or the sound of their instrument. Bring some random items for them to explore during lesson time. As an extra bonus, you can have students build or create their objects.

Give them plenty of time. Make sure you set aside enough time for them to get comfortable and fully explore the technique that they have developed. I would recommend giving younger kids around thirty minutes and older students around an hour for the embodiment exercise and creative songwriting.

Repeat the process multiple times. Give students the opportunity to engage with the embodiment activity multiple

times. This helps students learn what works and what does not work when they are trying to be creative and lays down a foundation for how to act and think creatively in a musical environment.

Have students go for a walk. If possible, inform students that walking improves creativity and serves as an alternative to the embodiment exercise. Bonus points if they can find some nature to walk in as well. Encourage students to take a break from music with a nice creativity-boosting walk around.

# Alkaline-Tolerant Bacterial Species Associated with Small-Scale Indigo Fermentation Dye Vats

## Abstract

The traditional Japanese practice of dyeing textiles with indigo involves bacterial reduction of indigo precursors under highly alkaline conditions. Large fermentation vats are maintained for fabric dyeing for months. Characterization of the vat bacterial communities has led to the discovery of several new bacterial species with indigo-reducing activity. Fiber artists use smaller-scale, short-term indigo dye vats for textile dyeing. This project aimed to describe the bacterial community in these kinds of vats. Replicate vats were started with indigo powder extracted from plants grown on Warren Wilson College in summer 2020. Bacterial colonies were isolated from the fermentation liquid in the first 14 days of the process by culturing samples on media suitable for the growth of alkaline-tolerant bacteria. Organisms were identified through database comparisons of partial 16s rRNA sequences obtained through PCR amplification of DNA from the isolates. Out of 60 successful sequences from isolated bacteria, 11 different bacterial species were identified as close matches to species in the database. Three of those species have been previously isolated from long-term indigo dye vats. Seven of the isolates indicated either indigo-carmine degradation, indigo reduction, or both. This preliminary research sets the stage for further, more detailed research of short-term fermentation vats and continued development of effective methods for the cultivation of bacteria found in these vats.

## C. Reid Carpenter | Chemistry

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Jeans and denim material encompass a large variety of clothing and fabrics, but most have a few things in common. They are made of durable warp woven cotton, where the warp, the yarn that runs vertically through the loom, is dyed and the weft yarn, the yarn that runs horizontal through the width of the loom, is left undyed[1]. Importantly, the warp has been traditionally dyed with indigo[1]. Most dyes are popular for their fastness, their ability to withstand light and physical wear [2]. Thanks to aggressive marketing tactics, the poor fastness of indigo, and how the fabric looks as it ages, that makes jeans and denim material so desired.[1] There continues to be great demand for indigo, whether it is naturally or synthetically derived.[3]

The color indigo comes from the molecule indigotin ($C_{16}H_{10}N_2O_2$), whose structure consists of two rings connected by a double bond between two carbon atoms (Figure I: A). Plants which are colloquially called indigo plants contain a precursor to indigo, a molecule called indican (Figure I: B).[4] A number of plants contain indican including *Polygonum tinctorium*, *Indigofera tinctoria*, and *Istasis tinctoria.*[5] The process of extracting indican from the plant is the first step in the indigo dying process and occurs partially enzymatically.

**Traditional Indigo Dye Process**

After harvesting the leaves of the plant, indican must be released from the vacuole of the plant cells.[6] Conversion of indican to indigotin is partially facilitated by an enzyme of plants and bacteria called beta-glucosidase.[7] Once the indican is released from the vacuole, the enzyme converts it to indoxyl, which undergoes the subsequent oxidation to indigo (Figure II).[8] The traditional Japanese bioprocess involves a composting-like set up that aids in creating the correct environment for these conversions to occur. The leaves are piled in walled spaces, given water, maintained at temperature, and

mixed. This step of the indigo extraction and dyeing process yields a bundle of composted leaves, which is called *sukumo* and which contains indigo. *Sukumo* can be dried and reconstituted later or it can be transferred directly into the next step of the dyeing process. The indigo itself, within the *sukumo*, is insoluble in water and for this reason must be solubilized to dye fabric.

Indigo is made soluble by being chemically reduced.[9] Chemical reduction is the process by which a molecule gains an electron. Reduction necessitates another molecule being oxidized which means losing an electron. In the Japanese method, reduction of indigo occurs through a fermentation process performed by bacteria. Indigo fermentation dye vats contain *sukumo*, are highly alkaline, and are routinely supplemented with something to feed the bacteria, often wheat bran.[9] The reduction of the indigotin is achieved by the microorganisms that most likely originate in the *sukumo*.[9] Once the vats are mature, cloth is dipped to dye. The leucoindigo is what binds to the fabric and when the fabric is exposed to air, the leucoindigo oxidizes back into indigo, turning the fabric blue (Figure III).[9] These fermentation dye vats can be maintained for up to one year.[9] The whole process, however, is complicated, requiring attention, care, and skill that few have achieved. With the growing popularity of indigo and an increasing demand, chemical reduction of indigo has become more common.

## Optimization of Dye Vats

The first chemical to replace microbial reduction was sodium diothionite.[10] Sodium diothionite is an aggressive reducing agent, and it eliminates the need for carefully maintained fermentation dye vats.[10] Synthesized waste products are the oxidized products of sodium diothionite (sodium sulfate, thiosulfate, and sulfite ions) all of which are harmful to the environment and still have strong enough reducing power to reduce more constituents than desired in water treatment

facilities.[9] The significant benefit, however, to chemical reduction is the efficiency and the amount of indigo reduced without the need for careful maintenance.[10] For this reason, it is of great interest to develop environmentally friendly methods of indigo reduction that do not sacrifice efficiency or yield. Traditional indigo dyeing techniques meet these criteria: they are efficient, effective, and do not have damaging waste products. Investigation of the methods designed by traditional artists will inform further optimization of these methods and make them easier to replicate.

      The dye vat which maintains indigo dyeing efficacy for a long period of time is a perfect target for research. Researchers in Japan have been investigating which types of bacteria are active in indigo fermentation dye vats. Many species within the genera *Alkalibacterium*, *Amphibacillus*, and *Oceanobacillus* have been identified within the fluid of long-term fermentation dye vats.[4] *Amphibacillus* spp. was seen replacing *Halomonas* spp. in the fermentation fluid over time in correlation with changes in reduction potential and indigo dyeing ability.[4] New species and new genera have been isolated in these fermentation fluids, such as *Alkalibacterium indicireducens*, an obligate alkaliphile, which is a kind of bacteria that must live in alkaline environments.[11]

      Isolation of indigo-reducing bacteria from vats has allowed for further study of the enzymes synthesized by these bacteria that catalyze the reduction of indigo, such as the enzyme azoreductase.[12] Even with enzymes present, investigation is still needed to understand the mechanisms taking place and the electron donors needed to reduce indigo.[13] There is a connection between oxidation reduction potential (ORP) and pH and species of bacteria present.[9] Presumably, species of bacteria change in correlation with what resources are available as well as the changing environment of the vat. Characterizing the bacterial communities present in these fermentation dye vats will allow researchers to determine the key mechanisms occurring in the fermentation and how to best

maintain optimal environments for these mechanisms.[13]

## Short-Term Dye Vats

It is of great interest to investigate how small, human-scale farms and programs can dye fabrics in fermentation dye vats that do not require months of labor and careful maintenance. For this reason, farmers, gardeners, and fiber artists are experimenting with different ways to use indigo dye. One replacement for the long-term vats started with *sukumo* is a very small vat that is called a quick reduction vat, and is started with fructose.[14] Another option is a short-term fermentation dye vat started with indigo powder. At Warren Wilson College, the Fiber Arts program has been growing indigo, *Polygonum tinctorium* specifically, and, through the enzymatic extraction process, extracting indigo powder. As the Fiber Arts program looks to use their indigo efficiently for crew projects and products for sale, they are interested in other methods of indigo fermentation.

One such vat can be called a short-term fermentation dye vats, and is called an artisan fermentation vat for the purposes of this study. These vats start with solid indigo powder and are fermented over the course of a week to allow for microbial reduction of the indigotin to leucoindigo.[15] These vats last longer than quick reduction vats if maintained properly but need to be renewed more often than traditional long-term vats.[15] Importantly, these vats are generally much smaller than traditional Japanese vats: they are often done in 5-gallon buckets. Nevertheless, these short-term vats have many of the same characteristics as long-term fermentation dye vats. They need to be fed and maintained at temperature, around 30 °C, and there is a preparation period during which the reduction is occurring.

Similar to methods of study of traditional vats, investigation of the connections between bacterial genera, oxidation-reduction potential, pH, and dye readiness could lead to creating systems that maintain optimum conditions for the

indigo-reducing bacteria at various stages of the process and ultimately maximize yield of indigo.

## Methods

### Fermentation Vat Set-up and Maintenance

Four fermentation vats were started with 0.5 lb ground indigo, 0.25 lb ground madder, 0.25 lb ground bran, 1.5 lb washing soda, and 5 gallons of warm tap water in a 5-gallon plastic tub. Vats were maintained between 25-29 °C with heat lamps. Vats were stirred once a day, carefully so as to incorporate as little air as possible into the mixture.[15]

### Sampling and Data Collection

1 mL aliquots of fermentation fluid were taken on days 2, 4, 6, 8, 10, and 13 after setting up the vat. Aliquots were taken immediately after stirring from the middle of the bucket at approximately the same depth every time (estimated by the height of liquid on the extraction device).

Temperature, pH, level of dissolved oxygen (dO), oxidation-reduction potential (ORP), and dyeing strength of the fermentation fluid were also measured at the same time. Temperature was taken with a Vernier temperature probe. pH was measured with a Vernier probe. The ORP was taken with a 9300-10D Horiba electrode. The dO was taken with a dO Vernier probe. A 3 in. by 1 in. swatch of scoured cotton fabric was dipped in the vat for 1 minute and was left to dry at room temperature.

### Cultivation and Isolation of Bacteria

The cultivation methods were adapted from the procedure described by Aino *et al.*[4]

Aliquots of vat liquid underwent 10-fold serial dilutions in phosphate buffered saline, achieving a final dilution of $10^{-5}$. 200 mL of each dilution were plated on peptone yeast agar (PYA) plates containing 100 mM NaHCO3/Na2CO3

buffer (pH 10) and aerobically incubated at 30 °C.[4]

After a 72-hour incubation, plates were observed for descriptive data: how many colonies were present; how many morphologically different colonies were present; and in what proportion were the various colonies. Six distinct colonies were selected from each of the most diluted plates for each vat and each day. An attempt was made to select morphologically diverse colonies. Sample colonies were cultivated three times by streaking on the same medium to isolate single colonies representing genetically pure strains. Given time and material constraints, three sampling days' colonies, days 2, 6, and 10, were selected for PCR and identification (Table I).

**Identification**

DNA was amplified using colony PCR using standard 16s rRNA forward and reverse primers, 29F to 1492R. The PCR conditions were as listed: after preincubation at 94 °C for 10 minutes, 30 cycles were performed at 94 °C for 30 sec, followed by annealing at 58 °C for 30 sec, then 72 °C for 90 sec. After a final hold at 72 °C for 10 minutes, the products were held at 8 °C. Effectiveness of PCR was checked using gel electrophoresis (1% TAE agarose gel) to identify a single band of expected size, 1465 base pairs. The isolated PCR product was sequenced, by a single run using the 16s forward primer, by Functional Biosciences.[16] The partial rRNA gene sequences, typically 600-700 base pairs, were compared to known bacterial 16s RNA gene sequences using a BLASTn database comparison to determine the identities of most closely related bacteria.[17]

**Testing For Indigo Metabolism**

All original bacterial isolates (144) were plated on 0.2% indigo carmine-containing PYA to determine their ability to metabolize indigo carmine. As indigo-carmine-containing plates are blue, candidates that demonstrated a yellow halo were noted. After DNA was sequenced, one of each of

the 11 unique isolates were inoculated in 0.1% indigo-containing PYA broth in 5 mL tubes, a 10 times increase from the method described by Aino *et. al.*[4] Samples were static and after 3 days of growth at 30 °C, the presence or absence of the greenish hue of leucoindigo was noted in the tubes. A 1 cm by 1 cm cotton fabric square was saturated in each culture tube for 1 minute and then exposed to air to detect blue dye. Both the green hue of the liquid and the dying capability indicated that indigo reduction had taken place.

## Results

The swatches of cloth demonstrated visually the progression of indigo reduction in the vats. The vats began to dye cloth, indicated by inconsistent blue hue, on day 6, and vats began to stabilize over days 10 to 13, indicated by swatches having a consistent blue color (Figure IV). These cloth swatches were the only method used for determining apparent indigo reduction in the vats.

The ORP declined to a steady level approximately by day 8. The pH of the vats declined slightly from 11.4 to 10.7 by day 10, likely due to the creation of acid from the bacteria as they grew and fermented. The dO dropped very quickly to near zero and hovered there for the duration of the time (Figure V).

Sixty isolates were sequenced successfully, 19 from Day 2, 22 from Day 6, and 19 from Day 10 (Table I). 11 unique bacterial species were found as close matches in BLASTn comparisons (Table III). Among these were eight genera: *Salipaludibacillus* (94.23-99.89%), *Alkalibacterium* (100%), *Evansella* (97.25-100%), *Enterococcus* (99.78%), *Amphibacillus* (96.56%), *Nesterenkonia* (99.66%), *Exiguobacterium* (99.66-99.71%), and *Alkalihalobacillus* (99.26-99.89%). Seven species matches were found on Days 2 and 6 and four species matches were found on Day 10 (Figure VI). All cultures took 1 to 3 days to grow sufficiently and had a wide variety of mor-

phologies (Table II).

Indigo-carmine-containing plates inoculated with the isolates showed halos (Figure VII), indication of indigo-carmine degradation, around patches of an *A. pelagium*-related strain*,* an *E. casseliflavus*-related strain*,* a *S. agaradhaerens*-related strain*,* a *S. neizouhensis*-related strain*,* and an *A. pseudofirmus*-related strain.

Indigo-containing PYA broth was inoculated with one isolate representing each of the 11 species. A few of the isolates indicated reduction of indigo, identified by a green hue to the culture liquid after 3 days of growing: an *E. casseliflavus*-related strain, an *E. cellulosilytica DSM 2522*-related strain, and an *E. polygoni*-related strain. Fabric swatches dipped in the tubes for 1 minute and dried at room temperature yielded inconclusive results. Most edges were tinged with blue but actual dye fastness was not ascertained.

## Discussion

As a preliminary investigation and the first study of its kind, this research provides a basis for other similar research in the future. It seems as though the artisan vats have many environmental similarities to traditional vats, in terms of temperature and pH. Due to a number of shared species between our artisan vats and other studies' traditional vats, we can assume that microbe reduction is occurring, if with some differences in the organisms present. What is not clear is the ecological succession of species in the vats, and how that might be similar or different to traditional vats. Additionally, this study has exposed some methodological difficulties that need to be rectified before further study, especially in the Warren Wilson labs.

Of the 11 unique close database matches, *Evansella cellulosilyticus*, *Evansella polygoni*, and *Alkalihalobacillus pseudofirmus*-related strains have been previously isolated from traditional Japanese vats (Table IV). *Evansella cellulosilyti-*

*cus*-related strains were isolated in traditional Japanese vats studied by Aino *et. al* in 2010[4] and 2018[9]. *Evansella polygoni* was determined to be a new species by Aino *et. al* in 2008.[18] It is important to note that in 2020, Gupta et. al proposed the new genus, *Evansella*, which includes *E. cellulosilyticus* and *E. polygoni* and other species previously within a small clade in the genus *Bacillus*.[19] Bacteria within *Evansella* are characterized as gram-positive rods which are aerobic or facultatively aerobic organisms, with an optimum growth range from 36-40 °C, and have previously been isolated from soda lakes and industrial areas.[19] *E. polygoni*, however, was isolated first from indigo fermentation dye vats.

 *A. pseudofirmus*-related strains were isolated from indigo vat fluid in research done by Nishita et. al.[20] In the years since 2017, *Bacillus* has undergone some changes: in 2020, Patel & Gupta proposed a new genus, *Alkalihalobacillus*, including *A. pseudofirmus*.[21] In 2021, Joshi *et. al* proposed seven new genera to replace the genus *Alkalihalobacillus*, including *Alkalihalophilus*, the most current genus name for the strain isolated in this study, *A. pseudofirmus*.[22] Bacteria within *Alkalihalophilus* are characterized as gram-positive rods which are aerobic, obligate alkaliphiles with optimum growth at 37 °C and a pH of 9. They've been isolated from soils, compost, and manure.[22]

 The highest percentage identity match for 21 isolates was *S. niezhousensis*, with percentage matching ranging from 94.23-95.18% and query coverage ranging from 96-100%. It was found on all three days and its relative percentage increased over time: on day 2, 21% of isolates matched closest with *S. niezhousensis*, on day 6, 40.9%, and on day 10, 42.1%. *S. niezhousensis* was first isolated and described by Chen *et. al*.[23] In 2016, Sultanpuram & Mothe reclassified this species and others under the new genera name *Salipaludibacillus*.[24] *S. niezhousensis* is a gram-positive rod which is facultatively alkaliphilic and aerobic with optimum growth at pH 8.5 and 25 °C.[23] The strains isolated from these indigo vats are likely to be a new species within the genus. Expanded sequencing and

further characterization of this strain is recommended.

Indigo-carmine-containing plates proved difficult to maintain. Our plates were quick to fade to a yellow-green, usually within the 24-36 hours it took before any culture growth was evident on the plates. Only one full set of plates were seen with halos and that is the data that has been presented. As stated above, an *A. pelagium*-related strain, an *E. casseliflavus*-related strain, a *S. agaradhaerens*-related strain, a *S. neizouhensis*-related strain, and an *A. pseudofirmus*-related strain all demonstrated halos, suggesting the possibility of indigo-carmine degradation. Given the molecular similarity of indigo-carmine and indigo, it is possible that the aforementioned species have the ability to reduce indigo and could be responsible for dying capability in the vats.

Indigo reduction itself also proved difficult. Liquid culturing of the bacterial isolates was difficult and ascertaining what had grown sufficiently and what had not was challenging. The bacteria may have had too much oxygen or not enough, as they were inoculated and cultivated in closed tubes. Aino *et. al*[4] did anaerobic cultivation of the cultures, and we did not. These methods need further optimization. Three strains showed a green hue to the culture liquid, indicating the beginnings of indigo reduction to leucoindigo: an *E. casseliflavus*-related strain (100%), an *E. cellulosilytica DSM 2522*-related strain (98.63%), and an *E. polygoni*-related strain (100%).

Of these seven isolates, which indicated either indigo-carmine degradation, indigo reduction, or both, only *E. polygoni* has been previously reported as an indigo-reducing organism. It is a possibility that these species are reducing indigo and they have not yet been studied enough previously. *E. cellulosilytica DSM 2522*-related strains have been previously isolated from indigo vats but not cited as indigo-reducing, by Aino *et al.* in 2010[4] and 2018.[9] *E. casseliflavus* indicated both indigo-carmine degradation on the plates as well as indigo reduction in the broth. The other four species have no previ-

ous evidence of indigo reduction, nor have they been isolated from indigo vats. These results warrant further study into their indigo reductive capabilities.

Four isolate matches indicated no indigo-carmine degradation, indigo reduction, and have not been previously isolated from indigo fermentation dye vats (Table IV). Those four are *Nesterenkonia cremea, Evansella vedderi, Amphibacillus marinus,* and *Exiguobacterium alkaliphilum 12/1. N. cremea* is a gram-positive rod-shaped aerobic organism that was isolated from Lonar soda lake in India, which has optimum growth at pH 7.5-8 and 37 °C.[25] *E. vedderi* belongs to the previously described genera *Evansella*. *E. vedderi* is a gram-positive rod which has an optimum growth temperature of 40 °C and pH 10; they are obligate alkaliphiles and facultative anaerobes.[26] *Amphibacillus marinus* is a gram-positive rod which has an optimum growth temperature of 28 °C and pH 9 and is a facultative aerobe.[27] *E. alkaliphilum* is a rod-shaped, gram-positive, facultative anaerobe with an optimum growth temperature of 35 °C and pH 9.5.[28]

**Further Research Directions**

The artisan vat methods require more study. Fiber artists who use indigo have written informally but extensively about methods for maintaining vats and have conducted their own experiments regarding temperature, pH, materials, and other factors. Scientific research allows for more measurable and specific ways of monitoring and collecting data from these vats, which could then be used in small, human-scale projects like the Warren Wilson Fiber Arts program.

The methodologies involved in scientific research studies of these kinds of vats are in need of optimization and development. This is especially true for understudied artisan fermentation vats. As such, it would be of great benefit to devise better methods for screening for indigo degradation and testing indigotin reduction in the lab. Indigo-carmine-containing PYA plates were difficult to work with given the instability

of the compound under the culture conditions.

Traditional knowledge and research from Aino *et. al* suggest that, below the surface of the liquid, the vats are anaerobic environments; this is also supported by our data.[4] However, in this study and others, bacteria are isolated that are not anaerobic, so there must be some variation across time and in different parts of the vat. Small artisan vats are interesting as well because of their size: there is likely less anaerobic environment compared to aerobic environments, as opposed to huge amounts of anaerobic space in large traditional vats. Monitoring dissolved oxygen from various depths within small artisan vats and across time is a direction of study that is supported by the literature.

More intensive characterization of the microbial community across time in the vats is needed to acquire a more complete picture of the bacterial community within artisan vats. Various methods of cultivation are needed, as well. Much research, as of yet, of traditional indigo vats has included anaerobic cultivation, seeing as the vats are mostly likely anaerobic environments. Anaerobic culture conditions would likely yield additional types of microorganisms not identified under the aerobic conditions used in this study.

Culture-independent methods, those that do not depend on the organisms being grown in the lab, like community DNA analysis, would enable study of the ecological succession of species across time found in the vats. Aino *et. al* described distinct transitions from populations of *Alkalibacterium* to *Amphibacillus* genera over the course of 10 months.[9] The time scale for artisan vats would be different and the succession of bacteria might occur over shorter periods of time, in the course of weeks as opposed to month-long transitions.

While it is also possible that each and every vat is slightly different in terms of microbial communities, regardless of method, artisan dye vats could harbor significantly different bacterial communities than traditional fermentation vats. Additionally, it is possible that some bacterial genera are

localized, so the difference between bacteria would be correlated to geographical location. Extended study of local dyers' vats could create a larger data pool and allow for a more correlative study between location and bacterial communities.

Preservation of traditional techniques coupled with a modern scientific lens is the larger goal of indigo fermentation vat study. Further study of artisan fermentation vats, including characterizing the microbial communities found in them and how their function is affected by different things, is integral to that goal. Understanding traditional methods, or artisan methods inspired by traditional ones, allows for the optimization of those methods. Furthermore, the study of artisan vats could uncover accessible options for traditional indigo dyeing that are currently not widely used, or studied.

# Acknowledgments

# Literature Cited

(1)  Paul, R. *Denim: Manufacture, Finishing and Applications*; Elsevier Science & Technology: Cambridge, UNITED KINGDOM, 2015.

(2)  Aspland, J. R. *Textile Dyeing and Coloration*; AATCC, 1997.

(3)  Global Denim Jeans Market Share Analysis Report, 2019-2025 https://www.grandviewresearch.com/industry-analysis/denim-jeans-market (accessed 2021-04-29).

(4)  Aino, K.; Narihiro, T.; Minamida, K.; Kamagata, Y.; Yoshimune, K.; Yumoto, I. Bacterial Community Characterization and Dynamics of Indigo Fermentation. *FEMS Microbiol. Ecol.* **2010**, *74* (1), 174–183. https://doi.org/10.1111/j.1574-6941.2010.00946.x.

(5)  Ul-Islam, S. *Plant-Based Natural Products: Derivatives and Applications*; John Wiley & Sons, Incorporated: Newark, UNITED STATES, 2017.

(6)  Minami, Y.; Nishimura, O.; Hara-Nishimura, I.; Nishimura, M.; Matsubara, H. Tissue and Intracellular Localization of Indican and the Purification and Characterization of Indican Synthase from Indigo Plants. *Plant Cell Physiol.* **2000**, *41* (2), 218–225. https://doi.org/10.1093/pcp/41.2.218.

(7)  Minami, Y.; Kanafuji, T.; Miura, K. Purification and Characterization of a β-Glucosidase from Polygonum Tinctorium, Which Catalyzes Preferentially the Hydrolysis of Indican. *Biosci. Biotechnol. Biochem.* **1996**, *60* (1), 147–149. https://doi.org/10.1271/bbb.60.147.

(8)  Epstein, E.; Nabors, M. W.; Stowe, B. B. Origin of Indigo of Woad. *Nature* **1967**, *216* (5115), 547–549. https://doi.org/10.1038/216547a0.

(9)  Aino, K.; Aino, K.; Hirota, K.; Okamoto, T.; Tu, Z.; Tu, Z.; Matsuyama, H.; Yumoto, I.; Yumoto, I. Microbial Communities Associated With Indigo Fermenta-

tion That Thrive in Anaerobic Alkaline Environments https://doaj.org (accessed 2021-02-23). https://doi.org/10.3389/fmicb.2018.02196.

(10) Božič, M.; Kokol, V. Ecological Alternatives to the Reduction and Oxidation Processes in Dyeing with Vat and Sulphur Dyes. *Dyes Pigments* **2008**, *76* (2), 299–309. https://doi.org/10.1016/j.dyepig.2006.05.041.

(11) Yumoto, I.; Hirota, K.; Nodasaka, Y.; Tokiwa, Y.; Nakajima, K. Alkalibacterium Indicireducens Sp. Nov., an Obligate Alkaliphile That Reduces Indigo Dye. *Int. J. Syst. Evol. Microbiol.* **2008**, *58* (4), 901–905. https://doi.org/10.1099/ijs.0.64995-0.

(12) Suzuki, H.; Abe, T.; Doi, K.; Ohshima, T. Azoreductase from Alkaliphilic Bacillus Sp. AO1 Catalyzes Indigo Reduction. *Appl. Microbiol. Biotechnol.* **2018**, *102* (21), 9171–9181. https://doi.org/10.1007/s00253-018-9284-y.

(13) Nakagawa, K.; Takeuchi, M.; Kikuchi, M.; Kiyofuji, S.; Kugo, M.; Sakamoto, T.; Kano, K.; Ogawa, J.; Sakuradani, E. Mechanistic Insights into Indigo Reduction in Indigo Fermentation: A Voltammetric Study. *Electrochemistry* **2021**, *89* (1), 25–30. https://doi.org/10.5796/electrochemistry.20-00123.

(14) Rapid Reduction Vats. *Kokoro* İndigo *Culture & Crafts*, 2021.

(15) Indigo Natural Fermentation Vat - Aurora Silk & Natural Dyes https://aurorasilk.com/wp/2019/01/01/indigo-natural-fermentation-vat/ (accessed 2021 -03 -18).

(16) Crude PCR Products https://functionalbio.com/resources/sample-submission-guidelines/crude-pcr-products/ (accessed 2021 -04 -13).

(17) Nucleotide BLAST: Search nucleotide databases using a nucleotide query https://blast.ncbi.nlm.nih.gov/Blast.cgi?PROGRAM=blastn&PAGE_TYPE=BlastSearch&LINK_LOC=blasthome (accessed 2022-02 -22)

(18) Aino, K.; Hirota, K.; Matsuno, T.; Morita, N.; Noda-

saka, Y.; Fujiwara, T.; Matsuyama, H.; Yoshimune, K.; Yumoto, I. 2008. Bacillus Polygoni Sp. Nov., a Moderately Halophilic, Non-Motile Obligate Alkaliphile Isolated from Indigo Balls. *Int. J. Syst. Evol. Microbiol.* **2008**, *58* (1), 120–124. https://doi.org/10.1099/ijs.0.65193-0.

(19) Gupta, R. S.; Patel, S.; Saini, N.; Chen, S. Robust Demarcation of 17 Distinct Bacillus Species Clades, Proposed as Novel Bacillaceae Genera, by Phylogenomics and Comparative Genomic Analyses: Description of Robertmurraya Kyonggiensis Sp. Nov. and Proposal for an Emended Genus Bacillus Limiting It Only to the Members of the Subtilis and Cereus Clades of Species. *Int. J. Syst. Evol. Microbiol.* **2020**, *70* (11), 5753–5798. https://doi.org/10.1099/ijsem.0.004475.

(20) Nishita, M.; Hirota, K.; Matsuyama, H.; Yumoto, I. Development of Media to Accelerate the Isolation of Indigo-Reducing Bacteria, Which Are Difficult to Isolate Using Conventional Media. *World J. Microbiol. Biotechnol.* **2017**, *33* (7), 1–8. http://dx.doi.org/10.1007/s11274-017-2300-z.

(21) Patel, S.; Gupta, R. S. A Phylogenomic and Comparative Genomic Framework for Resolving the Polyphyly of the Genus Bacillus: Proposal for Six New Genera of Bacillus Species, Peribacillus Gen. Nov., Cytobacillus Gen. Nov., Mesobacillus Gen. Nov., Neobacillus Gen. Nov., Metabacillus Gen. Nov. and Alkalihalobacillus Gen. Nov. *Int. J. Syst. Evol. Microbiol.* **2020**, *70* (1), 406–438. https://doi.org/10.1099/ijsem.0.003775.

(22) Joshi, A.; Thite, S.; Karodi, P.; Joseph, N.; Lodha, T. Alkalihalobacterium Elongatum Gen. Nov. Sp. Nov.: An Antibiotic-Producing Bacterium Isolated From Lonar Lake and Reclassification of the Genus Alkalihalobacillus Into Seven Novel Genera. *Front. Microbiol.* **2021**, *12*, 722369. https://doi.org/10.3389/fmicb.2021.722369.

(23) Chen, Y.-G.; Zhang, Y.-Q.; Wang, Y.-X.; Liu, Z.-X.;

Klenk, H.-P.; Xiao, H.-D.; Tang, S.-K.; Cui, X.-L.; Li, W.-J. Bacillus Neizhouensis Sp. Nov., a Halophilic Marine Bacterium Isolated from a Sea Anemone. *Int. J. Syst. Evol. Microbiol.* **2009**, *59* (12), 3035–3039. https://doi.org/10.1099/ijs.0.009522-0.

(24) Sultanpuram, V. R.; Mothe, T. 2016. Salipaludibacillus Aurantiacus Gen. Nov., Sp. Nov. a Novel Alkali Tolerant Bacterium, Reclassification of Bacillus Agaradhaerens as Salipaludibacillus Agaradhaerens Comb. Nov. and Bacillus Neizhouensis as Salipaludibacillus Neizhouensis Comb. Nov. *Int. J. Syst. Evol. Microbiol.* **2016**, *66* (7), 2747–2753. https://doi.org/10.1099/ijsem.0.001117.

(25) Sultanpuram, V. R.; Mothe, T.; Chintalapati, S.; Chintalapati, V. R. Nesterenkonia Cremea Sp. Nov., a Bacterium Isolated from a Soda Lake. *Int. J. Syst. Evol. Microbiol.* **2017**, *67* (6), 1861–1866. https://doi.org/10.1099/ijsem.0.001876.

(26) Agnew, M. D.; Koval, S. F.; Jarrell, K. F. Isolation and Characterization of Novel Alkaliphiles from Bauxite-Processing Waste and Description of Bacillus Vedderi Sp. Nov., a New Obligate Alkaliphile. *Syst. Appl. Microbiol.* **1995**, *18* (2), 221–230. https://doi.org/10.1016/S0723-2020(11)80392-9.

(27) Ren, B.; Yang, N.; Wang, J.; Ma, X.-L.; Wang, Q.; Xie, F.; Guo, H.; Liu, Z.-H.; Pugin, B.; Zhang, L.-X. Amphibacillus Marinus Sp. Nov., a Member of the Genus Amphibacillus Isolated from Marine Mud. *Int. J. Syst. Evol. Microbiol.* **2013**, *63* (Pt_4), 1485–1491. https://doi.org/10.1099/ijs.0.045807-0.

(28) Mohan Kulshreshtha, N.; Kumar, R.; Begum, Z.; Shivaji, S.; Kumar, A. Exiguobacterium Alkaliphilum Sp. Nov. Isolated from Alkaline Wastewater Drained Sludge of a Beverage Factory. *Int. J. Syst. Evol. Microbiol.* **2013**, *63* (Pt_12), 4374–4379. https://doi.org/10.1099/ijs.0.039123-0.

# Tables

## I. Colony selection and isolation.

| Days | CFUs/mL & Standard Deviation | | Original Colonies | Sequenced Colonies | Number of Isolate Identities |
|------|------|------|------|------|------|
| 2 | $1.90 \times 10^4$ | n/a | 24 | 19 | 7 |
| 6 | $8.23 \times 10^7$ | $1.15 \times 10^8$ | 24 | 22 | 7 |
| 10 | $1.55 \times 10^8$ | $1.68 \times 10^7$ | 24 | 19 | 4 |
| | | Totals | 72 | 60 | 11 |

## II. Preliminary colony descriptions.

| Isolate Close Match | Descriptors of Isolated Colonies |
|------|------|
| *Salipaludibacillus agaradhaerens* | white fuzz edged |
| *Exiguobacterium alkaliphilum 12/1* | creamy pale yellow |
| *Evansella cellulosilytica DSM 2522* | tiny |
| *Enterococcus casseliflavus* | cloudy off white |
| *Amphibacillus marinus* | clear |
| *Evansella vedderi* | tiny |
| *Evansella polygoni* | cloudy off white |
| *Nesterenkonia cremea* | bright white |
| *Salipaludibacillus neizhouensis* | creamy orange (x16) |
| *Alkalibacterium pelagium* | white; tiny (x9); creamy orange; creamy white |
| *Alkalihalobacillus pseudofirmus* | off white distinct colonies; creamy barely yellow; white; creamy white (x3); tiny |

III. Closest BLASTn bacterial matches for partial 16s rRNA.

| Species | Day Iso-lated | % Matching | Relative Abun-dance | Indigo-carmine Degrada-tion | Indigo Degra-dation |
|---|---|---|---|---|---|
| *Salipaludibacillus agaradhaerens* | 2 | 99.62-99.89 | 4 | x | |
| *Exiguobacterium alkaliphilum 12/1* | 2 | 99.66-99.71 | 2 | | |
| *Evansella cellulosi-lytica DSM 2522* | 2 | 99.63 | 1 | | x |
| *Enterococcus cas-seliflavus* | 2, 6 | 99.78-100 | 5 | x | x |
| *Amphibacillus marinus* | 6 | 96.56 | 1 | | |
| *Evansella vedderi* | 6 | 97.25 | 1 | | |
| *Evansella polygoni* | 6 | 99.86-100 | 4 | | x |
| *Nesterenkonia cremea* | 10 | 99.66 | 1 | | |
| *Salipaludibacillus neizhouensis* | 2, 6, 10 | 94.23-95.18 | 21 | x | |
| *Alkalibacterium pelagium* | 2, 6, 10 | 100 | 13 | x | |
| *Alkalihalobacillus pseudofirmus* | 2, 6, 10 | 99.26-99.89 | 7 | x | |

IV. Previous strain identification.

| Species | Related strains previously isolated from indigo vats |
|---|---|
| *Evansella polygoni\*\** | (Aino et al., 2008) |
| *Evansella cellulosilytica DSM 2522* | (Aino et al., 2008), (Aino et al., 2010) |
| *Alkalihalobacillus pseudofirmus* | (Nishita et al., 2017) |
| *Salipaludibacillus agaradhaerens* | |
| *Enterococcus casseliflavus* | |
| *Salipaludibacillus neizhouensis* | |
| *Alkalibacterium pelagium* | |

# Figures

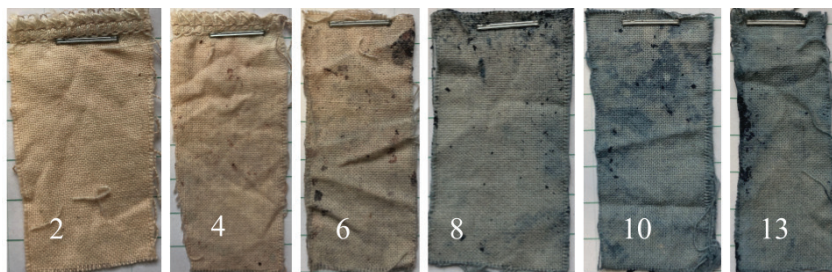## I. Molecular structure of indigotin (A) and indican (B).
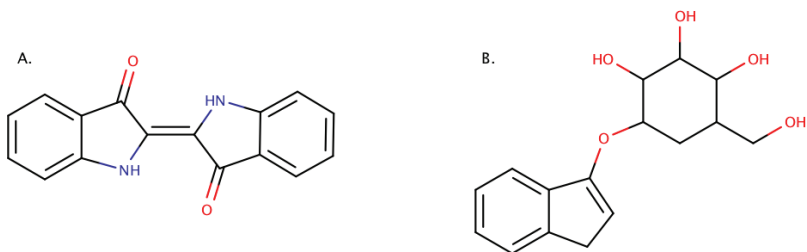


## II. Molecular scheme of indigo extraction.
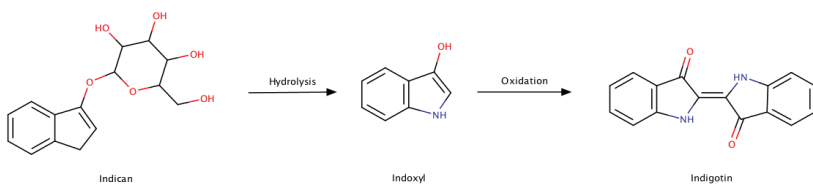


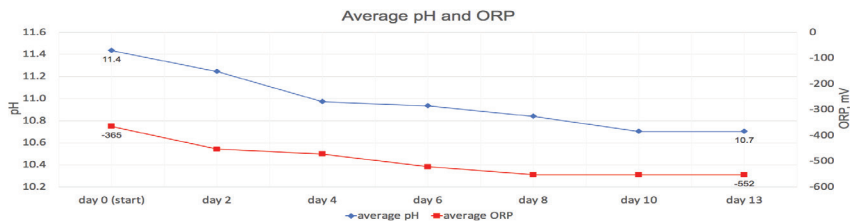## III. Reduction of indigotin and oxidation of leucoindigo.



## IV. Indigo-dyed swatches.

## V. Average vat pH and ORP.



## VI. Relative abundance of isolate matches.



- ■ *Exiguobacterium alkaliphilum 12/1*
- ■ *Evansella cellulosilytica DSM 2522*
- ■ *Amphibacillus marinus*
- ■ *Evansella vedderi*
- ■ *Nesterenkonia cremea*
- ■ *Salipaludibacillus neizhouensis*
- ■ *Alkalibacterium pelagium*
- ■ *Alkalihalobacillus pseudofirmus*
- ■ *Enterococcus casseliflavus*
- ■ *Salipaludibacillus agaradhaerens*
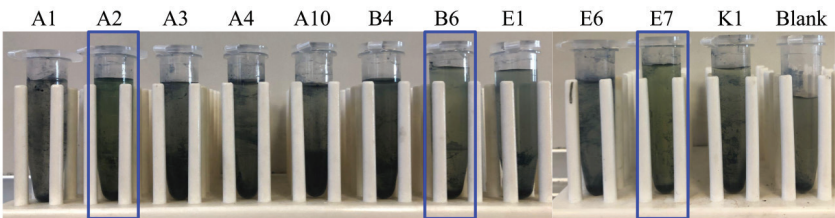- ■ *Evansella polygoni*
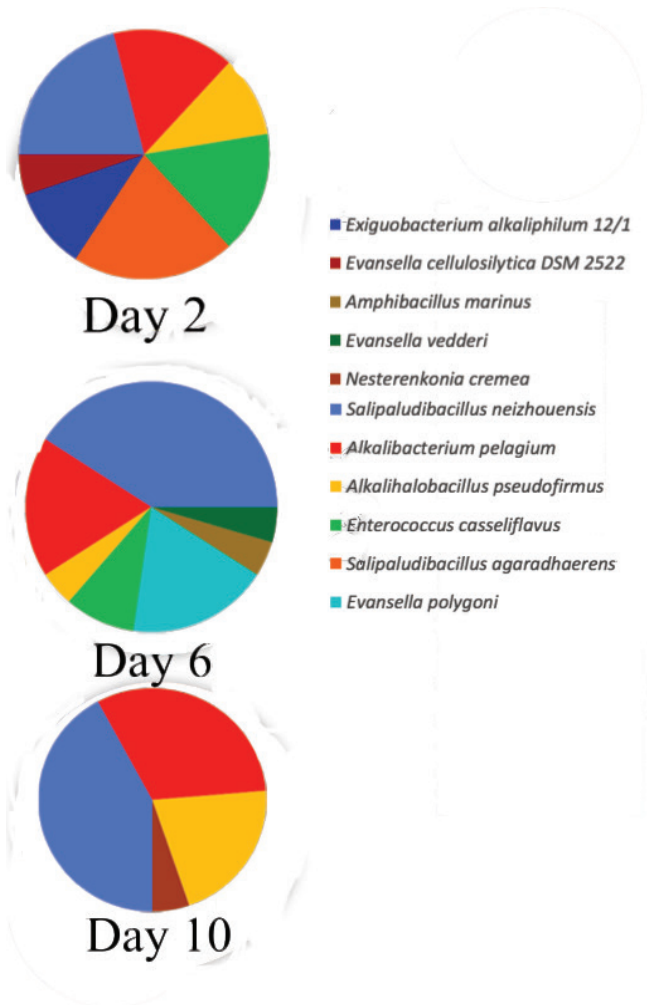
## VII. Indigo-carmine-containing PYA Plate with degradation halos.
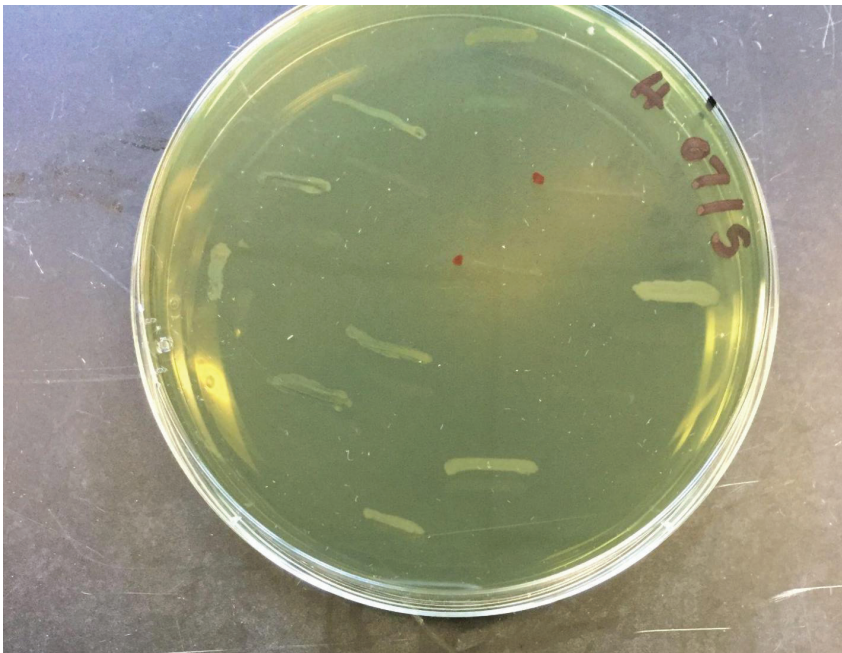


## VIII. Indigo-containing cultures.



Indigo-containing Cultures

**Mya Goodman**
**"Sacred"**

# Motivation in Recovery: A Practicum in Substance Use Detoxification

## Abstract

Psychologists have been exploring different motivational factors in substance use disorder recovery. In order to study this more intimately, I completed a 12 week practicum at the Neil Dobbins Center in Asheville, North Carolina. The Neil Dobbins Center is a 7-14 day acute recovery center, predominantly treating those detoxing from opiates and methamphetamines. I conducted seven semi-structured interviews to assess what was motivating clients to recover, while incorporating therapeutic techniques and motivational theories to better understand their experience. Results showed that the majority of the participants experienced extrinsic motivation in their recovery, or a combination of both extrinsic and intrinsic motivation. There was a lack of intrinsic motivation independent from extrinsic motivation, which is important to note in assessing how clinicians can approach clients' treatment plan in an acute recovery center. Most importantly, I now deeply understand the spectrum of motivation and how to meet clients wherever they are on this spectrum. These findings help expand our understanding of the relationship between motivation and recovery, and how to best support clients' needs.

## Zoe Lahm | Psychology



Zoe's call to this work began in 2016, when she embarked on her own journey of healing and self-discovery here in Asheville. In 2018, Zoe began at Warren Wilson College as a Psychology major to gain a deeper understanding of addiction in all of its forms. During her junior year, Zoe's internship at the Neil Dobbins Center served as a catalyst for working in mental healthcare. Since graduating in 2022, Zoe has worked in harm-reductionist treatment centers and public managed care organizations to help individuals and families meet their needs. Zoe will attend graduate school in spring 2023 to further her education in this field, and is deeply grateful for her time at Warren Wilson for providing her this threshold and many wonderful connections.

Since 2000, the number of drug-related deaths has tripled (NIDA, 2020). As these numbers continue to go up and individuals struggle on a day to day basis, programs such as AA, NA, and various rehabilitation programs are being implemented to provide support and recovery to those who can access them. Psychologists have been exploring the different factors that motivate people to recover, along with the factors that hinder recovery. Motivation plays an important role in keeping individuals sober, whether they are financial, emotional, familial, biological, conscious or unconscious motivators. There are many theories about how motivational factors impact substance use recovery. In the following sections, I will review some of the major theories of motivation in relation to recovery processes.

## Motivational Theories

### *Self Determination Theory*

Psychologists need to be able to identify motivational factors that the client is utilizing in order to create an effective treatment plan. Self Determination Theory has been used to provide structure and guidelines to individuals to reflect on the experiences and relationships they have, as well as identifying goals and behavioral changes for themselves. This theory is commonly used to examine substance abuse recovery, though it can be applied to many facets in life. Edward Deci and Richard Ryan originated this theory, introducing their ideas in 1985. They stated, "Self-determination theory (SDT) is an empirically-derived theory of human motivation and personality in social contexts that differentiates motivation in terms of being autonomous and controlled" (Deci and Ryan 2012, p. 1). It appears that, according to these researchers, motivation is at its highest when individuals feel like they are in control, they have competency, and they are connected to others.

Self Determination Theory is used to understand addic-

tion at a motivational level, and has proven to be successful in the way that it explains motivation to help clients change their actions and behaviors through its core elements, which are also three of human's psychological needs: autonomy, competence, and relatedness. These needs dig deep into humans' internal resources and moral compasses while holding the importance of objective observation within Self Determination Theory. Humans have an innate attraction towards self growth and healing, and additionally need a sense of choice, empowerment, and the feeling of connectedness through community in order to feel motivated to change negative behaviors. Motivation is made up of persistence, consistency, and energy, which all go hand in hand with intention. Having clients identify their goals, intentions, explore their psychological needs and wants, and make lists of their core values and long term visions for themselves are examples of different ways to incorporate the Self Determination Theory into therapy practice. Then, it is up to the individual and the psychologist to create a treatment plan based off of these goals, values, visions and needs.

Long-term psychological intervention requires motivation and program retention, and in most cases it is up to the individual to decide how long they choose to be in treatment. It is rare for clients to show up to a program ready to undergo deep reflection and change in identity, though they may feel ready for treatment (Groshkova, 2010). This is the difference between readiness for change vs readiness for treatment that is later explored. There is a plethora of research around the importance of readiness and motivation for drug users to actually change, and several approaches to cultivating this motivation.

### Transtheoretical Model
The transtheoretical model of change examines motivational factors in change processes through different levels of change (Prochaska and DiClemente, 1984) and breaks these processes down into five stages: pre-contemplation, contemplation, preparation, action, and maintenance. During the precontempla-

tion stage, individuals do not intend on changing their behaviors and may feel unmotivated to begin the process of recovery. The contemplation stage is where individuals become more aware of the pros and cons of changing their behaviors, intend on changing, but may not be committed right then and there. In the preparation stage, there is more of an immediate and foreseeable timeline for beginning the process of changing addictive behaviors, and individuals may have taken previous steps to meet their goals, whether that be seeking out therapy, developing a new healthy habit, or sharing their intentions with their community. During the action stage, individuals have already made major modifications to their daily lives and are fully motivated to take the steps necessary to stay clean and consistent. There is a higher level of commitment present in this stage. The last stage, maintenance, is centered around relapse prevention and looks different from the action stage in the way that individuals grow more confident and empowered in their sobriety. There is less day to day "action" and more long-term intrinsic motivation and understanding within oneself. These stages are not always sequential as recovery isn't always linear; relapse may happen and individuals may go back and forth between the contemplation and preparation stage, preparation and action, etc.

    DiClemente (1999) introduces other motivation considerations and how they interact with one another. These distinctions are intrinsic vs extrinsic motivation, imposed vs intentional change, and readiness for change vs readiness for treatment. Motivation is applicable to many different activities and operations, and in order to fully understand how to receive successful treatment, psychologists must understand these distinctions and how they influence clients in their everyday lives.

## Intrinsic vs Extrinsic Motivation.

    Intrinsic motivation comes from within, aligning with our value system and more personal to the individual. Extrinsic motivation is influenced by the environment and external factors. Research has shown that intrinsic motivation has been more

helpful in producing long-term change (Deci and Ryan, 2000). Psychologists have been researching the ways in which these two motivations interact, and how to evolve extrinsic motivations into more intrinsic motivations. Intrinsic and extrinsic motivation are not mutually exclusive, as many people experience both at the same time (Baker, 2010). In a residential setting, clients may feel motivated to stay sober because they are surrounded by peer support, staff support, high accountability and structure. They also might need to take a urine test, or receive money from a family member who will only offer it if the individual remains abstinent for a fixed period of time. Treatment centers must work towards guiding the client to a place where they can hold the same beliefs around their sobriety outside of a residential setting. This comes from intrinsic motivation, centering the individual, and understanding the phases of change.

**Imposed vs Intentional Change.**

 Imposed processes of change vary greatly from intentional processes of change. Imposing a temporary interruption from an addictive behavior does not guarantee long-term sobriety or change. Some of these temporary interruptions might be jail time, a detoxification period, or a perceived threat such as a urine test for a job or court proceeding. Imposed change is present in many treatment programs, especially with threat from our legal system; this would be considered extrinsic motivation.  It does not center the individual's core needs nor does it give them the agency to figure out their own path. Intentional change does a better job of doing this; it ties in with intrinsic motivation in the way that it comes from an internal desire from within. In the last 20 years, psychologists have explored the specificities in the role that motivation plays, and it always leads back to the specific *intention* behind the person abusing substances. It is crucial to identify these intentions and motivations in order to move forward with successful treatment and achieving long-lasting change.

**Readiness for change vs. Readiness for treatment.**

Attending treatment can be hard to navigate for people who use substances due to its time-limited nature. Most long-term programs will have you phase out after a year or so, but this timeline isn't necessarily congruent with clients' readiness to change their behaviors. Most clients are not fully ready and are still in the precontemplation/contemplation phase upon arrival to treatment, and depending on the program, some clients still might not be ready post treatment. Being ready for treatment just to get through it and relapse once out does not equate to being ready for change. This is another important distinction to recognize when accessing clients at intake and understanding how to modify their experience to help them feel intrinsically motivated.

## Connecting the Models

The constructs and stages within the transtheoretical model overlap with self determination theory through their support of individuals' autonomy and finding their own path in recovery from inner resources. Finding the motivation that starts one's journey may be intimidating as it demands introspection and facing tough obstacles. Introspection often comes from looking at the types of motivation that DiClemente explores in his model and building a therapeutic relationship that feels safe, and where individuals can be vulnerable. Becoming sober or acknowledging that it's time to change behaviors that are no longer serving us is not an easy process and one has to be internally motivated to change. Recovering from a biopsychosocial disease requires self reflection, self and clinical assessment, compassion and community. The Self Determination theory serves as a strong stepping stone in promoting long-term recovery in its efforts to empower the whole being. There is plenty of work to be done within the drug epidemic that the world is experiencing, and humans hold the power within to confront obstacles and feel powerful within their choices.

## Unanswered Questions

There are several unanswered questions that should be addressed surrounding motivation in recovery and how the Self Determination Theory shows up in recovery. For example, how does the Self Determination Theory apply to treatment? How aware are counselors of the main components of SDT, and do they seem to create conditions for autonomy, competence, and relatedness? How do those in substance abuse recovery talk about these factors, if at all, in their process? How do other motivational theories (e.g., transtheoretical model) also connect the initial stages of recovery?

In order to address some of these questions, I completed a practicum experience at a crisis and substance-use detox facility in Asheville.

## Method

### Placement

My practicum took place at The Neil Dobbins Center, a facility-based crisis and substance use detox program for adults in Asheville, North Carolina. The center is located within the lower level of the RHA (Regional Health Associates) Comprehensive Care Center, Suite C3356. RHA programs receive state-funding, making services more accessible to those without private insurance or Medicaid. The Neil Dobbins Center offers clients a plethora of resources and services to help meet their needs and get back on their feet, including but not limited to the following: a safe place to stay for up to seven days or longer with approval from their provider during the detoxification period, individual sessions with Peer Support Specialists and clinicians, group therapy, physical exercise, medication, meals, and community through fellowship. Therapy groups consist of Dialectical Behavioral Therapy, Seeking Safety for Men and Women, Faith-Based Recovery, along with various types of AA/NA/community outreach meetings.

NDC is an adult facility; clients have the agency to come

and go upon request. Early discharges can typically occur within 24 hours, depending on the day and time.

## Clients at NDC

Most clients were between the ages of 25 and 60, seeking crisis stabilization and a safe place to detox from drugs and alcohol. Along with substance use disorder, many clients came into the center previously diagnosed with major depressive disorder, anxiety disorders, PTSD, schizophrenia, personality disorders, and bipolar disorder. All clients were Buncombe County residents, and many were either houseless or in an unsafe/unstable living situation.

For this practicum, I received approval from Warren Wilson College and Alexander Veilleux, the center's Clinical Supervisor, to be on site and working first hand with clients. I completed a TB test and monitored my physical health daily for Covid-19 symptoms, wearing a mask at all times. I also set up a Learning Contract with my advisor, Dr. Swoap, to follow throughout my practicum. While following these prinicples, I informed the clients of who I was, what the purpose and intention of my practicum was, and that everything they said would be confidential. Along with conducting interviews, my method of conducting research included milieu observation, conversations with treatment professionals, and adhering to my learning contract.

## Procedure

Between May 2021 and August 2021, I completed 120 hours of work. I primarily worked Monday through Thursday from 3pm to 6pm, on top of a Friday early afternoon where I led my first DBT group. My responsibilities at Neil Dobbins included conducting interviews for my thesis, researching and calling programs in the area for clients with specific needs, assisting Alex, my supervisor, in whatever tasks he needed a hand with (e.g., making copies of handouts for group, filling out various types of paperwork, retrieving clients on/ off the unit for individual meetings, helping out with phone calls.), completing referrals

for individuals transitioning to other programs, organizing and filling out charts, interacting and building relationships with the clients, attending and participating in groups, answering phone calls, assisting with meals, and offering support and compassion to those who needed it.

A typical day at Neil Dobbins went like so: I would arrive to work at three and get a hold of a PRN badge to get on and off the unit, then ground myself in Alex's office with my computer or my notebook to identify what I needed to get done that day, organize my notes, and meet Alex wherever he was. The days were fast-paced and not always consistent, so sometimes he would be running group, other days he'd be in a 1:1 meeting at that time. Then, Alex would fill me in on the day, who we needed to meet with, and get me started on a task. By this time, there was usually a group getting ready to begin, so I would sit in and observe while taking notes. After group, clients would eat dinner, shower, hang out on the unit, and depending on the day, get ready for a night meeting. This was a flexible time of day for clinicians and nurses, and gave me the opportunity to conduct my interviews and build rapport with the clients. Depending on how much time was left for our shift, this would also be a convenient time for Alex and I to meet with individuals and move forward with case management. Case management consisted of hearing the clients' needs and wants and connecting them to resources in the area. These resources included primary care physicians, lawyers, insurance agents, financial supports, halfway houses, and long-term treatment facilities. After our meeting with the last client, Alex and I would regroup back in his office, debrief, and write notes. Although I did not write notes, I learned *how* to write them properly, what to include and what not to include, and how to balance subjectivity with objectivity. At this time, Alex would also walk me through one of my goals of this internship: understanding how state funding works with billing and treatment accessibility. He educated me on Vaya Health, who can access services in what parts of Western North Carolina, and how we can connect clients to the right places within a timely and inexpensive manner. After

notes were completed, Alex would give me a high five and we'd be on our way home.

  I chose the Neil Dobbins Center as my practicum placement for many reasons. First, I didn't have any experience working with adults, and I thought that changing the demographic from what I was used to and getting uncomfortable was necessary for my personal growth and future career as a clinician. Working with adults pushed me out of my comfort zone; I had to navigate dynamics that felt inorganic to me, find new ways to connect, and new ways to show up. Working at a detoxification facility was also foreign to me; I was more familiar with longer-term treatment, which invited me to approach this practicum without any expectation or desired outcome. Interning at Neil Dobbins did indeed push me out of my comfort zone, and I feel fulfilled knowing that I was able to witness and offer a hand to those who needed it. I also chose Neil Dobbins because I am deeply interested in working with individuals who are in recovery from substance abuse and addiction. This experience gave me an opportunity to begin furthering my goal as a substance abuse counselor/ social worker and get connected with others in the field.

### Interviews

  In conducting interviews with human participants, I adhered to Neil Dobbins' contract of confidentiality of working with clients. Within my 120 hours at Neil Dobbins, I conducted seven semi-structured one-on-one interviews with clients, all of whom received informed consent beforehand. Each interview lasted approximately 25 minutes; some were longer as individuals needed more time to reflect on their past experiences. All clients gave me verbal consent to take notes as they were sharing. Each interview started with me asking the client to tell me about themselves, how they grew up, and their experience navigating emotional challenges and distress. During this part of the interview, I practiced motivational interviewing techniques, including asking open ended questions, reflecting back, summarizing and affirming, to keep the conversation relational and flowing. The second part of

the interview was where I asked the client, "What motivated you to come to the Neil Dobbins Center, and what is motivating you to stay sober after being discharged?" Of these interviewees, four were cis-men, and three were cis-women.

### Milieu observation

Within my three months at NDC, I spent most time engaging with residents in the dayroom and outside in the courtyard on a nice day. I was able to observe interactions and non-formal conversations around clients' recovery and history with substances, participate in and lead DBT groups, engage in outdoor activity, and eat meals with the clients. Milieu observation was an integral part of this practicum as it allowed me to experience clients in the most authentic way possible, and released pressure for both myself and the clients. While spending time in the milieu and observing behavior, an intention of mine was to create appropriate, sober-relating relationships where drugs weren't the center of the conversation and I could learn more about the clients' hobbies, niche interests, and lifelong goals. At the same time, I also observed the milieu during more clinical settings, like DBT and Faith-Based groups. Though I wasn't conducting my interviews during these times, I still gathered a plethora of information from the client's sharing of what brought them to want to recover. Clients shared about what resonated with them during these groups, how the content related to their own lives, their visions for themselves moving forward, as well as their fears and what was holding them back. While witnessing these conversations and offering insight myself, I also witnessed Alex's impressive ability to ground these individuals, ease their anxiety, and help shift their thinking in a productive and compassionate way. Talking with Alex and observing his approach to navigating relationships with clients taught me a great amount about connection and appropriate boundaries.

### Conversations with treatment professionals

The Neil Dobbins Center is staffed with intuitive, highly

trained case managers and qualified professionals with whom I've had the privilege of conversing and furthering my understanding of addiction/recovery in all its forms. Many case managers had their own specialization; one took on more clients who needed support around domestic violence, another was more faith-based and worked with clients who wanted a more religious journey through recovery, and others were highly trained in counseling and showed up for their clients in whatever capacity they needed. These case managers became mentors to me as I shadowed them on days where Alex wasn't in the office, and learned different techniques and approaches to further my career and understanding of social work. Each skill set and conversation I had with various treatment professionals moved me closer to my goal of understanding what motivates people to recover.

## Results

## Part One: What I Learned About Myself

### Career Development

To advance my career and professional development, I immersed myself in the daily structure of the Neil Dobbins Center. I observed clinicians' approaches to different speciality groups, used motivational interviewing techniques, and was attuned to the overall needs of the center. In the Spring of 2023 I will be attending graduate school, working towards a Masters Degree in Clinical Social Work. Working with Alex in a substance abuse treatment facility gave me a model of this degree, as he earned his MSW from Western Carolina University. I learned more about pursuing clinical social work as a career during a supervision session with Alex and his own supervisor, and gained knowledge on the employment opportunities with a MSW rather than a Masters in Counseling. As of now, the state is pro-social work as opposed to counseling, and receiving an MSW or LCSW has been a more employable threshold for individuals pursuing mental healthcare. Knowing this, I have a clearer vision around

how I want my career to continue developing and feel confident in the steps to getting there.

### *Effective Leadership*

I improved my leadership skills by leading a DBT group for clients. In preparation for leading the group, I sat down with Alex and brainstormed different activities and approaches to take. We discussed the needs of the clients and the group, how my activity could support them in their detoxification process, and my intentions as a leader. The activity that we landed on encouraged the group to move through distress and discomfort and away from black and white thinking. I invited the group to engage in an art project with limited materials, but set a fairly high expectation of what I was looking for. This brought up feelings of frustration and annoyance for some clients, and once the group was ready to move on from creating their piece of art, we naturally moved into discussion. We talked about the messages we tell ourselves when feeling distress, how these messages affect us in our everyday lives, and how to acknowledge them without internalizing them. When the group was over, Alex and I debriefed in his office and he gave me valuable feedback. The feedback that I received helped me reflect on where I prospered and where I needed improvement. Being able to critique, learn, and grow in the ways that I want to show up as a future clinician is important to me and paramount to my growth in this field.

I continued to build emotional intelligence throughout my time at Neil Dobbins, as I was learning, shadowing, and connecting with people daily. Qualities that make up strong leadership include integrity, honesty, strong communication, self-awareness, empathy, accountability, and humility. These observable behaviors are what build trust between clients, interns, and clinicians. I strengthened these qualities by showing up on time, being transparent in my work while holding professional boundaries, being compassionate towards clients in their journeys, and owning my mistakes by taking in feedback and trying new approaches.

***Personal Skills***

In examining my growth in personal skills, I received lengthy feedback from my supervisor, Alex. He wrote:

> Zoe was communicative, goal-oriented, and a great team-player. She consistently worked for the best interests of the unit and our clients. All the staff were glad to have her around, with her kind, observant, and empathetic energy. During her time with us, Zoe and I discussed several times the various capacities of an LCSW and social work and therapists in general. Zoe demonstrated keen perception and interest in the various roles that one might fill and the impacts that one could have in their community. Zoe's questions and observations demonstrate an understanding and wisdom around the human condition and what social work is at its core. Zoe had to do a lot of shadowing during her time here with us, and her ability to remain patient and observant despite the amount of time quiet and stillness was asked of her was very impressive. Zoe had no hesitation throwing herself at the various tasks asked of her and was diligent and detail oriented, often seeing to the core of what was being asked, rather than simply fulfilling the function. Zoe is awesome and I only wish I could have put her in a position of greater responsibility to really test her mettle. She will be a great asset to wherever she gets the opportunity to shine! (A. Veilleux, personal communication, September 14th, 2021)

Along with these skills that I strengthened, I also became more confident in my ability to speak in front of large groups. Public speaking has always brought me a great deal of anxiety, but with leading a DBT group, sharing in several therapeutic groups, and interacting with the clients I was able to challenge this fear and grow in new ways. This is a skill that I will continue to work towards, and is especially important in my career as a budding professional.

### *Connecting Knowledge*

In this section, I will be connecting knowledge that I've gained throughout my years at Warren Wilson to my experience at the Neil Dobbins Center.

The course Theories and Techniques in Counseling and Psychotherapy that I took in 2019 was highly applicable to my work during this practicum. In this class, I explored different major theories and approaches used in psychotherapeutic settings. I did well in this course and learned about empathic listening and psychodynamic approaches to treatment. I confidently applied this knowledge during my interviews, check ins, and group therapy. This looked like letting the client lead the conversation when possible, practicing evocative empathy, and strengthening my listening skills through reflection and being attuned to the client.

The class that I took post-practicum, Mental Health and Distress, was very relevant as I was writing my thesis and reflecting on my findings. This course encouraged us to question the many "disorders" labeled by the DSM-5 and how it leads us to pathologizing, stigmatization, and how the process around diagnosis can be harmful for individuals who are experiencing mental distress. While on site at NDC, I had to access several clients charts to see how to approach each individual and their plan for treatment, and to understand more of the context that led them to detox. In their charts, I saw that many clients had been diagnosed with anxiety, depression, PTSD, schizophrenia, and several substance use disorders. Based on these diagnoses, I had expectations on how each person would interact with me, and had to confront biases that I had due to stigma around certain diagnoses. While challenging these biases, I also felt that the diagnoses weren't useful and took away from my ability to see each client and their needs holistically. Taking the Mental Health and Distress course after completing my practicum encouraged me to examine clusters of symptoms and their causes from a broader lens of life experience, and having that as a starting point instead of unpacking a catalog of diagnoses.

*Openness to Learning*

For the last goal of my learning contract, I set an intention to approach my practicum with a blank slate and full of openness to learning, while letting go of expectations of myself or others. I can confidently say that I met this goal and was able to unlearn thought patterns and beliefs that were no longer serving me in my journey towards becoming a clinician. I was able to objectively assess clients' needs without interference from my personal experience in recovery. There is no one size fits all when it comes to healing and sobriety, and just because something worked for me didn't mean it was going to work for anyone else. I attained this goal by sharing my intention with Alex in hopes that he could also hold me accountable and know what to look for.

## Part Two: What I Learned About Motivation In Recovery

Based on my observations, interviews, and talking with Alex, most clients who I had the opportunity to work with were either extrinsically motivated to stay sober or experiencing a combination of both intrinsic and extrinsic motivation. There was a lack of intrinsic motivation independent from extrinsic motivation present in my time at the Neil Dobbins Center. These findings are important moving forward to accessing how clinicians can approach individuals' treatment plan in an acute recovery center, and how to offer treatment that connects with clients intrinsically and at their core. On the unit, all clients fell somewhere on the spectrum of motivation to recover. Within this spectrum, each client was either motivated intrinsically, extrinsically, or with a combination of the two. Intrinsic motivation, as I referenced in my Literature Review, comes from within and aligns with our value system. Extrinsic motivation comes from external and environmental factors, and in this case, particularly from our country's legal system. During the interviews, most clients felt a mixture of internal and external motivation while detoxing. One client stated, "[I am] sick and tired of this mess. My life used to be good. I was good. My kids. They need me. They needed me this whole time." This client exemplified a combination of both

intrinsic and extrinsic motivation. They felt exhausted from the lifestyle they were living and the choices they made that weren't aligned with their value system. At the same time, there was external focus on their relationship with their kids and pressure to appear a certain way for them. My next question would be, if their kids weren't in the picture, would this person's motivation still be intrinsic?

During a separate interview, a client said that they were staying clean "long enough" to when she can have some form of stability (income, secure housing, food) to meet basic needs. This is an example of extrinsic motivation that I heard and observed from a client on the unit. In AA, individuals talk about the importance of having both internal and external forces working to keep people sober, not solely one or the other. In this case, AA members talk about needing a higher power, how your recovery is not just about you, and how there needs to be a balance of finding strength from within *and* from outside. I do not see a lack of isolated intrinsic motivation as negative, and believe that extrinsic motivation evolving into a combination may serve as a powerful motivator.

There were clients exploring the different stages of the Transtheoretical Model, a model of change that examines motivational factors in change through different levels, over the summer at Neil Dobbins. In my literature review, I discussed the five different stages of the transtheoretical model: pre-contemplation, contemplation, preparation, action, and maintenance. Because NDC is an acute 7-14 day program, it is almost impossible to witness clients moving through all five stages of this model. There simply isn't enough time. However, I did observe individuals bounce between pre-contemplation to contemplation, as well as contemplation to preparation. I saw these shifts occur during the DBT group as clients had the opportunity to reflect on their readiness for change, during individual sessions with Alex and his clients, through milieu connections, and through the budding of sober community on the unit. Several times over the course of the summer, Alex had former clients calling his office and telling him

about their successes post-detox. Many of them were successful in their journey towards sobriety, and met the goals that they set for themselves while at Neil Dobbins. This shows that there were clients that eventually moved to the action and maintenance stages of the transtheoretical model, with help from the support that they received in detox.

While sitting in on 1:1 sessions between Alex and his clients, I witnessed him working towards an Intentional Model of Change, as opposed to an Imposed Model of Change. With intentional change, individuals' core needs are centered and they have agency to discern between what they want and what no longer serves them. With imposed change, there is only a temporary interruption from an addictive behavior, and long-term sobriety or change is not guaranteed. Change is a decision that we consciously make; it is paced, anticipated, progressive and phased (The Bailey Group, 2014). Honing in on intentional change can be tricky in an acute recovery setting because, for many clients, their week at NDC *is* their temporary interruption from using substances. However, there are ways to approach clients within the model of intentional change, even at a 7-day program. Alex did this by asking individuals how he could be a liaison between where they were now and where they intended on being, really understanding where clients came from (physically, mentally, emotionally, and spiritually), asking what resources they needed, and helping them feel empowered by having them make their own decisions. With the Intentional vs. Imposed model, we don't want people feeling that change is happening to them, we want them to feel that change is happening alongside them as a result of their intentional choices. Alex did a great job of offering this to clients and demonstrating it in his practice.

## Conclusions

Through the course of this year-long project, I have learned more than I ever thought was possible around the recovery process, motivation, and myself. I found that my time at Neil

Dobbins was nourishing for my career and an integral part of my journey in this field.  Being immersed in the NDC community and getting a professional feel for what addiction work offers enhanced my passion for counseling, and reignited my desire to attend graduate school. During this practicum, the material that I gathered in my Literature Review came to fruition which helped me internalize and understand the role that motivation plays in different individuals. Motivation is a multi-layered, complex phenomenon that is needs-based at its core. Further, the practicum felt complementary to my learning style. Having the ability to practice the theories that I researched in real-time alongside treatment professionals allowed me to take something that felt abstract and truly understand it, helping me understand motivational techniques on a deeper level. Researching and reading about different theories served as the first step in my understanding, practicing them for 12 weeks was the second, and reflecting on my experience was the third. With this triad, I feel competent and empowered to deepen my understanding of motivation theories within recovery.

If others are interested in pursuing a similar practicum, here are some suggestions that helped me in my decision making process and my experience. First and foremost, it is important that you take your time to reflect on what population and/or field you would like to work in. There are an infinite number of directions to go in, and luckily, there is plenty of support from professors during the pre-capstone course. It is wise to ask them if they have any connections to programs, colleagues, or Warren Wilson alums who have worked or are currently working in the same field of interest. Talking to people in the community who have completed previous work in this field is a great way to network and get a better feel for what's to come. Once you feel complete in this area of their process, it is important to know *how* to contact the people and organizations that you are interested in working with. Draft emails introducing yourself, what you are studying, and what kind of experience you're looking for. This process is formal and it is important to be professional, so I recommend

sending the drafted emails to a professor before sending them out. Be patient with responses, and if necessary, assess when it is appropriate to apply more pressure. If you are having difficulty with communication, that might be information for them to take into consideration.

A challenge that might come up during your experience is connecting your practicum to your literature review. While the hope is to have your material perfectly overlap with your work on-site, that doesn't always happen. This doesn't negatively impact you in any way, it only opens up space for you to reflect on as you write up your results. You should not go back into your literature review and tweak things to make them align closer to your placement, but instead note that not everything you anticipate seeing from your literature review is reflected in your on-site experience. I recommend that you check in with your site supervisor and let them know what is in your literature review, and how you see the material applying to the day-to-day structure of your placement. It is possible that your supervisor can shift programs and groups to align with their frameworks and agenda for the day.

Ultimately, the most important advice that I can give is to get comfortable with being uncomfortable. The ways in which I grew could not have happened if I stayed in my comfort zone. Before interning at Neil Dobbins, the idea of leading a DBT group and having 1:1 interviews with clients intimidated me. As I mentioned in my results section, I struggle with public speaking and have always fought to find loopholes around it. My overall intention for my learning contract was to enhance these skills and be open to learning, and with that, I told Alex about this fear and discomfort on my first day. Challenging this discomfort wasn't easy, but my connection with clients and their effort to welcome me into their space helped me work through this fear, alongside the support from Alex.

I will continue to push myself and follow this path by attending graduate school in the Fall of 2023, pursuing my Masters in Clinical Social Work. I'm excited for this next chapter as I'll be deeply immersed in my passion for helping people, and helping

to lead them in understanding their internal workings. While in graduate school, I plan to complete a practicum working with adolescents struggling with substance use disorders. This practicum has taught me that I do not want to work with adults in my future practice. I am incredibly grateful for the opportunity that I was given at Neil Dobbins, but I feel drawn to work with a younger population. With that being said, I would love to continue working in detoxification, which was not where I saw myself in the future before starting this internship. I am eternally grateful for my practicum at The Neil Dobbins Center, and will never forget this experience.

# Acknowledgments

# References

The Bailey Group. (2014, June 24). *Intentional versus imposed change: How do you bring your people along?* The Bailey Group Minneapolis. Retrieved October 4, 2021, from https://thebaileygroup.com/intentional-versus-imposed-change-how-do-you-bring-your-people-along/?doing_wp_cron=1633390425.1286671161651611328125.

Baker, A. S. (2010). *What motivates people for substance abuse treatment? An analysis of self determination theory and its relation to treatment outcomes.* (Publication No. 3427998) [Doctoral dissertation, University of California]. PQDT Open. https://pqdtopen.proquest.com/doc/815752672.html?FMT=AI&pubnum=342799

Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* Springer US. https://doi.org/10.1007/978-1-4899-2271-7

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. In *Handbook of theories of social psychology: Volume 1* (pp. 416–437). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215

DiClemente, C. C. (1999). Motivation for change: Implications for substance abuse treatment. *Psychological Science*, *10*(3), 209–213.

Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). (2015). *Health behavior: Theory, research, and practice, 5th edition.* Jossey-Bass Public Health.

Groshkova, T. (2010). Motivation in substance misuse treatment. *Addiction Research and Theory*, *18*, 494–510. https://doi.org/10.3109/16066350903362875

Heather, N., & Stockwell, T. (2004). *The essential handbook of treatment and prevention of alcohol problems.* Wiley.

National Institute on Drug Abuse (2021). *Overdose death rates.* Retrieved September 9, 2021, from https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates

Polcin, D. L., Korcha, R. A., & Bond, J. C. (2015). Interaction of

motivation and psychiatric symptoms on substance abuse outcomes in sober living houses. *Substance Use & Misuse*, *50*(2), 195–204. https://doi.org/10.3109/10826084.2014.9 62055

Prochaska, J.O., & DiClemente, C.C. (1984). *The transtheoretical approach: Crossing the traditional boundaries of therapy.* Dow Jones-Irwin.

Rollnick, S., & Miller, W. R. (1995). What is motivational inter-viewing? *Behavioral and Cognitive Psychotherapy, 23*(4), 325–334. https://doi.org/10.1017/S135246580001643

# Maíz Libre para el Mundo: Corporate Profits, Indigenous Values, & Capitalizing Olotón

## Abstract

A novelty variety of maize that can fix its own nitrogen was discovered in the Totontepec community in Oaxaca, Mexico and patented by American researchers. Indigenous Oaxacans claim that this was an act of biopiracy, as it appropriated indigenous technology. The American researchers involved believe that this was an ethical act of bioprospecting, as they extracted this plant from the indigenous community while observing the principles laid out in the UN's Nagoya Protocol. This essay delves into how the protocol is an insufficient agreement in terms of equitably sharing benefits between global capitalists and marginalized communities such as indigenous Mexican communities. Through examining the history of marginalization experienced by indigenous Mexican communities, understanding communal land and seed philosophies held by these communities, and recognizing the restraints of global neoliberal capitalism and free trade, the Nagoya Protocol is revealed to be a victim of the so-called "Westfailure" system of the global age.

## Rhys Kutschbach | Global Studies

Rhys Kutschbach graduated from Warren Wilson in the Fall of 2022. While attending, Rhys worked on the Blacksmith crew, attained a major in Global Studies and a minor in Environmental Studies, and completed their PEG III by teaching English to Spanish speakers. Their interest spans from sustainable agriculture to social justice and education. Rhys is now working for the Upper Snakes River Tribes Foundation in Boise, Idaho as their Tribal Youth and Family Climate Education Coordinator.

This paper seeks to investigate and discuss the current conflicting philosophies and uneven power dynamics between Indigenous communities and corporations of the Global North concerning global agricultural trade, specifically seed patenting and sale. These are investigated to understand how the Nagoya Protocol is ineffective in its ability to equitably and respectfully share beneficial Indigenous knowledge and technologies. This paper is grounded in a specific case study in Oaxaca, Mexico, where Mars Inc. and the University of California-Davis made a contract with an Indigenous community of Totontepec in Oaxaca for the patenting and commercialization rights of a novelty corn variety named olotón.

The case study of the contract for olotón in Oaxaca, Mexico, according to Martha Pskowski, an independent journalist for *Yale 360,* starts with Thomas Halberg. In 1979 Halberg, an American naturalist, happened to stumble upon this maize grown by the Sierra Mixe, a local Indigenous community, in the small town of Totontepec.[1] Halberg was struck by this maize as it created a mucus-like gel on its aerial roots and was large and healthy even though it seemed to be growing in unhealthy soil. His interest in the maize continued to draw him back to Totontepec and engage in studies attempting to uncover this maize's secret to growth. It wasn't until 2018 that a paper was finally published documenting that the maize was able to insert nitrogen into the soil, a feat only known to be done by legumes. It was able to do this because the gel of its aerial roots housed bacteria that are able to take nitrogen from the air and then put it into the gel that gets absorbed by the plant and soil.

News quickly spread of this discovery with this maize being touted as the "wonder plant" among other names. News sources like *The Atlantic* and the news page from the

1. Martha Pskowski, "Indigenous Maize: Who Owns the Rights to Mexico's 'Wonder' Plant?" *Yale Environment 360,* July 16, 2019, https://e360.yale.edu/features/indigenous-maize-who-owns-the-rights-to-mexicos-wonder-plant

University of Wisconsin-Madison prophesied olotón as being the gateway for reducing fertilizer use which would reduce fertilizer production as well as runoff going into streams and watersheds.[2] Along with its environmental impact, olotón was also being considered as a way to help "developing countries" that have poor soil quality and lack the wealth to buy fertilizers.[3]

Before the media caught wind of olotón, though, Mars Inc. and UC Davis made a contract with the people of Totontepec. While the contract is confidential, a preliminary version was said to grant patent rights to UC Davis (with a 50/50 royalties split between UC Davis and the people of Totontepec) as well as commercialization rights to Mars Inc. It should be noted, however, that while olotón was found by American researchers in Totontepec, many other communities in and surrounding the Oaxacan state are known to grow and trade olotón as well.[4] Mars Inc. and UC Davis released identical press releases written by UC Davis' news and media relations manager that noted the use of the Nagoya Protocol as a tool for research, but fails to mention the contract at all.[5] Even so, the Nagoya Protocol plays a role within this contract.

Neoliberal capitalism, as practiced by multinational corporations, displaces Indigenous claims to knowledge of nature in the interest of profits. This lopsided power dynamic

2. Ed Yong, "The Wonder Plant That Could Slash Fertilizer Use," *The Atlantic,* August 9, 2018, https://www.theatlantic.com/science/archive/2018/08/amaize-balls/567140/; Eric Hamilton "Corn That Acquires Its Own Nitrogen Identified, Reducing Need for Fertilizer," *University of Wisconsin-Madison,* August 7, 2018, https://news.wisc.edu/corn-that-acquires-its-own-nitrogen-identified-reducing-need-for-fertilizer/

3. Yong, "The Wonder Plant"; Hamilton, "Corn that Acquires its Own Nitrogen."

4. Pskowski, "Indigenous Maize."

5. Amy Quinton, "Study Finds Indigenous Mexican Variety of Corn Captures the Nitrogen It Needs From the Air: Association With Nitrogen-Fixing Bacteria Allows the Corn to Thrive Without Fertilizer" *University of California-Davis,* August 7, 2018, https://www.ucdavis.edu/news/study-finds-indigenous-mexican-corn-captures-nitrogen

is on dramatic display in the ongoing struggle over olotón. While the Nagoya Protocol is said to be used in this case as a preventative measure against biopiracy, Indigenous groups have spoken out about the practical ineffectiveness of the Protocol in resolving this issue. As it stands now, the Nagoya Protocol cannot effectively prevent biopiracy due to its lack of power within the global neoliberal capitalist market.

## Background

In order to take in the following information in an effective way, it is necessary to briefly explain what the Nagoya Protocol is and how it is a player in this case study. *The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising From Their Utilization to the Convention on Biological Diversity* is an international document synthesized by a subgroup of the United Nations that focuses on biological diversity. The purpose of this protocol, which is discussed in further detail later in the paper, is to encourage the study and research of foreign species while respecting the state in which they originated. This is meant to create a clear, legal framework in which researchers may follow and share the benefits of their research with the party in which their research took place. However, as this paper presents, the ideals of this protocol overshoot the reality.

In reading over this case of the contract for olotón, two distinct positions were becoming clear. One side is the corporate positioning. The corporate spokespeople are elated by this deal and for olotón's potential commercialization because of its potential of reducing the use and manufacturing of synthetic fertilizers, which is known to be ecologically destructive. While this lens is putting more of an optimistic emphasis on the ecological benefits of olotón's commercial use, another side is concerned with the treatment of Indigenous Oaxacans and their knowledge. There is distress over the contract through this lens as the contract effectively throws

olotón from the public domain culture of the Indigenous peoples who cultivated it into the neoliberal economy, where the crop has been privatized. These seemingly conflicting lenses even use differing terminology; the corporate lens calls it bioprospecting, while the lens concerned with the treatment of Indigenous peoples involved call it biopiracy.

Bioprospecting is seen as an act of progress and a tool for technological advancement. The United Nations Development Program defines bioprospecting as "the systematic search for biochemical and genetic information in nature in order to develop commercially-valuable products for pharmaceutical, agricultural, cosmetic and other applications."[6] In addition to this, and a relatively new addition through the Nagoya Protocol and the Convention on Biological Diversity, bioprospecting implies that there will be equal access and benefits granted to nations from which the biological product was derived.[7] So, in theory, bioprospecting is the active search for novelty biological materials that have the potential for commercialization with the intention of equitably sharing benefits and wealth with the nation of the material's origin.

Using the lens of bioprospecting in the case of olotón, it is seen as an agricultural achievement in the maize's ability to fertilize the soil. There have already been optimistic ideations of the potential beneficial change that can be accessed through the use of olotón. Commercially, the maize has the potential to reduce the amount of synthetic fertilizers used in production which, in turn, would lower the cost of production. The act of not purchasing the fertilizer then translates to less fertilizer being produced and used in commercial fields. This is beneficial to the environment in two ways: fertilizer production uses around one to two percent of the world's energy while also emitting a lot of greenhouse gasses, so reduc-

6. The United Nations Development Program, "Bioprospecting" (2016), 1.
7. James S. Miller, "The Realized Benefits from Bioprospecting in the Wake of the Convention on Biological Diversity," *Washington University Journal of Law & Policy* 47, (2015): 55. https://openscholarship.wustl.edu/law_journal_law_policy/vol47/iss1/10

ing the amount of fertilizer production will in turn reduce the amount of energy-use and pollution.[8] Secondly, excess fertilizer in fields often end up washing into nearby streams and rivers that go into lakes and consequently cause algae blooms which have devastating impacts on the aquatic ecosystems; by growing this crop that fixes its own nitrogen, it is believed that nitrogen runoff could be decreased or ended (at least from corn growing).[9] Furthermore, the idea of humanitarian aid has also been ruminating. With olotón being able to fix its own nitrogen and fertilize soil, some are speculating that it could be a tool for "developing" countries with poor soil fertility to be able to grow nutrient-rich crops.[10] The western "discovery" of this variety of corn, therefore, has the potential to lead to environmental and humanitarian benefits.

In the same conversation, however, the term biopiracy is being used by Indigenous peoples to describe this discovery. Vandana Shiva, a well-recognized environmental activist and food-sovereignty advocate, writes about biopiracy and considers it a reductionist view of nature and knowledge and describes it as the colonization of knowledge and wealth resulting from wealthy countries or nations plundering Indigenous communities.[11] She goes on to note that biopiracy is lawful in the eyes of the Global North because they define Indigenous science as "nature" and thus are able to make claim to it.[12] It is through biopiracy, then, that seeds cultivated by Indigenous communities and communities of the Global South are effectively stolen and subsequently sold back to them, furthering their economic oppression and continuing the cycle of pover-

8. Jason Daley, "The Corn of the Future Is Hundreds of Years Old and Makes Its Own Mucus," *Smithsonian Magazine,* August 10, 2018, https://www.smithsonianmag.com/science-nature/corn-future-hundreds-years-old-and-makes-its-own-mucus-180969972/.
9. Daley, "The Corn of the Future."
10. Yong, "The Wonder Plant."
11. Vandana Shiva, "Piracy Through Patents: The Second Coming of Columbus," in *Biopiracy: The Plunder of Nature and Knowledge* (Berkeley: North Atlantic Books, 1999, 2016), 1-6.
12. Shiva, "Piracy Through Patents," 4.

ty. This dynamic then makes it so that the Indigenous group from where the technology originated will not be able to use it as they traditionally have, nor will they be able to economically benefit from it if they ever chose to. This also continues a neocolonialist pattern of profiting off of resources that originate from Indigenous communities while further disenfranchising them.

On the same note but through this different lens, this western discovery of olotón serves as yet another case of biopiracy. EDUCA, a Oaxacan nonprofit organization, released an English translation of a statement read at a rally that was protesting the privatization of olotón. In this statement, they asserted, "We qualify efforts to patent *olotón* maize as an act of biopiracy, and we assert that the Universities of California – Davis and Wisconsin – Madison, at the service of the company Mars Inc., did not make any 'discovery.' Rather, they have sought to appropriate our ancestral knowledge, showing a contempt for traditional science which in our communities is expressed as custom."[13] Here, it can be seen that there is discontent within the Indigenous Oxacan community concerning the deal made for the patenting of olotón. While the Nagoya Protocol was used in this case to ensure economic reciprocity for the people of Totontepec, Indigenous Oaxacan grievances parallel those of the Indigenous groups in Perú because both biological resources were regarded as public domain that was meant to be freely traded and cultivated.

The Nagoya Protocol on Access and Benefit-haring was used in this case as a way to prevent the accusations of biopiracy. However, with both of these terms noted and defined, the Nagoya Protocol is an inefficient document as it does not acknowledge Indigenous economic cultures or cultures of reciprocity nor does it effectively undertake the power imbalances at play concerning interactions with multinational corporations and marginalized groups such as Indigenous

13. "Communal Maize from Oaxaca for the World," EDUCA, accessed February 19, 2022, https://www.educaoaxaca.org/communal-maize-from-oaxaca-for-the-world/

peoples.

## The Cultural Meaning of Maize to Mexicans

Maize is more than just a plant, agricultural commodity, and crop; it is a way of life and a building block of culture to the Mexican people and, specifically, the Indigenous peoples of Oaxaca. Roberto J. Gonzales, an anthropologist studying the lives of Indigenous people in the northern Sierra of Oaxaca, Mexico, talks at length about how Indigenous peoples would interact with maize and how maize would interact with them. He starts by noting that "75% of the calories consumed by Talean campesino families came from maize."[14] This is used to show how much these families rely on maize as a source of sustenance. Along with this the whole maize plant was used (and is still used by contemporary peasants) whether it be through using the bractea (the leaves of maize that protect the ear) as wrapping for food or other goods, or using the dried stalks as construction material.[15] Presumably because of maize's ability to sustain life, much of Mexican culture was created around it.

It can be seen that maize has been a large player in the creation of culture in Mexico through the way in which Mexicans interact with the crop. Gonzalez affirms this idea by providing anecdotes and examples of how maize serves as a way to connect campesinos to their family, land, and culture.[16] He cements this point by examining religious figures and traditions in the Sierra. He mentions San Isidro, the patron saint of campesinos and how "San Isidro's day coincides with the maize planting season."[17] He also goes on to note that cam-

14. Roberto González, *Zapotec Science: Farming And Food in The Northern Sierra of Oaxaca* (Austin: University of Texas Press, 2001), 103.
15. Arturo Warman, *Corn and Capitalism: How A Botanical Bastard Grew to Global Dominance,* trans. Nancy L. Westrate (Chapel Hill: The University of North Carolina Press, 2003), 21.
16. González, *Zapotec Science,* 103.
17. González, *Zapotec Science,* 109.

pesinos offer corn to the church as decoration or sacrifices to the saints.[18] Lastly, he recounts how across the Sierra region (including the Mixe), groups of villagers would travel and perform magical rites to petition for things such as abundance of food (specifically maize), rain, and good fortune. It is also important to note that these rituals happened in synchrony with the critical points in the maize-growing cycle.[19] He then goes on to mention that this tradition is still continuing, but under a Catholic guise in the aftermath of Spanish colonization.

Maize is not only used as a medium for religion, but for community building as well. Gonzalez writes, "In a part of Mexico where land conflicts are endemic, maize is a means of linking communities together."[20] He explains how maize has a heart and soul in the eyes of the campesinos, and illustrates this idea by recounting three fables shared within the Talean community:[21] one being about how a couple lost all of their kernels from their granary after the wife took back the maize gifted to her widowed and poor mother-in-law; one about how maize will no longer grow in the soil that hosted a violent conflict between two villages; and the last one was about how a young boy tripped and hurt himself after purposefully dropping ears of corn in a fit.[22] This sentiment of maize being used as a medium of community building is still shared today in Oaxaca.[23] Maize has a strong interconnection with the culture in Mexico through religion, community, and sustenance.

## Economic Meaning of Corn to Americans

Columbus did not realize that the gift of maize was far more valuable than the spices or gold he hoped to find.

18. González, *Zapotec Science,* 105.
19. González, *Zapotec Science,* 109.
20. Gonzáles, *Zapotec Science,* 103.
21. A village in the Northern Sierra of Oaxaca, Mexico.
22. González, *Zapotec Science,* 104-105.
23. EDUCA, "Communal Maize from Oaxaca for the World."

He had no way of knowing that the history of maize traced back some 8000 years or that it represented the most remarkable plant breeding accomplishment of all time. He might have been embarrassed if he had understood that then, as now, this plant developed by peoples he judged poor and uncivilized far outstripped in productivity any of the cereals bred by Old World farmers – wheat, rice, sorghum, barley, and rye.
– Walton C. Galinat, *Maize: Gift from America's First Peoples*[24]

The meaning of corn amongst Americans is similar to that of Mexicans in it being based on corn's ability to feed, but the cultural value of corn in America is more largely based on corn's economic capacity. Rather than community building, corn in the U.S. was and is used as a building block for economic growth. Arturo Warman, a Mexican scholar studying corn's history and roles within the markets of the global north, reviews the evolution of corn and its uses within the capitalist American market and its eventual global outreach.

Due to corn's physiological and physical characteristics, it is not only very adaptable to varying climates, but is also very susceptible to random mutations as well as free cross-pollination.[25] This results in multiple different races of corn thus resulting in multiple different uses. Warman notes that while there have been 250 different "races" of corn identified, there are "6 corn varieties for commercial purposes: flour corn, waxy maize, sweet corn, popcorn, flint, and dent."[26] On top of corn's natural ability to mutate and cross-pollinate, it seems rather receptive to synthetic genetic engineering, which then allows it to be manipulated to grow in such a way that is even more advantageous for its grower

24. As quoted in Gonzáles, *Zapotec Science,* 117.
25. Warman, *Corn and Capitalism,* 14.
26. Warman, *Corn and Capitalism,* 14.

and subsequent market.[27] Lastly, corn (at least its commercial varieties) is able to grow faster and with a more efficient seed-to-harvested crop ratio than any other cereal.[28] This means corn has more efficient land and time use, a large commodity in U.S. agriculture.

With corn's natural and synthetic ability to be genetically diverse, this allows for many different market uses for it. With this diversity came the need to refine the crop to be a marketable good that became more than just the cob. Warman reports that in the second half of the nineteenth century was when corn refineries started to appear. Then, in the late twentieth century, these refineries became such a large part of the market that the industry grew to $4 billion with 20,000 workers just in the United States.[29] The growing of corn as well as refining corn was not only a booming business in the U.S., but because of this, corn also became entwined into other foodstuffs. To help illustrate how versatile and extensive corn can be, Warman reports that, in a sample, one-fourth of products found in an average grocery store contain some kind of corn product where almost all of those products are sourced from a refining industry.[30] By the late 20th century, corn became a relied-upon domestic commodity.

Not only was corn a big business in the U.S domestic economy, it also became one of its largest exports. The U.S. became the global market's king of corn as it was the largest exporter of corn in the 1980's.[31] And, with this, Warman notes that the U.S. experienced corn as its most important source of foreign trade earnings; it exported nearly 66 million tons, 30 percent of its corn harvest, which constituted two-thirds of internationally-traded corn in the global market.[32] Corn still maintains its relevance in the U.S. as a globally mar-

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27. Warman, *Corn and Capitalism,* 15.
28. Warman, *Corn and Capitalism,* 16.
29. Warman, *Corn and Capitalism,* 25
30. As quoted in Warman, *Corn and Capitalism,* 26
31. Warman, *Corn and Capitalism,* 16
32. Warman, *Corn and Capitalism,* 23

ketable item. As of 2020, corn is the second largest export, behind soybeans, at around $9.2 billion dollars.[33] Corn not only had a hand in curating Mexican civilization and culture, but was also used as a large building block and leg up for the agricultural economy of the U.S.

## Reality of Neoliberalism in the Global Market: Agricultural Renting and Biopiracy

To engage with the potential or realized pitfalls of the Nagoya Protocol, it is imperative to understand the global economic structure that the Protocol is acting within. Neoliberalism as we understand it today, with emphasis on individuality and an aversion to governmental interference, emerged as an elite project during the Reagan-Thatcher era.[34] We tend to value capitalism for its competitive "free market" nature due to the logic of Adam Smith's "invisible hand" ensuring that businesses will do right by the public because the public dictates the success of said business. However, this theory is no longer holding water like it once did. Joseph E. Stiglitz, an American Nobel-winning economist, notes that our American economy is becoming less and less competitive, reporting that there are multiple instances in which one to three firms hold 85-97 percent of a niche market from cat food to social networking sites. In the same spirit, there are firms that own a large amount of a market but place companies under different names in order to give the illusion of choice.[35] In other words, corporations dictate their own success through undercover monopolizing, rather than the public dictating success through their power of choice. Ultimately, corporations do

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33. Keith Good, "2020 U.S. Ag Exports Second Highest on Record, Led by Soybeans, Corn and Pork to China" *Farm Policy News,* April 7, 2021, https://farmpolicynews.illinois.edu/2021/04/2020-u-s-ag-exports-second-highest-on-record-led-by-soybeans-corn-and-pork-to-china/

34. James McCarthy and Scott Prudham, "Neoliberal Nature and the Nature of Neoliberalism," *Geoforum,* 35, (2004): 276.

35. Stiglitz, *People, Power, and Profits,* 55.

right by themselves and don't necessarily have the well-being of the public in mind.

Neoliberalism is apathetic in that it is only meant to calculate economic profit. Without political intervention, the reality is that neoliberal capitalism will always choose profits over the wellbeing of workers, the environment, and the longevity of the economy.[36] In the reality of globalization, this can include corporations taking jobs away from their country of origin to go overseas, employ cheaper labor, and benefit off of less-strict environmental regulations.[37] This is referred to by contemporary economists as "the race to the bottom." Along with this, corporations are gaining more political power. As Stiglitz writes, "In a money-driven political system, the source of money – finance – will inevitably have great political power," and regulations will continue to be pushed down in favor of corporate growth.[38] In recognizing this flaw in our capitalist system, we can critically analyze other parts of capitalism that are potentially harmful.

Patents are another creation of capitalism that must be critically analyzed. Patents can be recognized as rents because they create an output of money for the input of nothing other than simply owning that thing.[39] Patents, like the free market, are not inherently evil; when we think of patents, we think of their intended purpose, like a small inventor or entrepreneur gaining protection from big companies that could steal her idea/product and, therefore, her profit. This, in turn, would mean that there would be a drive for innovation because any person with a new idea could independently pursue its creation and marketing.

However, patents have been ostracized from their intended use by big companies. Stiglitz discusses how patents are now being used as a tool for big companies to discourage

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36. Stiglitz, *People, Power, and Profits,* 99.
37. Stiglitz, *People, Power, and Profits,* 82.
38. Stiglitz, *People, Power, and Profits, 116.*
39. Joseph E. Stiglitz, *People, Power, and Profits: Progressive Capitalism for an Age of Discontent (*New York: W.W. Norton and Company, 2019), 51.

outside competition by utilizing the threat of bankruptcy through lawsuits.[40] He writes, "Thus, at best, rents are un-helpful to growth and efficiency, at most harmful. They can be harmful because they distort the economy, because they 'crowd out' the kinds of 'good' economic activity that is the basis of true wealth creation."[41] In other words, along with stifling innovation, this shows that intellectual property rights and patents are being used as a way for large corporations to hoard knowledge and wealth and discourage further com-petition that could potentially make a better product. Going further with this idea of patents confining innovation, Stiglitz mentions an instance in which a test for breast cancer became "[m]uch cheaper and much better" after its patent was re-voked by the Supreme Court.[42] This adds to the argument that public domain may very well encourage innovation more than patents do.

This act of patenting to hoard then plays out in the global agricultural market through large corporations having extensive power on the global food supply. Vandana Shiva writes on this topic, acknowledging the harm corporate global control of agriculture wrecks on Indigenous communities and communities of the Global South. She writes:

> [A stolen harvest] is being experienced in every society, as small farms and small farmers are pushed to extinc-tion… As farmers are transformed from producers into consumers of corporate-patented agricultural products, as markets are destroyed locally and nationally but ex-panded globally, the myth of "free trade" and the global economy becomes a means for the rich to rob the poor of their right to food.[43]

In this, Shiva is expressing the discontent that is felt in previ-ously-colonized communities that are, in a way, continuously

40. Stiglitz, *People, Power, and Profits,* 59.
41. Stiglitz, *People, Power, and Profits,* 52.
42. Stiglitz, *People, Power, and Profits,* 74-75.
43. Vandana, Shiva, "The Hijacking of the Global Food Supply," in *The Van-dana Shiva Reader* (Lexington: University Press of Kentucky, 2014), 41–54.

being colonized via the free market global economy. This cycle happens in which farmers become reliant on high-tech seeds owned by agricultural corporations because they are pressured to keep up with the demand of exports in order to afford their livelihoods.

## Butting Heads: Philosophy on Ownership of Land and Seed

The main controversy of the deal between U.S. entities and the people of Totontepec that I am interested in delving into is the differing philosophies on the ability to own land and seeds. The U.S. has a strong reliance on and attraction to patents, which can be seen through their extensive use as well as through the rhetoric of economic growth. In opposition, Indigenous groups in Oaxaca view land and seeds as a communal resource not meant for just one person or group to own. This philosophy can be recognized through how Indigenous Oaxacans talk about land and crop, as well as how they have shared seeds in the past and present.

This section sets out to recognize the controversy over ownership, namely the ownership over land and life. Shiva shares that in 1971 the first patent on life was granted by the U.S. Supreme Court for a genetically engineered pseudomonas bacteria.[44] While this patent was only a bacterium, and there were U.S. laws excluding the use of patents on plants or animals, we've slowly but surely started seeing patents reaching out to more lifeforms.[45] For example, Monsanto (now a subsidiary of Bayer), a large agrochemical company, started the practice of putting patents on seeds good for one generation and selling them to farmers. While these so-called "termination" seeds are innovative and scientifically groundbreaking as they are able to be pest-resistant genetically, they create a dependency for farmers, making them a consumer rather than

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44. Shiva, "Can Life Be Made? Can Life Be Owned?," in *The Vandana Shiva Reader* (Lexington: University Press of Kentucky, 2014), 139-158.
45. Shiva, "Can Life Be Made? Can Life Be Owned?," 139.

a producer.[46]

In stark contrast, land, life, and seeds are regarded as important communal resources to many, if not all, Indigenous groups in Oaxaca, Mexico. EDUCA, a nonprofit, non-governmental organization that aims to educate and speak out for the rights of Indigenous communities in Oaxaca, put out a statement specifically about the olotón maize found in Totontepec. They declared, "Communal maize is a practice, a way of sharing, a way of life. In Oaxaca, communal maize is not about money or profit but rather *Guelaguetza*, or the system of mutual cooperation maintained by neighbors."[47] This declaration reflects the Indigenous and rural Mexican philosophy of seeds being viewed as a communal good. Gonzalez reaffirms this claim by noting, "Seeds are, without exception, public domain in the Sierra."[48] This philosophy of viewing seeds as a communal good rather than a patentable commodity could be critiqued as lacking incentive for innovation. However, the community in which this philosophy is held was where this groundbreaking maize was found.

## Historical Context: NAFTA, the Zapatistas, and the Government

It is important, now, to recognize the historical context of the tension between Mexican Indigenous populations and the Mexican government to gain a better understanding of why the Nagoya Protocol may not be in the best interest of the Indigenous communities of Mexico. The implementation of NAFTA, the subsequent Zapatista rebellion, and the more recent teacher strike in Oaxaca City illustrate the effects foreign trade have on Indigenous campesinos, and taken together, these illustrate that the centralized Mexican government does not have the best interest of their Indigenous communities in mind. Knowing these factors will aid in understanding

46. Shiva, "The Hijacking of the Global Food Supply," 42.
47. EDUCA, "Communal Maize from Oaxaca for the World."
48. Gonzalez, *Zapotec Science,* 165.

the marginalization Indigenous communities have been facing from not only their own government but from foreign entities as well, so it can be better understood how an international protocol like Nagoya cannot be effective in and for these communities.

On New Year's Day, 1994, the Mexican government implemented NAFTA. NAFTA was a trade agreement that promised the wealth and prosperity of neoliberal capitalism between Canada, the US, and Mexico. While this was an economic victory for the U.S. with exports in corn rising 413%, Mexico experienced a 66% drop in producer prices, leading to a loss of $6,571 million from 1996-2005.[49] It is important, here, to reiterate that 67% of Mexico's Indigenous population find livelihoods in the agricultural sector.[50] Not only was this economically destructive to Mexican agriculture, but because U.S. corn was cheaper, farmers began taking up growing this corn rather than the genetically diverse corn that they had been cultivating for centuries. This depletion of Indigenous corn along with the elevation of U.S. corn caused the genetic biodiversity of Mexican maize to fall.

Along with economic destruction that was largely, if not solely, felt by Indigenous campesinos, NAFTA further legitimized the system of privatizing biological organisms and putting patents on life. The trade-related intellectual property rights provision (TRIPS) in the NAFTA agreement (as well as the World Trade Organization) demands an international recognition of patents on life.[51] This means that global trading powers (mainly led by nations of the Global North) legitimize and condone these practices that largely affect native groups

49. Timothy Wise, "Mexico: The Cost of U.S. Dumping," *NACLA Report on the Americas* 44, no. 1 (2011): 48, doi:10.1080/10714839.2011.11725532, http://www.bu.edu/eci/files/2019/06/WiseNACLADumpingFeb2011.pdf
50. Iker Godelmann, "The Zapatistas Movement: The Fight for Indigenous Rights in Mexico," *Australian Institute of International Affairs,* July 30, 2014, https://www.internationalaffairs.org.au/news-item/the-zapatista-movement-the-fight-for-indigenous-rights-in-mexico/
51. Bill Weinberg, "Bio-Piracy in Chiapas," *The Nation*, June 29, 2015, https://www.thenation.com/article/archive/bio-piracy-chiapas/.

and groups of the Global South. Along with this, because Indigenous communities subscribe to the philosophy of communal knowledge and technology, companies are not legally required to compensate Indigenous communities for those things because there is no primary owner.[52] TRIPS further legitimized the plundering of Indigenous knowledge and technology.

Before these events even came to fruition, though, the Mexican implementation of NAFTA was met with the Zapatista Rebellion on the day of its implementation in Chiapas, Mexico. The Zapatista Rebellion was led and largely made of Indigenous Chiapeneans who were in arms due to years of poor treatment from the Mexican government. Rebelling on the day NAFTA was implemented was a strategic move on their part to underline the problems they were fighting against. For Indigenous Chiapeneans, NAFTA was a death sentence "for the crime of having no job qualifications whatsoever."[53] While their rebellion was ignited by NAFTA, there were many underlying issues they were dealing with due to their treatment from the Mexican government.

Their rebellion as well as their demands acted as a reflection of what Indigenous communities were experiencing under the Mexican government. The demands included (but were not limited to) a cry for democratic elections, Indigenous governmental autonomy, resources like modern hospitals and childcare centers, decent jobs and fair market prices, adequate schools, land reclamation, and an end to centralized government in favor of smaller regions and municipalities governing themselves.[54] In short, the Indigenous communities in Mex-

52. Amanda J. Landon, "Bioprospecting and Biopiracy in Latin America: The Case of Maca in Perú," *Nebraska Anthropologist,* 32, (2007): 69, https://digital-commons.unl.edu/nebanthro/32/.
53. Zapatistas Army of National Liberation, "EZLN Demands at the Dialogue Table," in *The Mexico Reader*, ed. Gilbert M. Joseph and Timothy J. Henderson (London and Durham: Duke University Press, 2002), 641.
54. Zapatistas Army of National Liberation, "EZLN Demands at the Dialogue Table," 640-644.

ico, but specifically in Chiapas, were experiencing marginalization and discrimination from their government through adverse land possession, underfunded and underserved communities, lack of governmental representation, and much more. Unfortunately, the Mexican government responded to the Zapatistas' pleas through violent land reclamation with its own unparalleled force, resulting in little to none of the Zapatistas' demands actually being met. Currently, there is only an on-going standoff between the Mexican government and the Zapatistas.

As of 2018, the US, Mexico, Canada Agreement (USMCA) serves as a replacement trade agreement for NAFTA. One of the changes promised by this agreement was the protection against biopiracy. However, it seemingly still fails to actually represent the Indigenous communities' issues with biopiracy and rather opts for the commercialized and corporate interests of biopiracy. In the USMCA document, section 3.14 states,

> The Parties confirm the importance of encouraging agricultural innovation and facilitating trade in products of agricultural biotechnology, while fulfilling legitimate objectives, including by promoting transparency and cooperation, and exchanging information related to the trade in products of agricultural biotechnology.[55]

In this, the wording seemingly condemns the practice of safeguarding cultural technology. Claire Kelloway, a reporter for *Food and Power,* a website that investigates food policies, also notes that USMCA contains "industry-friendly language" as well as creates a system in which regulation will be harder to implement. She notes that USMCA requires that Mexico ratify the International Convention for the Protection of New Varieties of Plants (UPOV-91), an international agreement that effectively allows patents on crop varieties while

55. United States-Mexico-Canada Agreement, signed November 30, 2018, *Office of the United States Trade Representatives,* (2020): 3-7, https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement/agreement-between

also prohibiting farmers from sharing or saving protected seed varieties.[56] In other words, this agreement sets up Indigenous varieties to be traded, studied, and patented. This not only takes away the autonomy of Indigenous groups to choose whether or not they want to share their cultural technology, but it could then lead these communities to no longer be able to produce and use their own varieties (in the case of outsider patenting).

## The Nagoya Protocol: An Argumentation

This section seeks to reveal underlying corporate bias within the Nagoya Protocol by pulling ideas and themes from earlier sections. Before delving into the critique of the Protocol, though, it is important to understand the history of how the Protocol came into fruition along with the altruistic objectives it sought to meet. The Nagoya Protocol came about by the tenth meeting of the Conference of Parties (a United Nations group) in 2010. Basically, there was an ad hoc open-ended working group on access and benefit-sharing made by the Conference of Parties in order to meet and negotiate an international agreement on access and benefit sharing. Through many negotiations, the Nagoya Protocol was synthesized and later established internationally by 2014.[57]

To understand the intended uses and purposes, we can look at the supporting bodies of the Protocol. According to the Convention on Biological Diversity, the main UN body that focuses on international bio-material, the Nagoya Protocol serves as a supplementary agreement to the Convention on Biological Diversity as it "provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of

56. Claire Kelloway, "Mexico's Native Corn Varieties Threatened by New NAFTA," *Food & Power,* October 22, 2020, https://www.foodandpower.net/latest/2018/10/10/mexicos-native-corn-varieties-threatened-by-new-nafta.
57. Convention on Biological Diversity, "History," accessed March 30, 2022, https://www.cbd.int/abs/background/ .

benefits arising out of the utilization of genetic resources."[58] Along with this, the intended purpose of this supplemental protocol is "the fair and equitable sharing of benefits arising from the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity."[59] In all, it can be seen that the Protocol has the optimistically altruistic purpose of gathering information in order to make scientific strides while also attempting to make interactions with Indigenous knowledge reciprocal and equitable.

　　While the intended purpose of the Protocol is honorable, I argue that the document is incomplete. As it stands now, it does not effectively negate the act of biopiracy due to its lack of strict and concise wording or potential consequences that would change the amoral actions of neoliberal corporations, nor does it represent the culture and economy of Indigenous peoples. That being said, I do not believe that its intentions were nefarious but rather ignorant.[60]

　　My first aim is to dissect and analyze the wording used within the Protocol as a reason as to why it is ineffective. To begin, Article 5 point 2, which goes over the procedure outside entities must follow when interacting with Indigenous communities, states,

> Each Party shall take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that benefits arising from the utilization of genetic resources that are held by Indigenous and local communities, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over these genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms.

While this article seems as altruistic as the Protocol's intended purpose, there are many holes within it that could lead it to

58. Convention on Biological Diversity, "About the Nagoya Protocol," accessed March 30, 2022, https://www.cbd.int/abs/about/
59. Convention on Biological Diversity, "About the Nagoya Protocol."
60. Meant in its straightforward definition of not being aware of something.

ineffectiveness. The use of the words "appropriate" and "fair" without further explanation is irresponsible when considering amoral bodies, like corporations, whose bottom line is profit.[61] What is appropriate and effective to them is potentially not appropriate and effective to Indigenous communities, whose goals are not based on profit. On a similar note, while the point is pushing for mutual agreeance, it does not acknowledge the obscene power imbalance between Indigenous communities and international corporations. Lastly, its reliance on domestic legislation protecting Indigenous and local communities is worrisome.[62] As noted above in the historical context section, the Mexican government has a long history of taking preference to corporate interests rather than the interests of their Indigenous communities in order to make profit.

Along with the Nagoya Protocol's reliance on domestic legislation and blind eye to power imbalance, it does not require any third-party monitoring of access and benefit-sharing compliance. Article 16, Compliance with Domestic Legislation or Regulatory Requirements on Access and Benefit-Sharing for Traditional Knowledge Associated with Genetic Resources, states that it is each participating party's responsibility to monitor and check the other for non-compliance.[63] And with this, there is seemingly no consequential procedure drawn up in the case of non-compliance or obvious biopiracy. It is noted in Article 30, "Procedures and Mechanisms to Promote Compliance with this Protocol," that non-compliance issues will be reviewed during party meetings by party members.[64] However, only advice and recommendations can be given. Along with this, the Party is composed of signatories of the Protocol, meaning that Indigenous nations that are held within nation-states (like the Indigenous commu-

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61. This wording is used tirelessly throughout the Protocol.
62. The reliance on domestic legislation is also seen throughout the Protocol.
63. *The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization,* 12.
64. *The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization,* 22.

nities in Mexico) are not represented in these reviews. Again, this seems irresponsible when considering the power imbalance held between Indigenous communities and international corporations and nation-states.

On the point above, there has been at least one instance in which Indigenous communities were ill-treated under the use of the Nagoya Protocol. In 2015, barely a year after the Protocol went into action, French researchers committed biopiracy even though they were a signatory in the Nagoya Protocol. The Couachi (Quassia Amara) plant was extracted from French Guiana for its antimalarial properties known by its Indigenous community. A specific molecule was identified to be the antimalarial ingredient in the Couachi plant and was then patented by French researchers.[65] While this process was under the influence of the Nagoya Protocol, France Libertés, a non-profit human rights advocacy group, records that:

> The research institute did not obtain the free, prior and informed consent of the Indigenous and local communities of French Guiana whose members participated in the research. Nor was there established any agreement for the fair and equitable sharing of the benefits arising from the exploitation of the patent. Yet these are two essential rights recognized in the Convention on Biological Diversity and the Nagoya Protocol.[66]

This group then put this issue to a review as it was an obvious, clear-cut case of biopiracy that went against the benefit-sharing the Nagoya Protocol claims to protect. However, Nagoya deemed the patent as valid anyways. It was only until there was social outcry that

65. France Libertés, "The Couachi Plant: A Case History of Biopiracy," France-libertes.org, Foundation Danielle Mitterrand, accessed November 14, 2021, https://www.france-libertes.org/wp-content/uploads/2019/06/the-coua-chi-plant-a-case-history-of-biopiracy.pdf

66. France Libertés, "The Couachi Plant: A Case History of Biopiracy."

the French sought to make an equitable deal with the Indigenous community.[67]

Indigenous communities within Oaxaca, Mexico have even spoken out about the ineffectiveness of the Nagoya Protocol specifically in the deal between Mars, UC Davis, and the people of Totontepec. Their main point of contention with the Protocol is its negligence in considering the problems in patenting a communal good. In a speech documented by EDUCA, it is stated that the Nagoya Protocol is an instrument that legitimizes the plundering of Indigenous knowledge while criminalizing free exchange in favor of international corporations.[68] This rhetoric is then backed by explanation given by Martha Pskowski when she notes that olotón was found in many communities other than in Totontepec, yet Totontepec is seemingly the only community that will be receiving the royalties from the patent.[69] With all of these points in mind, it is arguable that the Nagoya Protocol is an unfinished protocol in that it contains caveats that leave Indigenous communities susceptible to biopiracy.

## Conclusion

Olotón is a novelty variety of maize that has great potential to reduce the amount of fertilizer produced and used for the production of corn, which would then reduce the amount of greenhouse gases produced in its synthesis as well as the amount of nitrogen that runs off into watersheds. While these are undeniable benefits for environmental harm reduction, it must be acknowledged that the way in which it was taken from Mexican Indigenous communities was unethical. All parties can and should be able to benefit from this

67. Elizabeth Pain, "French Institute Agrees to Share Patent Benefits after Biopiracy Accusation," *Science,* February 10, 2016, https://www.science.org/content/article/french-institute-agrees-share-patent-benefits-after-biopiracy-accusations.
68. EDUCA, "Communal Maize from Oaxaca for the World."
69. Pskowksi, "Indigenous Maize."

novelty maize. If used effectively, the Nagoya Protocol could allow for the global distribution of this maize because it is a global body, unlike the community in Totontepec; the Protocol could also protect against the threat of any body taking ownership of the maize. In this way, the benefits of olotón could be reaped by many while respecting the Indigenous philosophy of organisms liberated from ownership.

The Nagoya Protocol falls victim to the failure of the Westphalia system. The Westphalia system comes from an agreement made in Westphalia that created states as we know them today, in which states hold exclusive authority and total monopoly over their claimed land area. Along with the creation of recognized states came the creation of credit. While this boosted trade and manufacturing, it also created a reliance on the market for states, ensnaring state power with the capitalist market.[70] This system was beneficial in the creation and maintenance of Europe, but Susan Strange, a British scholar known for her prowess in international political economy, describes the Westphalia agreement as a "Westfailure." Strange gives it this title because it is no longer a system that is sustainable in the globalized world for ecological, financial, and social reasons. Strange insists that the Westphalia system fails financially because it is "unable to govern and control the institutions and markets that create and trade the credit instruments essential to the 'real economy.'"[71] This connects to how the Nagoya Protocol has failed because it too is unable to mediate and control bodies of the global market.

Along with the financial failure of Westphalia, the Nagoya Protocol reflects the social failure Strange comments on as well. She notes that the system supports the transnational capitalist class and further disenfranchises the proletariat, effectively widening the wealth gap.[72] This failure is highlighted by the failure of the Nagoya Protocol in that the Protocol

70. Susan Strange, "The Westfailure System," *Review of International Studies,* 25, no. 3, (1999): 345.
71. Strange, "The Westfailure System," 346.
72. Strange, "The Westfailure System," 346.

strives for the equitable sharing of benefits, but is reliant on balanced power structures negotiating with each other rather than the potential reality of transnational global capitalists negotiating with disenfranchised and marginalized Indigenous communities. It is seen here, then, that the ineffectiveness of the Nagoya Protocol highlights the failures of the Westphalia system.

Ironically, the desire to own and commercially exploit olotón is an indirect consequence of the third and final Westfailure, that being ecological. Because it is the structure of the Westphalia system for states to only be in control of themselves, this has lended to a lack of remedial action for the greater good of the shared planet. If one state is polluting but it only affects surrounding states, that state cannot be held responsible because it is only responsible for its own environment. Strange uses the example of acid rain created by British pollution raining down in Scandinavian forests, which the British government was indifferent to.[73] Olotón serves as a potential solution in reducing the amount of agricultural pollution created when commercially growing maize. This is because olotón fixes its own nitrogen – cutting down on the need for petro-chemical fertilizers. These fertilizers cause nitrogen runoff from agricultural fields during rainfall, polluting rivers that all eventually run into shared coasts and oceans. The grab for olotón can be viewed as an attempt to remedy such ecological westfailures through "market-based solutions." These solutions are an attempt at remedying the ecological deficits created by the same private market that created them. Therefore, these solutions are confined to the same restrictions inherent to global neoliberal capitalist logic of exchange between nation-states. Global problems are too big and too complex for such solutions, and olotón illustrates how these systemic problems play out at the microcosmic, local level through a struggle over the future of a single variety of maize.

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73. Strange, "The Westfailure System," 351.

Even though the Nagoya Protocol was used as the framework to extract olotón with the intention of ethically and equitably sharing the benefits of biotechnology, the Protocol itself is ineffective in negating biopiracy. Its reliance on mutual power dynamics, its assumptions that nation-states have the best interest of their Indigenous communities, and its assumptions that amoral corporations will act morally under vaguely-worded procedures lead to its failure. While the Nagoya Protocol was not made under nefarious intentions, it cannot be an effective tool against biopiracy within the constraints of our global neoliberal capitalist market.

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# Bibliography

Convention on Biological Diversity. "About the Nagoya Protocol." Accessed March 30, 2022. https://www.cbd.int/abs/about/

Convention on Biological Diversity. "History." Accessed March 30, 2022. https://www.cbd.int/abs/background/.

Daley, Jason. "The Corn of the Future Is Hundreds of Years Old and Makes Its Own Mucus." *Smithsonian Magazine.* August 10, 2018. Accessed March 19, 2022. https://www.smithsonianmag.com/science-nature/corn-future-hundreds-years-old-and-makes-its-own-mucus-180969972/.

EDUCA. "Communal Maize from Oaxaca for the World." Accessed February 19, 2022. https://www.educaoaxaca.org/communal-maize-from-oaxaca-for-the-world/.

France Libertés. "The Couachi Plant: A Case History of Biopiracy." *France-libertes.org.* accessed November 14, 2021, https://www.france-libertes.org/wp-content/uploads/2019/06/the-couachi-plant-a-case-history-of-biopiracy.pdf.

Godelmann, Iker. "The Zapatistas Movement: The Fight for Indigenous Rights in Mexico." *Australian Institute of International Affairs.* July 30, 2014. https://www.internationalaffairs.org.au/news-item/the-zapatista-movement-the-fight-for-indigenous-rights-in-mexico/.

Gonzalez, Roberto. *Zapotec Science: Farming And Food in The Northern Sierra of Oaxaca.* Austin: University of Texas Press, 2001.

Good, Keith. "2020 U.S. Ag Exports Second Highest on Record, Led by Soybeans, Corn and Pork to China." *Farm Policy News,* April 7, 2021, https://farmpolicynews.illinois.edu/2021/04/2020-u-s-ag-exports-second-highest-on-record-led-by-soybeans-corn-and-pork-to-china/

Hamilton, Eric. "Corn That Acquires Its Own Nitrogen Identified, Reducing Need for Fertilizer," *University of Wisconsin-Madison,* August 7, 2018, Accessed March 19, 2022, https://news.wisc.edu/corn-that-acquires-its-own-nitrogen-identified-reducing-need-for-fertilizer/.

Kelloway, Claire. "Mexico's Native Corn Varieties Threatened by New NAFTA." *Food & Power.* October 22, 2020. https://www.foodandpower.net/latest/2018/10/10/mexicos-native-corn-varieties-threatened-by-new-nafta.

Landon, Amanda J. "Bioprospecting and Biopiracy in Latin America: The Case of Maca in Perú." *Nebraska Anthropologist* 32 (2007): 63-73. https://digitalcommons.unl.edu/nebanthro/32/.

McCarthy, James and Prudham, Scott. "Neoliberal Nature and the Nature of Neoliberalism." *Geoforum* 35 (2004): 275-284.

Miller, S. James. "The Realized Benefits from Bioprospecting in the Wake of the Convention on Biological Diversity." *Washington University Journal of Law & Policy* 47 (2015): 51-60. https://openscholarship.wustl.edu/law_journal_law_policy/vol47/iss1/10

Pain, Elizabeth. "French Institute Agrees to Share Patent Benefits after Biopiracy Accusations." *Science.* Feb-

ruary 10, 2016. https://www.science.org/content/article/french-institute-agrees-share-patent-benefits-after-biopiracy-accusations

Pskowski, Martha. "Indigenous Maize: Who Owns the Rights to Mexico's 'Wonder' Plant?" *Yale Environment 360.* July 16, 2019. Accessed March 19, 2022. https://e360.yale.edu/features/indigenous-maize-who-owns-the-rights-to-mexicos-wonder-plant.

Quinton, Amy. "Study Finds Indigenous Mexican Variety of Corn Captures the Nitrogen It Needs From the Air." *University of California-Davis.* August 7, 2018. Accessed March 19, 2022. https://www.ucdavis.edu/news/study-finds-indigenous-mexican-corn-captures-nitrogen

Shiva, Vandana. "Can Life Be Made? Can Life Be Owned?" In *The Vandana Shiva Reader.* 139-158. Lexington: University Press of Kentucky, 2014.

Shiva, Vandana. "The Hijacking of the Global Food Supply." In *The Vandana Shiva Reader.* 41–54. Lexington: University Press of Kentucky, 2014.

Shiva, Vandana. "Piracy Through Patents: The Second Coming of Columbus." In *Biopiracy: The Plunder of Nature and Knowledge.* 1-6. Berkeley: North Atlantic Books, 1997, 2016.

Stiglitz E., Joseph. *People, Power, and Profits: Progressive Capitalism for an Age of Discontent.* New York: W.W. Norton and Company, 2019.

Strange, Susan. "The Westfailure System." *Review of International Studies* 25, no. 3 (1999): 345–54. https://doi.org/10.1017/s0260210599003459.

The United Nations Development Program. "Bioprospecting." Accessed March 1, 2022.

United States-Mexico-Canada Agreement. Signed November 30, 2018. *Office of the United States Trade Representative.* Accessed March 5, 2020. https://ustr.gov/trade-agreements/free-trade-agreements/united-states-mexico-canada-agreement/agreement-between.

Warman, Arturo. *Corn and Capitalism: How a Botanical Bastard Grew to Global Dominance.* Translated by Nancy L. Westrate. Chapel Hill: The University of North Carolina Press, 2003.

Weinberg, Bill. "Bio-Piracy in Chiapas." *The Nation*, June 29, 2015. https://www.thenation.com/article/archive/bio-piracy-chiapas/.

Wise, Timothy. "Mexico: The Cost of U.S. Dumping." *NACLA Report on the Americas* 44, no. 1 (2011): 47-48. doi:10.1080/10714839.2011.11725532, http://www.bu.edu/eci/files/2019/06/WiseNACLADumping-Feb2011.pdf

Yong, Ed. "The Wonder Plant That Could Slash Fertilizer Use." *The Atlantic.* August 9, 2018. accessed March 19, 2022. https://www.theatlantic.com/science/archive/2018/08/amaizeballs/567140/.

Zapatistas Army of National Liberation. "EZLN Demands at the Dialogue Table." In *The Mexico Reader*, edited by Gilbert M. Joseph and Timothy J. Henderson, 639-645. London and Durham: Duke University Press, 2002.

**Mya Goodman**
"Untitled"

# Treatment for Transgender and Gender Non-Conforming People With Disordered Eating

## Abstract

Transgender and gender non-conforming (TGNC) people experience higher rates of disordered eating in comparison to cisgender people. Despite this, most eating disorder research focuses on treating cisgender women. This study aimed to develop an effective treatment model for people who struggle with disordered eating through analysis of previous research on the topic, questionnaire responses from people with disordered eating (Study A), and questionnaire responses from professionals working with the population (Study B). Based on responses from Study A and Study B, three themes should be addressed and considered in the screening and treatment of disordered eating in people: barriers to treatment, individuality among commonality, and transgender competency. Lastly, this thesis provides a preliminary treatment model for treating and working with people with disordered eating which considers client and professional input, as well as previous research on the topic.

## Collin Lamkin | Psychology

Collin Lamkin graduated from Warren Wilson with a degree in Psychology and minor in Expressive Arts Therapy. After graduation, he moved up to Brattleboro, VT where he currently works with teens at a hospital diversion treatment program. Collin is grateful to be working in a clinical setting and plans to attend graduate school in the future.

According to data collected from the American College Health Association–National College Health Assessment, transgender students report eating disorders and related behaviors at a rate four times greater than cisgender students of any sexual orientation (as cited in Diemer et al., 2015). Subsequent smaller studies have obtained similar findings and emphasize the need for continued research on the topic (Donaldson et al., 2018; Jones et al., 2018; Witcomb et al., 2015). An emerging theme found in these studies has been the connection between people's gender identity and their experiences of body (dis)satisfaction. Given the rates at which people experience disordered eating behaviors, clinicians need to be more aware of the unique disparities this high-risk population face. In order to develop the most effective treatment model for working with this group, I surveyed both people who struggle with disordered eating and professionals working in this field to further the clinical science on this topic.

## Body Image and Disordered Eating

Body image, as a construct, consists of the perceptions, behaviors, and attitudes one has toward oneself. Disturbances in body image are commonly associated with negative health outcomes, one of which includes disordered eating behaviors. Researchers have identified three distinct aspects in evaluating how much of an effect body image plays in the development of eating disorder pathology: dissatisfaction, preoccupation, and overvaluation of weight and shape (Sharpe et al., 2018). Out of these three dimensions, body dissatisfaction has been found to be a particularly important predictor of disordered eating across a wide range of populations. Given the significant role that body dissatisfaction plays in the development and exacerbation of eating disorder symptomatology, many treatment models focus on nurturing a healthy relationship with the body in hopes of decreasing body dissatisfaction

(Cook-Cottone, 2015).

In a case study involving a body-focused mindfulness and acceptance-based treatment construct, researchers implemented a five-session component of body compassion within people's established therapy to help target body dissatisfaction (Altman et al., 2017). The researchers discussed the role negative body image plays in disordered eating behavior and emphasized that by having a positive/adaptive/resilient body image, people would be more likely to engage in positive health behaviors. Upon evaluation, the individuals in the case study reported improvements in their body compassion and their body image flexibility. Based on the results, Altman et al. suggest that it may be helpful to specifically target body compassion as an additive component addressing body dissatisfaction.

According to Cook-Cottone (2015), a positive body image incorporates the core features of body appreciation, body acceptance and love, and respect for the body. In looking at the role that positive body image can play in eating disorder recovery, Cooke-Cottone reviewed the Attuned Representational Model of Self. This model places the authentic self in the center, which is experienced as a combination of external and internal systems/spheres of influence that create attunement in an individual's life. The focus on attunement combined with cognitive and emotion-based self-care tools and health-promoting self-care behaviors are potential targets in therapeutic work on the cultivation of positive body image. Cooke-Cottone emphasized that flourishing is the ultimate goal and that with the cultivation of positive body image and attunement comes this flourishing.

While body image concerns or disturbances may be one of the first presenting symptoms in the development of disordered eating, they may also be some of the last symptoms to go away. Many individuals who complete treatment for an eating disorder experience persistent body image disturbances after discharge. Stewart et al. (2003) developed and

studied a body image therapy program specifically targeting this population called the Body Positive Program. The program included components of relaxation/rebreathing training, self-monitoring, cognitive-behavioral therapy for body image concerns, mirror exposure, exposure to distressing behavioral situations, and relapse prevention, which were incorporated into 16 sessions over a 20-week period. Overall, the four women in this study showed improvements in areas of depression, anxiety, and most importantly body dissatisfaction after completing the Body Positive Program. While the conclusions drawn from this study are tentative due to the small sample size, they are warranted enough to suggest further research. This specific study is unique because it looked at the efficacy of body image therapy in individuals who have previously been through eating disorder treatment and continued to experience body image concerns.

## Body Image and Gender Nonconformity

Gender dysphoria is a psychological condition in which a person experiences significant distress due to the difference between their "assigned" sex at birth and their desired/experienced gender identity. Only some TGNC people experience gender dysphoria, and some seek out medical or psychological treatment to alleviate some of their body dissatisfaction. Other factors that may contribute to an individual's level of body satisfaction include experiences of non-affirmation from peers and society as well as clinicians' assessment of "passing" as their affirmed gender (Testa et al., 2017; van de Grift et al., 2017). Researchers have become interested in the effects that gender-confirming medical interventions[1] (GCMIs) have on experiences of gender dysphoria among TGNC people. Today there are a variety of GCMIs that are offered to people, some of which include hair removal, hormone

1. Gender-confirming medical interventions (GCMIs) is a term commonly used by the scientific research community to refer to specific medical interventions pursued by some TGNC people.

replacement therapy, and facial, chest, and/or genital surgery. While a large portion of the research on this topic focuses on the effects of GCMIs on body dissatisfaction, it is equally important to emphasize that not all people wish to pursue a GCMI.

Researchers van de Grift et al. (2017) were interested in the status of individuals who sought out gender-confirming interventions between the years 2007 and 2009. Their article outlined a 6-year prospective follow-up study on the effects of medical treatment on gender dysphoria and body image in 201 transgender participants. The effects of medical treatment on body satisfaction were significantly associated with the degree of body satisfaction at an individual's baseline. High dissatisfaction at admission and low psychological functioning at follow-up were associated with persistent body dissatisfaction. One important finding was that all of the individuals who went through the gender clinic experienced some level of decreased gender dysphoria and body dissatisfaction, whether or not they pursued medical interventions. This indicates that while GCMIs may increase an individual's chance for a reduction in gender dysphoria, general psychological treatment with a gender specialist may also be needed.

**Disordered Eating in TGNC People**

It is not surprising that TGNC people experience elevated levels of eating disorders based on the fact that body dissatisfaction is often a core underlying feature of disordered eating behaviors (Jones et al., 2018). Having high experiences of body dissatisfaction related to gender places a person at a higher risk for developing disordered eating behaviors. Despite the significant prevalence among this population, a large majority of eating disorder research focuses on the treatment of female cisgender people. While these studies may begin to give some insight into the overarching negative behaviors people engage in, they ultimately lack in identifying the potential unique underlying causes of disordered eating among the

TGNC population.

Identifying why individuals use certain behaviors may help address the target focus of the dissatisfaction. In interviews conducted by Ålgars et al. (2012), participants were asked about the possible underlying causes of their disordered eating and the effect of gender reassignment on their eating thoughts and behaviors. Three themes that emerged around the perceived causes of disordered eating were suppressing gender, accentuating gender, and other causes. Transgender male (FtM) people often report using restrictive eating behaviors as a way of stunting breast growth and using over-exercising behaviors to help increase muscle mass (Couturier et al., 2015). Other cases reported FtM people using restricting or purging behaviors to induce amenorrhea (absence of menstruation) and suppress feminine curves (Ålgars et al., 2012; Strandjord et al., 2015).

The idea of using gender-confirming medical interventions is to help decrease body dissatisfaction in people. Hypothetically, these interventions should help reduce the risk of disordered eating behaviors. Testa et al. (2017) hypothesized that for transgender people, undergoing or receiving some type of GCMI would lower the chance of developing disordered eating patterns. Participants in their study were asked about their desire for/utilization of different GCMIs (genital surgery, chest surgery, hormone use, hysterectomy, or hair removal), as well as the level of non-affirmation of their gender identity they experienced. Results showed that for both FtM and MtF people, GCMIs reduced experiences of non-affirmation, increased body satisfaction, and decreased eating disorder symptoms. Similarly, in interviews with 20 transgender people, gender reassignment was primarily observed as alleviating symptoms of disordered eating (Ålgars et al., 2012).

While a majority of these case studies highlight the successes that GCMIs have in reducing eating disorder behaviors, they often limit their discussion on cases where such interventions have not been as effective. In one specific case, a

transgender male continued to show disordered eating behavior post-gender confirmation surgery despite an expressed improved satisfaction with his appearance (Strandjord et al., 2015). In a separate case study, two transgender female people reported unwanted weight gain as a result of hormone therapy (Ålgars et al., 2012). Other aspects of appearance such as the skeletal bone structure of shoulders and hips are very difficult or impossible to change even with hormone therapy or surgery and may continue to be sources of dissatisfaction after GCMIs (Witcomb et al., 2015). These "residual" features can increase the risk of people using disordered eating behaviors to further alter their bodies to fit their desired gender form. Because the gender-confirming medical intervention "prescription" is not a one-size-fits-all, clinics and professionals need to consider what other treatment components may be necessary for the reduction of disordered eating behaviors due to body dissatisfaction.

In an article by Donaldson et al. (2018), researchers presented five case studies of TGNC adolescents with eating disorders. Researchers hoped to better understand important themes for this high-risk patient population. Based on the discovered themes, researchers emphasized that in the absence of timely gender dysphoria management, gender nonconforming adolescents may turn to harmful coping mechanisms, including self-harm and disordered eating. Because many of these people may present with comorbid concerns, Donaldson et al. stressed the importance of partnering with an interdisciplinary team that will be able to better articulate an appropriate treatment plan. This may include taking into account how hormones such as estrogen may require an individual to thrive at a higher weight because of increased fat storage. Other unique considerations may include looking at growth curves for both the individual's natal and asserted gender to establish appropriate goal weight ranges.

As a part of identifying where professionals lack expertise in treating this population, Duffy et al. (2016) created

a questionnaire survey asking transgender clients about their experiences with eating disorder treatment. The participants in this study were recruited with the help of an organization called FEDUP (fighting eating disorders in underrepresented populations) Collective. This organization works to provide accessible, gender-literate community-led healing spaces for transgender and other gender non-conforming people, to bring awareness to marginalized voices and experiences, and to develop a standard for trans-cultural competency in the eating disorder recovery field. Three themes emerged from the surveys conducted with people: the role of the body in eating disorder treatment, negative experiences with clinicians, and recommendations for treatment centers and providers (Duffy et al., 2016).

## Unanswered Questions

      Although research on people's experiences with disordered eating is continuing to grow, there is still a lack of resources on specific treatment components or models for the TGNC population. In order to develop a model that takes into account the complexities of people's experiences, researchers and practitioners should integrate a variety of previously developed models. With these considerations, a multidisciplinary team would likely best suit the needs of people in an eating disorder treatment setting (Donaldson et al., 2018). According to van de Grift et al. (2017), by looking at an individual's level of body dissatisfaction upon entering treatment, clinicians may be able to understand how effective gender-confirming medical interventions for a specific individual would be, and how much additional psychological treatment may be necessary for recovery. It may also be useful to incorporate models that have been effective in treating persistent body image disturbances in individuals who may have already received treatment or have partially recovered from an eating disorder (Stewart & Williamson, 2003).

      Because many of these people may present with

comorbid concerns, researchers stress the importance of partnering with an interdisciplinary team that will be able to better articulate an appropriate treatment plan. This may include taking into account how hormones such as estrogen may require a person to thrive at a higher weight because of increased fat storage. Other unique considerations may include looking at growth curves for both the person's natal and asserted gender to establish appropriate goal weight ranges (Donaldson et al., 2018). Professionals should review the themes expressed by transgender clients' experiences with eating disorder treatment before working with this population.

There is a dearth of information about the best practices when treating people for disordered eating. For my study, I took the information gathered from body-image-focused eating disorder treatment in cisgender people, treatments of gender dysphoria in people, personal thoughts from the target population themselves, and thoughts from professionals specializing in this area. In the current study, the research questions were as follows: How can professionals more effectively care for people struggling with gender identity and disordered eating? What considerations need to be taken at the beginning of treatment? What extra support needs to be available throughout the treatment process? What is the best treatment model for treating this niche group of individuals?

## Methods

Study A included clients as participants, and Study B included professionals as participants. All individual participation was voluntary and those who chose to participate were guided through a consent process within the survey.

### Study A
*Participants*

The first sample consisted of 46 individuals who identify under the gender non-conforming umbrella and have

struggled with an eating disorder or disordered eating behaviors. Throughout the study, this group was referred to as clients. These clients were recruited from the FEDUP Collective Facebook page as well as through snowball sampling.

### Measures and Procedures

Clients received a Google Form survey consisting of four open-ended questions (see Appendix A). Individuals were asked to give their consent to participate before answering the survey questions. Participants were also given space to self-identify and provide their specific identities. Within the questionnaire, clients were given the option to forgo any questions they wished to not answer. All participants' responses were anonymous. Participants were first recruited through the FEDUP Collective private Facebook page. The researcher explained the purpose of this study and invited anyone who wanted to contribute voluntarily to complete the Google Form. As a part of snowball sampling, the researcher also invited members of the private group to forward the Google Form survey to other individuals they knew who may have been willing to participate. Once a participant clicked on the survey link, they were guided through a few sets of instructions.

### Study B
### Participants

The second sample consisted of 2 individuals who currently work in the field and are researching to further the science on gender identity and disordered eating. These individuals were referred to as professionals throughout the study. Professionals were recruited from the individuals who head the FEDUP Collective organization as well as through snowball sampling.

### Measures and Procedure

Professionals received a Google Form survey consist-

ing of three open-ended questions (see Appendix B). As in Study A, professional participants were guided through a consent process before answering the questions. At the end of the survey, professionals were asked if they would be willing to be contacted via email or phone for follow-up questions from the researcher.

## Results

### Data Analysis Strategies

I evaluated both clients' and professionals' survey responses through thematic analysis. Responses to the Google forms were programmed to be compiled into a spreadsheet. This made reading and analyzing participant answers to each question more manageable since they were broken down by question and individual response. I then began identifying common themes within each question's corresponding set of responses.

### Study A

The "client" participant survey (see Appendix A) was first posted to the FEDUP Support Group Facebook page on September 9th, 2021. A second post of the survey was uploaded on September 20th. By September 23rd, there were 46 total participant responses. Some participants only answered select questions, so not every question had 46 responses. Due to time constraints, the thematic analysis was only conducted for the first 40 responses. The average age of participants was 27, with the youngest respondent being 20 and the oldest respondent being 46. Gender identities of the participants were diverse, some of which included non-binary, transgender male/transmasculine/FtM, genderqueer, male, agender, gender fluid, woman, and demi boy (trans male).

## Question 1: Impacts of Gender-Affirming Treatment on Body Image

Question one of Study A asked participants if they had received any kind of gender-affirming treatment[2] (hormone replacement, surgery, hair removal, etc.), and if it had any impact on their body image. The question also asked participants who had only considered pursuing gender-affirming treatment if they thought it would impact their body image. All 40 participants included in the sample responded to the first survey question. Out of these responses, 30 participants indicated they had received some kind of gender-affirming treatment, and the other 10 indicated they had not received gender-affirming treatment. Out of those 10 individuals, 2 indicated they have no future desire to receive treatment and have not considered the effects.

For the responses where participants indicated they had received some kind of gender-affirming treatment, I created three categories for the impact it had on their body image: positive, negative, and some combination of both. 18 out of the 30 individuals made no mention of negative or unwanted outcomes from receiving some kind of gender-affirming treatment and reported a positive impact on their body image. 12 individuals mentioned both positive and negative outcomes from receiving gender-affirming treatment. Only one participant indicated their pursuit of gender-affirming treatment led to exclusively negative outcomes.

## Question 2: Barriers in Seeking Treatment as a TGNC Person

The second question asked participants if they have ever encountered any barriers in seeking out treatment as a gender non-conforming person. Out of the 40 total responses, 4 participants indicated they had not sought out treatment, 4 participants indicated that they had experienced no barriers (including one stating that most of the barriers they expe-

2. Gender-affirming treatment/care are broad terms used to describe an array of supportive services. This care may include medical, surgical, mental health, social, or other services aimed at supporting TGNC people.

rienced were financial and not related to their gender identity), and 32 indicated some form of barrier in seeking out treatment for disordered eating as a TGNC person. The 32 individuals expressed a wide variety of barriers, but common themes can be drawn from many of their responses.

One of the most commonly reoccurring themes was gender identity discrimination. Several participants disclosed barriers posed by admissions policies in different inpatient treatment settings (i.e. "all-female" treatment centers), sometimes resulting in the sacrifice of one's gender identity to receive adequate medical treatment. Other individuals talked about how most eating disorder treatment is geared towards cis women/men, and that there seems to be a "constant gendering of [eating disorder] spaces." In situations where individuals had pursued or were planning on pursuing gender-affirming treatment, some experienced barriers when trying to access these interventions within a treatment center (i.e. not being "allowed" to pursue hormone replacement therapy while in treatment). There was also a common theme of dismissiveness by clinicians, whether it was the invalidation of the individual's gender identity or their disordered eating. Some individuals reported a placed emphasis on their gender identity "issues" over the presentation of disordered eating behaviors. A handful of participants also expressed some sort of barrier in seeking treatment based on the notion that they do not "fit" the criteria for an eating disorder according to the DSM or do not conform to "typical" presentations of eating disorders.

### Question 3: Experiences With Professionals

Question three asked participants about any positive or negative experiences they have had with clinicians or eating disorder treatment professionals. Only 32 of the 40 total participants gave a response to this question. Out of the 32 total responses, 20 of the participants indicated solely negative experiences, 6 indicated both positive and negative experienc-

es, and 6 indicated positive experiences. There is some overlap between responses that indicated negative experiences and many of the barriers reported by participants in the previous question. Multiple participants depicted experiences with being misgendered and the frequent microaggressions and defensiveness they have been met with around corrections of pronouns. Along with general experiences of being misgendered, several participants talked about the negative impacts of gendered language and treatment that are centered around cisgender bodies and binary thinking. One trans non-binary individual was told to "simply embrace [their] curves and womanly body, and [their] issue will go away." Two individuals disclosed traumatic experiences they had endured within the treatment setting and also expressed being asked invasive questions about their genitalia.

Participants who indicated having positive experiences (of varying extents) with professionals also had comparable responses. Several participants mentioned that while their current therapists, dietitians, nutritionists, etc. do not have a ton of TGNC experience, they are willing to learn from the client themselves, and on their own. Similarly, several responses mentioned their provider(s) being honest in that they do not have personal gender dysphoria experience, but that they want to learn about what that means for the specific client. One individual mentioned that their therapist and dietitian "work hard on pronouns, and while they don't get them 100%, they are very good about correcting themselves and/or accepting correction." Professionals who acknowledged the role of marginalization in disordered eating among the TGNC population and created space to discuss those topics also had a positive impact on multiple respondents.

## Question 4: Suggestions and Considerations for Working With TGNC People

The final question asked participants about any suggestions or considerations they felt professionals should have

when working with TGNC people with disordered eating. Only 36 of the 40 total participants responded to this question. Almost all of the individuals who answered this question mentioned the need for more education and training for professionals working with TGNC people. According to respondents, education should be gained through people with lived experience, their own clients, and through general research on the topic. Part of this education may involve learning the interactions/relationships and differences between gender dysphoria and body dysmorphia. Gender dysphoria can be described as a sense of discomfort or disconnect between gender identity and one's assigned sex at birth. Body dysmorphia is listed in the DSM-V as an anxiety disorder, classified by a worry about and preoccupation with a perceived flaw in appearance. People who experience body dysmorphia have a distorted view of themselves. While gender dysphoria may be alleviated by gender affirming practices, body dysmorphia does not respond to physical changes made to the body. One respondent emphasized the importance of trying to differentiate between things that are rooted in dysphoria and things that are rooted in the eating disorder, as they may require different treatment approaches.

Multiple respondents talked about the importance of asking people what feels affirming for them, as everyone's experience and expression of gender and relationship to their body is unique. Similarly, multiple participants reiterated that a TGNC person's healing may look different from a cisgender person's healing. Acknowledging where one (a clinician) does not understand an experience, and not using that as an excuse for invalidation, was also a repeated suggestion. Several respondents talked about being cautious about dismissing gender dysphoria in regard to body image, such as implying that self-acceptance is the answer when physical and/or social transition may be more helpful for the individual. By far the most frequent recurring suggestion by participants was to never make assumptions but to instead ask and listen to the

individual.

**Study B**

The "professional" participant survey (see Appendix B) was first posted by Scout Silverstein, a team member of FEDUP, on a private Facebook page for trans and gender-affirming eating disorder providers on September 9th, 2021. By September 25th, there were only 2 participant responses. Both individuals answered all three of the survey questions. Because of the small sample size, the following findings are tentative.

### *Question 1: Role in Working With TGNC People*

The first question on the professional survey asked about their role in working with TGNC people who struggle with disordered eating or body dissatisfaction. Both respondents mentioned that part of their role was assisting their clients in navigating the barriers that often arise when seeking out inpatient or residential treatment services. One of the participants described their role as holistic, working at a variety of levels within the eating disorder field. They specifically concentrate on staff development training, academic research, case consultations, policy, and intervention design. The other professional talked about their work in being a certified eating disorder recovery coach as an openly trans non-binary individual themselves.

### *Question 2: Multidisciplinary/Interdisciplinary Approaches*

The second survey question asked professionals about their thoughts on a multidisciplinary/interdisciplinary approach in treating or working with TGNC people with disordered eating. Both respondents talked about the growing support for intersectional treatment approaches, not just within the TGNC population, but the general population as well. Both professionals agreed that an interdisciplinary/intersectional/multidisciplinary approach is likely the most effective.

However, they also mentioned that the question should not be "is it?", but "what does it look like?" One professional described intersectional treatment as a treatment that is inclusive and considerate of each individual's differences in all aspects of life.

### Question 3: Working With TGNC People and Effective Therapy Practices

The final question on the survey for professionals asked what clinicians should know about working with people. They were also asked what they saw as important components of effective therapy for this population. For the first half of the question, both respondents mentioned the distinct uniqueness of the individuals they have worked with. One of the professionals noted that it is important to understand what role a person's gender identity and outward physical appearance has (or does not have) in any of the disordered behaviors they exhibit.

## Discussion

As suggested by the data, people more often than not have negative experiences when working with clinicians or eating disorder professionals. Both fortunately and unfortunately, people who participated in this study had a wealth of information and experiences to share about the subject matter. After reviewing responses from both clients and professional participants, I developed three main themes. The following recurring themes should be addressed and considered in the screening and treatment of disordered eating among the TGNC community.

### Theme 1: Barriers to Treatment

The most common recurring theme reported by both clients and professionals was the barriers that TGNC people face when attempting to seek out treatment. These barriers

can be categorized into three main sections: reinforcing harmful narratives, structural barriers, and misconceptions.

### Reinforcing Harmful Narratives

The reinforcement of harmful narratives around what eating disorders "should" or "should not" look like is not uncommon just within the cisgender community, but also in the TGNC community as well. Systematically flawed are the DSM's different eating disorder diagnoses, which require certain criteria to be met to receive a proper diagnosis. Many of the clients reported being dismissed by eating disorder professionals or treatment programs because they did not fit the "typical" presentations of someone with an eating disorder. Neither the term eating disorder nor disordered eating holds more value over the other. Often in the scientific and medical community, having a diagnosed eating disorder is seen as more severe, which only perpetuates the minimization of people struggling with disordered eating. Further, the presentation of gender-based stereotypes around motivations for recovery (i.e. return of menses and being able to have children, breast growth, larger hips) are often causes of more dysphoria for people.

### Structural Barriers

Along with general financial barriers in seeking out different levels of treatment, TGNC clients reported experiencing specific structural barriers because of their gender identity. These barriers were encountered either in the process of seeking out treatment or within the treatment setting itself. Both clients and professionals mentioned the many difficulties encountered when trying to obtain or continue (within the treatment setting) access to gender-affirming treatments. Part of these obstacles has to do with certain treatment centers being labeled as "women-only" versus "co-ed" (where individuals are usually still divided into male/female). If a TGNC person initially admits to a "female" designated treat-

ment setting but then wishes to pursue hormone replacement therapy for transition, they are often denied access based on the gender policy of the institution. Part of the role of many gender-affirming treatment providers is to advocate for people who are being denied access to services they wish to receive or pursue.

## *Misconceptions*

Clients and professionals both mentioned clinicians' many misconceptions about working with people struggling with disordered eating. Many of the clients reported a complete lack of understanding of the experiences of gender dysphoria as a TGNC person. Others felt the role that their gender dysphoria had or did not have in their disordered eating behaviors was also commonly misunderstood. Another misconception experienced by some clients was the practitioners' opinions and perceptions of gender-affirming treatment services. According to both clients and professionals, a common automatic suggestion when a TGNC person reports gender dysphoria and body dissatisfaction is either hormone replacement therapy or surgery. This is especially prevalent when an individual identifies wanting to suppress secondary sex characteristics associated with their assigned birth sex by food restriction or other disordered eating behaviors.

## Theme 2: Individuality Among Commonality

While the population of people who struggle with disordered eating can be represented as one group, each individual ultimately has their own experience. As indicated by TGNC participants' responses, not one TGNC person's experience of body dissatisfaction is the same. In working with people, it is important to identify the unique role one's gender identity plays in their disordered eating, as this may not be a universal experience. Additionally, a specific combination of treatment approaches that work for one TGNC person may not work for all people. Treatments that set out to target some

of the physical features associated with gender (i.e. hormone replacement, surgeries) are not a one size fits all prescription. Client participants reported positive, negative, and a combination of both effects of gender-affirming medical interventions on their body image. Also as literature has repeatedly supported, TGNC people have different experiences when it comes to disordered eating and body dissatisfaction in comparison to cisgender people. These results indicate the need for highly individualized treatment when approaching work with people with disordered eating.

## Theme 3: Transgender Competency

The third theme I identified was transgender competency. One of the questions from the client survey (see Appendix A) asked participants about any suggestions or considerations they thought professionals should have when working with the TGNC population. Almost all client responses mentioned the need for more education and training for professionals around topics of experiences of gender dysphoria, gender-affirming medical interventions, and the impact of microaggressions on their clients. The FEDUP Collective offers training and workshops for professionals who are seeking to make their practice or treatment facility more gender-literate and enable them to provide more informed, comprehensive care to trans and gender-diverse clients.

## Conclusion

While previous studies have proposed that interdisciplinary/multidisciplinary treatment approaches may be most effective when treating people with disordered eating (Donaldson et al., 2018; Duffy et al., 2016; van de Grift et al., 2017), most fail to provide information on what those treatment models look like in practice. The following is a preliminary treatment model for people with disordered eating which considers client and professional input, as well as previous

research on the topic.

## Treatment Model

Based on the common theme expressed around the need for more education around TGNC experiences, all professionals, clinicians, staff, and other personnel would be required to attend regular transgender cultural competency training. As a part of this training, these individuals would also be regularly required to engage in conversations with TGNC people about the difficulties they face. Some of the topics covered in these trainings may include best practices regarding using names and pronouns, a better understanding of body image concerns in TGNC clients, insight into why people are at greater risk for developing eating disorders (i.e. interplay between dysphoria and dysmorphia), prescribing hormones under certain laws, assessing gender-literacy/inclusivity of intake forms, issues in research representation and how to make research more gender-inclusive, and tips on reaching out to and building relationships with local queer/transgender communities.

This treatment model would be grounded in the ideas of flourishing and attunement from Cooke-Cottone's Attuned Representational Model of Self (2015). Placed in the center of this model is the representation of the self or the authentic self. According to this model, the authentic self can be broken down into two systems: the internal system and the external system. Spheres of influence within the internal system (real self) include thoughts, feelings, and the body. The spheres of influence within the external system (ecological context) are family, community, and culture. Flourishing can be understood as an awareness of, and commitment to, an attuned inner and outer life in which internal needs are met, and external demands are accommodated, without compromising one's physical or mental health. Clients receiving treatment would work in tandem with their treatment team to decide what they feel they need to reach their "authentic selves.'

Strategies in moving towards the path of flourishing may include learning self-care tools to utilize when confronted with stress and unhealthy external standards, as well as tools in assessing and choosing environmental settings that enhance well-being (Cook-Cotttone, 2015). Other resources targeting the internal system may include full access to gender-affirming medical interventions, as well as education on the pros and cons of such interventions.

As research has supported, many people who receive initial treatment (whether psychological or medical) targeting body dissatisfaction continue to experience sources of dissatisfaction after the fact (Ålgars et al., 2012; Strandjord et al., 2015; Witcomb et al., 2015). Researchers Altman et al. (2017) adapted a mindfulness and acceptance-based cognitive-behavioral therapy model to focus on the treatment of persistent body dissatisfaction after initial eating disorder treatment. Therapeutic aspects from this model would also be incorporated into this treatment model, focusing on cultivating a better relationship with one's body. The overall goal of these interventions would be for an individual to nurture a positive, if not at least neutral, relationship with their body.

The final and potentially most influential aspect of this treatment model would be the elimination of gendered language and gendered treatment protocols. As discussed in the themes I identified, many people have been and are continuing to be harmed by society's (and particularly the eating disorder community's) binary gender classifications. By eliminating or at least lessening this barrier, the hope is that more people feel comfortable approaching treatment professionals and receive the highly individualized care that is evidently needed.

## Limitations and Future Directions

While the outcomes of this study were fairly suggestive, it is still necessary to address the limitations of these find-

ings. In recruiting participants for Study A, a link to the client survey (see Appendix A) was posted in a private Facebook group led by the FEDUP Collective. Individuals who wish to join this group have to get approval from one of the page's administrators; therefore, only members had direct access to my survey. Given the nature of my recruitment, I ultimately had limited access to my target population. Because of this, my findings from this sample of individuals are not necessarily generalizable to the whole population of people who struggle with disordered eating, though the data I gathered is suggestive of an overall theme of experiences.

I received a total of 46 survey responses from the client group of participants, but only included the first 40 in my thematic analysis within and across the four survey questions. Due to the time constraints for this project, I was only able to thoroughly analyze the first 40 responses. While it is highly unlikely that the omission of these 6 survey responses had a significant impact on my findings, it is important to address this as a potential limitation.

The limitations encountered in recruiting the participant sample for Study B were significant. Scout Silverstein, a lead team member of the FEDUP organization, shared the professional questionnaire (see Appendix B) in a private Facebook group specifically for trans and gender-affirming eating disorder providers. Because I am not a member of this group, I was unable to re-post the survey or reach out to any of the care providers directly. By the time of my data analysis, I received only two responses from professionals. Because of this small sample size, I was unable to receive much direct feedback from the professionals working with TGNC people, a population I hoped would help enhance my data and research on this topic.

Based on the magnitude of research still needed to considerably advance this subject matter, it is imperative for more studies of this nature to be conducted. Subsequent studies with larger sample sizes, specifically focusing on acquiring

more input from professionals, would enhance and complement the development of the treatment model proposed in this study.

The language surrounding gender and identity is continuously evolving. The terminology used throughout this paper was chosen intentionally with inclusivity in mind. I recognize not all people may identify or agree with the terms I chose, and encourage all future researchers to do their own exploration.

## Acknowledgments

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# References

Ålgars, M., Alanko, K., Santtila, P., & Sandnabba, N. (2012) Disordered eating and gender identity disorder: A qualitative study. Eating Disorders, 20(4), 300–311. https://doi.org/10.1080/10640266.2012.668482

Altman, J. K., Zimmaro, L. A., & Woodruff-Borden, J. (2017). Targeting body compassion in the treatment of body dissatisfaction: A case study. *Clinical Case Studies, 16*(6), 431–445. https://doi.org/10.1177/1534650117731155

Cook-Cottone, C. P. (2015). Incorporating positive body image into the treatment of eating disorders: A model for attunement and mindful self-care. *Body Image, 14*, 158–167. https://doi.org/10.1016/j.bodyim.2015.03.004

Couturier, J., Pindiprolu, B., Findlay, S., & Johnson, N. (2015). Anorexia nervosa and gender dysphoria in two adolescents. *International Journal of Eating Disorders, 48*(1), 151–155. https://doi.org/10.1002/eat.22368

Diemer, E. W., Grant, J. D., Munn-Chernoff, M. A., Patterson, D. A., & Duncan, A. E. (2015). Gender identity, sexual orientation, and eating-related pathology in a national sample of college students. *Journal of Adolescent Health, 57*(2), 144-149.

Donaldson, A. A., Hall, A., Neukirch, J., Kasper, V., Simones, S., Gagnon, S., Reich, S., & Forcier, M. (2018). Multidisciplinary care considerations for gender nonconforming adolescents with eating disorders: A case series. *International Journal of Eating Disorders, 51*(5), 475–479. https://doi.org/10.1002/eat.22868

Duffy, M. E., Henkel, K. E., & Earnshaw, V. A. (2016). Transgender clients' experiences of eating disorder treatment. *Journal of LGBT Issues in Counseling, 10*(3), 136-149. http://dx.doi.org/10.1080/15538605.2016.1177806.

FEDUP | Fighting Eating Disorders in Underrepresented

Populations: A Trans+ & Intersex Collective. (n.d.). FEDUP. https://fedupcollective.org

Jones, B. A., Haycraft, E., Bouman, W. P., Brewin, N. Claes, L., & Arcelus, J. (2018). Risk factors for eating disorder psychopathology within the treatment seeking transgender population: The role of cross-sex hormone treatment: Eating disorder symptoms in transgender people. *European Eating Disorders Review, 26*(2), 120–128. https://doi.org/10.1002/erv.2576

Sharpe, H., Griffiths, S., Choo, T.-H., Eisenberg, M. E., Mitchison, D., Wall, M., & Neumark-Sztainer, D. (2018). The relative importance of dissatisfaction, overvaluation and preoccupation with weight and shape for predicting onset of disordered eating behaviours and depressive symptoms over 15 years. *The International Journal of Eating Disorders, 51*(10), 1168–1175. https://doi.org/10.1002/eat.22936

Stewart, T. M., & Williamson, D. A. (2003). Body positive: A new treatment for persistent body image disturbances in partially recovered eating disorders. *Clinical Case Studies, 2*(2), 154–166. https://doi.org/10.1177/1049732302250780

Strandjord, S. E., Ng, H., & Rome, E. S. (2015). Effects of treating gender dysphoria and anorexia nervosa in a transgender adolescent: Lessons learned: Gender dysphoria and anorexia in an adolescent. *International Journal of Eating Disorders, 48*(7), 942–945. https://doi.org/10.1002/eat.22438

Testa, R. J., Rider, G. N., Haug, N. A., & Balsam, K. F. (2017). Gender confirming medical interventions and eating disorder symptoms among transgender individuals. *Health Psychology, 36*(10), 927–936. https://doi.org/10.1037/hea0000497

van de Grift, T. C., Elaut, E., Cerwenka, S. C., Cohen-Kettenis, P. T., De Cuypere, G., Richter-Appelt, H., & Kreukels, B. P. C. (2017). Effects of medical interventions

on gender dysphoria and body image: A follow-up study. *Psychosomatic Medicine, 79*(7), 815–823. https://doi.org/10.1097/PSY.0000000000000465

Witcomb, G. L., Bouman, W. P., Brewin, N., Richards, C., Fernandez-Aranda, F., & Arcelus, J. (2015). Body image dissatisfaction and eating-related psychopathology in trans individuals: A matched control study. *European Eating Disorders Review, 23*(4), 287–293. https://doi.org/10.1002/erv.2362.

# Appendix A

*Google Form for Clients*

## Gender Identity and Disordered Eating

*disclaimer: I am not a professional in this topic, but a student who is looking to further the literature through research for my senior thesis project*

\* Required

I certify that I am 18 years of age or older \*

☐ Yes

☐ No (and I will exit out of the survey now)

This survey discusses the topics of gender nonconformity and disordered eating. If you are uncomfortable with any of the questions, you are not obligated to answer. Participation in this survey is voluntary, and all responses will be anonymous \*

☐ I consent to participation

☐ I do not consent to participation and will exit out of the survey

## General Information

*Please answer each item to the best of your ability. You may skip any question(s) you do not wish to answer. There are no right or wrong answers.*

Age (years) _____

Gender Identity _____

## For each question, please provide as much or as little information as you feel comfortable

*If at any point in this survey you wish to withdraw, please exit out of the survey window and your responses will NOT be submitted*

*\*GNC[3]: gender non-conforming (transgender, nonbinary, etc.)*

*Please feel free to email clamkin.f18@warren-wilson.edu or bswoap@warren-wilson.edu if you have any questions.*

3. I originally chose the term gender non-conforming individuals in my surveys when referring to my target population. Upon further research I found the term transgender and gender non-conforming people to be more commonly used and accepted.

*If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or questions about your rights as a participant, please contact the Warren Wilson College Institutional Review Board at irb@warren-wilson.edu.*

If you have received any kind of gender-affirming treatment (hormone replacement, surgery, hair removal, etc.), has this had an impact on your body image? If you have considered pursuing gender-affirming treatment, do you think it would impact your body image?

What (if any) barriers have you encountered in seeking out treatment for disordered eating as a gender non-conforming individual?

What (if any) positive or negative experiences have you had with clinicians or eating disorder treatment professionals?

What (if any) suggestions/considerations do you feel pro-fessionals should have when working with GNC individuals with disordered eating?

**Thank you for your participation!**
*Your responses will be considered in developing an inclusive treatment model for GNC individuals who struggle with disordered eating.*

# Appendix B

## Gender Identity and Disordered Eating: A Professional's Perspective

*disclaimer: I am not a professional in this topic, but a student who is looking to further the literature through research for my senior thesis project*

*My hope with this survey is that I will cultivate idea(s) for a model that will be most effective for treating gender non-conforming individuals who struggle with disordered eating.*

\* Required

Email address \* _____

I certify that I am 18 years of age or older \*

☐ Yes

☐ No (and I will exit out of the survey now)

This survey will ask about your opinions as specialized professionals in the topics of gender nonconformity and disordered eating. If you are uncomfortable with any of the questions, you are not obligated to answer. Participation in this survey is voluntary, and all responses will be anonymous \*

☐ I consent to participation

☐ I do not consent to participation and will exit out of the survey

**For each question, please provide as much or as little information as you feel comfortable**

*If at any point in this survey you wish to withdraw, please exit out of the survey window and your responses will NOT be submitted*

*\*GNC: gender non-conforming (transgender, nonbinary, etc.)*

*Please feel free to email clamkin.f18@warren-wilson.edu or bswoap@warren-wilson.edu if you have any questions.*

*If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or questions about your rights as a participant, please contact the Warren Wilson College Institutional*

*Review Board at [irb@warren-wilson.edu](mailto:irb@warren-wilson.edu).*

What would you say is your role in working with GNC individuals who struggle with disordered eating or body dissatisfaction?

Some research proposes that a multidisciplinary/interdisciplinary approach to treating GNC individuals with disordered eating may be the most effective. What (if any) are your thoughts about this idea?

What should clinicians know about GNC individuals with disordered eating? What do you see as important components to effective therapy for this population? Please feel free to add any additional information that you think would be helpful.

**Thank you for your participation!**
Would you be willing to be contacted for follow-up questions? If you select yes, your email will be saved. *
☐ Yes
☐ No

# Masquerading a Monarchy: The Moroccan Monarchy's Post-Colonial Nation-Building Strategies

## Abstract

This paper analyzes the post-colonial nation-building strategies that the Moroccan nation-state adopted as it navigated its rural and ethnically divided civil society after claiming independence. Morocco is an exceptional case study because it navigates its dissident public sphere by adopting a hybridized model of governance. This model consists of traditionalizing the public sphere by uplifting Islam, an Amazigh ethnic ancestry, and the King's position as the rightful protector of the Moroccan people. To protect the monarchy and enforce its centralized power, the Moroccan state has institutionalized a process of governance that only allows for moderate progress to occur through constitutional referendums and state infrastructure. As well, they accommodate pluralistic discourses within their political arena by co-opting ethnic movements, such as the Amazigh identity, in order to pacify the framing of civil identities within the public sphere. The Moroccan nation-state does not truly care for democracy, and its celebration of ethnic diversity and formal governance is a survival strategy that aids the nation-state in representing itself under a democratic and pluralistic façade. Consequently, Morocco's flexible, hybridized nation-building model allows the nation to navigate social turmoil, and keep its position secure. In the pages that follow, these trends are explored using royal speeches, the Moroccan constitution, and considering the historical context of Moroccan nation-building.

## Ainara Hidalgo | Global Studies

Ainara Hidalgo graduated from Warren Wilson College in May 2022 with a BA in Global Studies. On campus, you could find her at these three places: the writing studio, on the first level of the library, or in Boon in a hidden study corner. Fun fact, she was the first student to surpass the limit on interlibrary loan requests! Ainara is currently serving as a college counseling fellow within the American College of Greece in Athens. She dedicates her passion for global learning to her wonderful supervisor Julie Wilson! And to all the professors who have inspired her to adopt a global and inquisitive outlook on life.

Monarchies and authoritative regimes are perceived as effective in establishing national unity because they are highly centralized. As centralized regimes, these states can manipulate and intrude on the public sphere, subjugate minority groups through the process of rulemaking, and implement national policies through the suppression and silencing of civil society. Although centralized states are effective in reinforcing their national agendas through the suppression of diversity, in the long term, fixed states with a single function are vulnerable to domestic counter-movements, dissident radical voices, and the global environment of changing systems of power. Michael Mann reaffirms this in "The Autonomous Power of the State," when he suggests that nation-states with a "multiplicity of power relations" are effective in avoiding scrutiny or collapse.[1] The multi-functionality of a state that he is suggesting is derived from the state's ability to negotiate with its civil society. Mann argues, "This maneuvering space is the birthplace of state power."[2] In other words, a nation-state's ability to assess its limitations in power and be malleable in its decision-making process through the consideration of its civil society allows the reproduction of state power to occur. In this paper, I explore how the Moroccan Kingdom, a monarchy with fixed ruling practices, has effectively strengthened its nation-state and maneuvered an ethnically fragmented and dissident civil society.

I argue that Morocco has been able to stay grounded in its centralized Islamic and Arabic identity because the monarchy does not run against social movements, but rather embraces a pluralistic identity that allows them to be flexible and malleable when interacting with oppositional movements. In other words, to protect the monarchy and further enforce

1. Michael Mann, "The Autonomous Power of the State : Its Origins, Mechanisms and Results," *European Journal of Sociology / Archives Européennes de Sociologie / Europäisches Archiv Für Soziologie* 25, no. 2 (1984): 197.
2. Mann, "The Autonomous Power of the State," 198.

its centralized power, the Moroccan state accommodates pluralistic discourses within its political arena, allies itself with multicultural movements in favor of its nation-building process, and fragments social movements to promote civil conflict within the public space with the result of weakening the radicalization of these movements. In my research, I explore this complex contestation of power dynamics between the state and the Amazigh movement, alongside other Moroccan dissident movements, to illuminate the effectiveness of the Moroccan state in conserving the monarchy.

Counter-publics are large contributors to the reconstruction of a nation's development of democracy and economic development. Nancy Fraser defines the "counter-public," as a subordinate social group that exists within a dominant oppressive public sphere.[3] To further understand the role played by counter-publics in post-colonial Morocco, I explore the role the Amazigh movement played in the post-colonial reconstruction of Moroccan identity. In my investigation, I interpret the informal and formal outcomes implemented by the Moroccan monarchy at present and determine whether these seen collectively represent a sign of progress or an attempt to placate the Amazigh people's movement.

## Moroccan Exceptionalism: The Exceptional Monarchy Towards Liberalization

Exceptionalism occurs when a country uplifts itself above other nations by claiming that they are practicing a form of ruling that is superior to those of its surrounding nations. In this case study, the Moroccan monarchy uses exceptionalism as a tool to distance itself from other centralized regimes, which are often perceived as authoritative.

Moroccan exceptionalism provides an effective tool

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3. Nancy Fraser, "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy," 2021, 64.

for the monarchy to frame itself as democratic and pluralistic, thus allowing them to effectively partner with western states. As will be shown in this paper, Moroccan exceptionalism reveals itself as a shield for the king to effectively protect the monarchy from domestic and international discontent. On the 68th anniversary of the Moroccan Revolution for Independence, King Mohammed VI gave a speech that illuminates how Moroccan exceptionalism is framed within the public sphere. In this speech, he stated, "Morocco is a target because it is a country steeped in history—not to mention the nation's long-standing Amazigh history—and it is governed by a citizen-based monarchy."[4] Mohammed VI's frame suggests that Morocco is a "target" for international discontent because it celebrates its ethnic diversity through its Amazigh ancestry, and practices civil democracy through a pluralistic parliament, which many other centralized Arab states fail to do. In suggesting this publicly, the king is participating in the art of statecraft. Not only is he framing how change occurs in Morocco, but he is also manipulating and limiting the ways in which counter-publics can navigate the public sphere.

My goal is to demonstrate that the monarchy protects its centralized power, and frames itself as a democratic and "exceptional" nation-state by using soft power. These tools of statecraft include constitutional referendums, royal speeches, and parliamentary elections in their interactions with dissident groups. Similarly, the monarchy interacts with massive social movements that are potentially threatening to the state by creating conservative reforms that address the demands of these movements on the surface.

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4. "His Majesty the King Delivers a Speech on 68th Anniversary of the Revolution of the King and the People," Ministry of Foreign Affairs, African Cooperation and Moroccan Expatriates, accessed April 23, 2022, http://www.diplomatie.ma/en/his-majesty-king-delivers-speech-68th-anniversary-revolution-king-and-people.

# Historical Context

Morocco is an exceptionally pluralistic country and holds a rich linguistic and cultural diversity due to its geographical location and history of foreign occupation. The current Moroccan nation-state has been shaped by its historical narratives, geography, and shifting relationship to various forms of rule. The Kingdom of Morocco is an Arabic and Islamic country. To the east are Algeria and Libya, and to the southwest is Mauritania. All these countries make up what is called the "Maghreb" region, or the most western point of Africa. Morocco is also on the periphery of the European Union and directly faces Spain. Its geographical location has made it an epicenter for migration, and this also pertains to attempts by Arabic and European Nations to occupy Morocco. Morocco received its independence in 1956, and in 1957, the first post-colonial King, Mohammed V, declared the country a "constitutional monarchy."[5] Today, the country is ruled by Mohammed VI.

Authoritative regimes are often perceived as being demographically homogeneous, but this is not the case in Morocco considering its geographical location and interactions with foreign occupations. Morocco has an ethnically diverse and fragmented population. The Amazigh people are the majority population and are estimated between 40-50%.[6] As well, Morocco has the largest Amazigh population in North Africa, with 15 million Moroccans recorded speaking Tamazight, one of many languages spoken by the Amazigh.[7] Morocco's current public identity is a hybridization of Arab and

5. "Morocco - The World Factbook," accessed February 14, 2022, https://www.cia.gov/the-world-factbook/countries/morocco.
6. Nick Dines, "Towards a 'New' Moroccan Capital? Democratisation, Diversity Politics, and the Remaking of National Space in Rabat," *Identities* 28, no. 6 (November 2, 2021): 739. https://doi.org/10.1080/1070289X.2021.1990569.
7. Moha Ennaji, "Recognizing the Berber Language in Morocco: A Step for Democratization," *Georgetown Journal of International Affairs* 15, no. 2 (2014): 93.

Amazigh. However, this is a recent adoption, as the monarchy has transitioned to formally acknowledge the large historical presence and role of the Amazigh people in Morocco only in the 20th century.

### Pre-Independence Morocco: Arab Empires, The French Protectorate, and The Progression of the Amazigh Identity into the Public Sphere

The rise of the centralized nation-state in Morocco teaches us how crucial the use of soft power is when navigating a strong civil society with a weak state structure. Coined by Joseph S. Nye, Jr, soft power is the ability of a country to enforce its influence on its citizens and nations internationally without physical force.[8] This is evident when colonial empires do not intrude in peripheral ethnic communities but require tribal leaders to pacify their communities in return for rewards. Considering Morocco's heterogeneous ethnic makeup, soft power within the Moroccan empire has been most commonly present through the manipulation of ideologies, languages, and cultural practices.[9]

In order to understand Morroco's current effectiveness in using soft power to build a pluralistic modern nation-state, we must explore the strategies empires have used on Amazigh communities in the past. The Arab Empire conquered Morocco during the 8th century, and this conquest was crucial for the solidification of a hybridized civil society rooted in an Arabic identity.[10] This integration derived from the Arab army's strategy of building a Muslim army that consisted of predominantly Amazigh soldiers.[11] In embracing a flexible

8. G. John Ikenberry, "Review of *Soft Power: The Means to Success in World Politics*," May 1, 2004, https://www.foreignaffairs.com/reviews/capsule-review/2004-05-01/soft-power-means-success-world-politics.
9. Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London ; New York: Verso, 2006), 46.
10. Bruce Maddy-Weitzman, *The Berber Identity Movement*, 8.
11. Maddy-Weitzman, *The Berber Identity Movement*, 14.

approach to managing cultural differences, the Arab state prevented the Amazigh from building up discontent. This empire's survival strategy clearly illustrates the influence that ethnically fragmented societies have on the decision-making process of nation-states.[12]

Another important colonial effort that has shaped the modern Moroccan nation-state is the occupation of Morocco by the French empire. The French enforced a protectorate on Morocco in 1912 intending to establish a "civilizing mission."[13] The French allied with the Amazigh and enforced divide-and-conquer strategies to protect the pure Amazigh culture from being further Arabized. They did this through the implementation of the Berber Dahir of 1930. The word "Berber" comes from the Arabic word "barbara," or to speak noisily. The Arabs who conquered the Amazigh saw their languages as abnormal, and thus, stigmatized their communities by referring them to as the "Berbers."[14]

The Berber Dahir document stated that the "Berber" tribes were no longer under Islamic sharia jurisdiction but rather under the jurisdiction of tribal leaders and French administrators.[15] The Berber Dahir was an effective political tool to divide the Arab and Amazigh communities from allying against the French colony; in the process of placating the Amazigh in peripheral regions away from the urban Arabs, the French presented themselves as the saviors of these tribal communities. These divide-and-conquer strategies were effective as they subordinated the Arabic identity and ensured French rule was not jeopardized.

Although the Moroccan-French protectorate enforced

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12. Maddy-Weitzman, *The Berber Identity Movement,* 28.

13. Maddy-Weitzman, *The Berber Identity Movement,* 37.

14. "Names of the Berber People." Wikipedia. Wikimedia Foundation. https://en.wikipedia.org/wiki/Names_of_the_Berber_people.

15. "Texte Intégral Du Dahir Sultanien Du 16 Mai 1930 Dit Dahir Berbère," January 2, 2009, https://web.archive.org/web/20090102005102/http://www.amazighworld.net/countries/morocco/documents/dahir_berbere/texte_du_dahir_du_16_mai_1930.php.

formal systems of governance to uphold stability, their colonial empire came to an end because of the intrusiveness in their politics to target the historical cultural unification between the Arabs and Amazigh. The Berber Dahir undermined the position of the Sultan and the sacredness of practicing Sharia Law for all Moroccans. This intrusiveness gave way to Arab nationalism and the Liberation Army, in which Amazigh and Arabs allied and fought for Moroccan independence against the French.[16] In analyzing French rule in Morocco, we begin to comprehend that soft power is effective and long-lasting, yet only if it is paired with the implementation of non-intrusive approaches to interacting with the dominant religious and cultural practices of fragmented societies.

## The Moroccan Model of Nation-Building: A Hybridized Process

In *Imagined Communities*, Benedict Anderson argues that nation-states must abandon traditional tools of unity formation to be indoctrinated into a process of modern statecraft. With his analysis, we can argue that a post-colonial nation-state such as Morocco must abandon "pre-nationalist ancient regimes" and transform its governance system into one that practices "new nationalism."[17] In other words, a nation must transition from uplifting sacred languages and religious scripts to a "modern" nation that standardizes a modern education, establishes industrial infrastructure, and de-incentivizes tribalization through the promotion of urban migration. Yet, Morocco is an interesting case study because it has managed to enlarge the power of its nation-state and maintain peaceful relations with its fragmented societies through the use of a hybridized model of nation-building. This hybridized nation-building process exists at the periphery

16. "Tribalism: The Backbone of the Moroccan Nation," *The Journal of North African Studies* 4, no. 2 (June 1999): *6–22*, https://doi.org/10.1080/13629389908718358.
17. Benedict Anderson, *Imagined Communities, 34-46.*

of traditionalization and liberal democracy.

The Moroccan model of nation-building upholds a collective memory founded on religious scripture, an ancestral Amazigh identity, and a romanticized image of the king and his connection to Allah as the protector of all Moroccan citizens. It also practices modern approaches to state-building, such as constitutional referendums and the establishment of state institutions. This model is particularly effective in the navigation of a religiously and ethnically diverse country because it prioritizes and celebrates the process of traditionalization, a process that simultaneously legitimizes the monarchy's existence as well as encompasses the realities of their powerful ethnic communities into the public discourse. In other words, using traditionalization in the process of modern nation-building reinforces the king's position as it constructs the idea that the monarchy is the sole conserver of tradition, and without the king's ability to guide all Moroccans, the religious consciousness and territorial pride that unites the country would crumble.

The hybridized and flexible nature of the Moroccan model of nation-building is visible in the first post-colonial constitution of Morocco, established in 1962. In this text, King Hassan II declares Morocco a "constitutional, democratic, and social monarchy."[18] In prioritizing the words "constitutional" and "democratic," the King is framing Morocco as a strong state with an objective and fair process of governance. Considering the vulnerability of the post-colonial nation-state and the potential for revolt and collapse from areas of dissidence, ensuring citizens that Morocco was on a path towards social democracy assisted in pacifying society, and allowed the king the ability to implement his particular version of democracy. Moreover, Morocco's malleable constitutional framing, which did not acknowledge any ethnic identities, is a crucial characteristic of Morocco's ability to

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18. "Constitution Marocaine 1962, Digithèque MJP," accessed April 1, 2022, https://mjp.univ-perp.fr/constit/ma1962.htm.

stay in power by using ambiguity to deal with domestic and international discontent.

Alongside the king's effective framing of a democratizing Morocco existed the traditional values of Islam and the unity of the king to his people. For example, Article 19 of this constitution states, "The king, a symbol of the unity of the nation, … ensures respect for Islam and the Constitution. He is the protector of the rights and freedoms of all citizens."[19] The king, as a symbol of unity and Islam, upholds the Moroccan nation-building model by creating a romanticized image of rule that decenters westernization, yet is rooted in democracy and Moroccan heritage. The king could frame his legislation and decision-making within the public space as representing the well-being of all Moroccans, and in this process construct a flexible national identity with a highly respected centralized government.

## Post-Independence Morocco: The Arabization Campaign of the Newly Independent State

Post-colonial Morocco was left in a very vulnerable position, with an ethnically and culturally fragmented society, economic instability, and poor national infrastructure. At the time of independence, 55 to 77 percent of the population was tribalized within Amazigh enclaves.[20] These enclaves held an abundance of cultural practices and governing systems. However, for a newly independent nation with an infant economy, a tribalized country was not the ideal structure for building a united image. Therefore, after French colonization, Morocco embarked on a nation-building campaign to strengthen its national identity. This campaign was grounded in what Anderson calls "modern nationalism", and at the forefront of their early post-colonial campaign, Morocco prioritized values of Arabization, territorial nationalism, and Islam.

19. "Constitution Marocaine 1962, Digithèque MJP," accessed April 1, 2022, https://mjp.univ-perp.fr/constit/ma1962.htm.
20. Senem Aslan, *Nation Building in Turkey and Morocco: Governing Kurdish and Berber Dissent* (Cambridge: Cambridge University Press, 2014), 84.

Morocco's approach to nation-building was first seen in 1961 when King Hassan II declared Morocco an Arab and Muslim state. He also standardized Arabic as the national language within all public spaces.[21] The Arabization campaigns in the early years of independence were anti-Amazigh and targeted peripheral ethnic regions. The Berber Manifesto, a declaration for human rights, written by Amazigh scholars, depicted the anti-Amazigh rhetoric that occurred during King Hassan II's reign. At the time of independence, they argued that the Makhzen, which translates to the deep state, declared Amazigh territory as filled with "disturbing minorities."[22] In other words, the Amazigh identity during this time was perceived as an obstacle to the potential building of a united pan-Arabic nation. Look no further than the legislation at this time: Amazigh people were prohibited from running for parliament and parents could not give their children non-Arab names.[23] At the root of the monarchy's Arabization campaign was the belief that ethnic fragmentation and areas of dissidence were obstacles to a post-colonial state that desired a united framing.

However, centralized states that oppress subaltern groups within their civil societies initiate a feeding ground for counter-public movements. The threat to the Moroccan nation-state was not its fragmented societies, but its ineffective policies, which poorly represented the realities of its public sphere. The monarchy deeply feared the radicalization of its disenfranchised majority. The Arabization campaigns did not accurately represent the realities of the communities within their ethnic enclaves, and this lack of representation could potentially threaten the king's position. Therefore, alongside

21. Aslan, *Nation Building in Turkey and Morocco*, 89.
22. "Berber Manifesto," accessed February 18, 2022, http://amazigh-world.org/human_rights/morocco/manifesto2000.php
23. Bruce Maddy-Weitzman, "Arabization and Its Discontents: The Rise of the Amazigh Movement in North Africa," *The Journal of the Middle East and Africa* 3, no. 2 (July 2012): 116-117, https://doi.org/10.1080/2152084 4.2012.738549.

the Arabization campaign, King Hassan II began to shift his rhetoric in Morocco to one of pluralism and flexible governance. This shift in Morocco's modern agenda illustrates how the post-colonial Moroccan nation-state was able to effectively navigate its society, while other centralized regimes in the region ended up in a cycle of political instability.

## The Functional Elements of the State: Constitutional Referendums, Royal Speeches, and Social Fragmentation

When oppressed people hold a collective memory of their history, it becomes challenging for centralized states to enforce new institutions of nation-building. Considering this, nation-states must be cautious when civil societies hold collective memories of state repression. For the monarchy, a cautious approach to the public sphere came in the shape of moderate reforms. That is, the monarchy interacts with subaltern social movements that are potentially threatening the state by creating conservative reforms that address the demands of dissident movements on the surface. This aids in silencing marginalized communities that try to seek unity with other subaltern groups against the repressive nation-state.

The post-colonial transition that Morocco went through after independence was dedicated to conserving the power of the Moroccan king and ensuring that the different fragmented communities did not seek solidarity with each other. Therefore, we saw a Morocco that once implemented Arabization campaigns and pushed Amazigh culture into areas of dissidence, transition into a nation that prioritized their interactions with disenfranchised communities.

Beyond Morocco's desire to ally with the Amazigh movement to pacify dissidence, their decisions were also rooted in making the Amazigh identity transactional for the state through the reproduction of cultural and historical narratives. The monarchy's state infrastructure serves many impressive roles. Most importantly, it upholds a sense of community rooted

in Moroccan cultural practices, while simultaneously establishing systems of surveillance and manufacturing palatable cultural narratives.

In the "Autonomous Power of the State," Mann reasons that the most effective states are the ones that have a "functional element" in their nation-building approaches.[24] The essence of Mann's argument is that by prioritizing a formal law-making process, the state can institutionalize its ideologies, and manage the distribution of political power by partnering with the public sphere. In essence, Mann argues that a centralized state cannot effectively rule on its own; it must have a concrete system of governance that enables it to build partnerships with the public sphere that aid it in upholding the nation's ideological, political, and military institutions.

We see this theory come to life during King Hassan II's reign in transitional post-colonial Morocco. His reign, which spanned from the late 1950s to the 1990s, was documented as a time when human rights violations were rampant, and brutal violence was enforced upon Amazigh regions. As he ruled a newly independent nation, he tried to balance the violence out with his framing of a romanticized Islamic state and sense of "Moroccanness." Yet, in King Hassan's case, his centralized state did not effectively rule a peaceful state because it brutalized its ethnic communities. King Hassan could not expect to keep a peaceful regime by forcefully enacting violence and declaring it a needed behavior for the protection of Moroccan sovereignty.

Therefore, towards King Hassan's ending reign in the 1990s, we begin to see an implementation of de-jure state strategies that prioritized democratization and political pluralism. This shift came about for various reasons. In choosing to accommodate a pro-Amazigh discourse within the political arena, the monarchy protected the framing of their country against hostile civil fragmentation. For example, Hassan II declared a process of democratization by officially co-opting

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24. Mann, "The Autonomous Power of the State," 188.

the Amazigh movement. In 1994 King Hassan II introduced the Amazigh language into public schools and declared the Amazigh language and identity "one of the components of the authenticity of our history." [25]

One might argue that the power-sharing process that the monarchy adopted by enforcing de-jure policies to reconstruct their public sphere, such as the framing of pluralistic and ethnically diverse public institutions, is a symbol of Morocco's post-colonial democratization process. While King Hassan's acknowledgment of the importance of Amazigh identity in Moroccan history should not go unnoticed, the standardization of Amazigh identity by using formal lawmaking allows for the state to determine which political movements and ethnic identities are worthy of existing in the public space. This formal lawmaking process requires that subaltern publics under the monarchy compartmentalize their ideologies to the king's agenda at all times. In addition, any disagreement that the Amazigh movement may have with the monarchy must go through various levels of bureaucracy, such as parliament, state agencies, and public legislation. These obstacles are set in place by the king to exhaust civil movements and silence the parts of the movements that do not meet its conservative ethnic framing.

## The Use of Constitutional Referendums: How Movements Die in Morocco

The use of formal constitutional actions to silence dissidence is most evident during the rise of the February 20th protests (FM20) of 2011, also referred to as the "Moroccan Spring," which occurred alongside the wider Arab Spring movement. During the FM20, the monarchy was met with a massive and organized demonstration led by liberal and leftist political parties, such as feminist, Islamist, and Amazigh groups. The diverse movement framed itself as secular and

25. Paul Silverstein and David Crawford, "Amazigh Activism and the Moroccan State," *Middle East Report*, no. 233 (2004): 44–48, https://doi.org/10.2307/1559451.

was predominantly led by urban Islamists and human rights associations. [26] According to organizers, 240,000–300,000 participants mobilized on the streets and demanded the reformation of Article 19 in the constitution, which acknowledged the King as ruler of the state and judiciary.[27] Some members of the movement, such as Islamist groups, demanded a complete overthrow of the absolute monarchical regime. In comparison to other sections of the movement, the Islamist group used a radical approach to activism by adopting the slogan "Makhzen get out. Down with despotism," and mobilizing support within low-income neighborhoods.[28] This brought deep fear to the monarchical regime. Although the monarchy used violent approaches in their interactions with these dissident groups, such as violently beating protestors and arresting activists, the death of this movement occurred through the use of constitutional referendums.

At the height of this movement, Mohammed VI gave a speech and declared a constitutional referendum on March 9th to fulfill the demands of the FM20 activists. In this speech, he declared that the new constitution would prioritize liberalization by acknowledging the Amazigh language as an official language under the Moroccan Kingdom, increasing the power of the parliament, and establishing female parliamentary quotas.[29] Although the FM20 movement was ideologically diverse, the new constitution passed in 2011 only prioritized two identities, the feminist and the Amazigh movements.

Co-opting the feminist and Amazigh movement was crucial for the survival of the Moroccan nation-state as they

26. Anja Hoffmann and Christoph König, "Scratching the Democratic Façade: Framing Strategies of the 20 February Movement," *Mediterranean Politics* 18, no. 1 (March 2013): 6-7, https://doi.org/10.1080/13629395.2012.761474.
27. Hoffman and König, " Scratching the Democratic Façade," 6.
28. Hoffman and König, " Scratching the Democratic Façade," 12-13.
29. "King Mohammed VI's Speech (March 9, 2011)," accessed April 13, 2022, http://www.moroccotomorrow.org/king-mohammeds-speech-march-9-2011/.

navigated the Arab Spring of 2011, and as they tried to escape the international discussions of collapsing Arab states. Mohammed VI's nation-building approach was centered on creating a more liberalized and democratic Moroccan political economy that required the assistance of western states; thus, the monarchy feared getting involved with this political turmoil. The modernizing approach that the Moroccan nation-state was after is evident in Mohammed VI's 2007 opening speech at parliament where he stated, "Modernization remains our chief objective as the first step towards overall institutional reform."[30] In other words, the monarchy sought to reconstruct the image of its state from one of religious fundamentalism and authoritarianism to one that is active in the global market, and that practices liberal reform.

Morocco's nation-building processes have involved the collaboration of a plethora of subaltern identities. However, the progress that the Amazigh movement has made in the public sphere has outshined all other dissident movements. I would argue that this is because the Amazigh movement has a deep historical context in Moroccan history. Additionally, it is the most established and dominant subaltern movement in the country, not to mention that the Amazigh diaspora spreads across North Africa. Thus, it could be a potential territorial threat to the Moroccan monarchy. When we analyze modern Moroccan policy, we begin to understand how the Moroccan nation-state grasped speedy control over this ethnic group.

Morocco's most drastic acknowledgment of its Amazigh people is prevalent in its 2011 constitution, in which the King prioritized Amazigh identity as part of all Moroccan ancestry and acknowledged Amazigh as an official language in the constitution. In Article 5, Mohammed VI declared, "The State works for the protection and the development of the Arabic language.... Likewise, Tamazight [Berber/

30. "Oct.12.2007. Full Speech of King Mohammed VI at Opening of Parliament Fall Session," House of Representatives, December 3, 2014, https://www.chambredesrepresentants.ma/en/royal-speeches/oct122007-full-speech-king-mohammed-vi-opening-parliament-fall-session.

Amazigh] constitutes an official language of the State, being common patrimony of all Moroccans without exception."[31] In acknowledging the Amazigh languages as an inherent part of Moroccan heritage and giving it the same worthiness as the Moroccan Arabic identity during the FM20 movement, the monarchy made it abundantly clear which dissident voices it prioritized in the public sphere.

　　Although there lies pride in the monarchy's decisions to adopt the Amazigh language within the Moroccan nation-building rhetoric, I also believe that the Amazigh made the most progress due to their conservative and moderate position. Sylvia Bergh and Daniele Rossi-Doria suggest that the FM20th movement was a predominantly urban-based political movement that demanded the distribution of power from the monarchy to civil society.[32] Amazigh political parties were also contributors to the urban movement, yet most Amazigh protests took place in rural regions, and unlike the urbanites, these rural communities prioritized material claims, such as infrastructure development, and access to economic resources. The demands of these rural communities were not rooted in challenging the monarchy's power centers. In fact, in asking for material resources, they made it clear to the monarchy that they needed state support for their existence. While rural movements framed themselves as needing the monarchy for its survival, urban movements framed themselves as unable to co-exist alongside a centralized power center.

　　The state's decision to acknowledge the Amazigh movement posed various implications within civil society. The monarchy's decision to publish a set of referendums during a time of international political upheaval was an effective strategy in creating fragmentation and conflict within the FM20 movement. This referendum made many political leaders abandon the movement and shift their loyalties to the monarchy. The constitutional referendums were used as a

31. "Morocco 2011 Constitution - Constitute," accessed May 1, 2022, https://www.constituteproject.org/constitution/Morocco_2011?lang=en.
32. Hoffman and König, " Scratching the Democratic Façade," 7.

divide-and-conquer strategy, which assisted the king in determining which political movements, ethnic groups, and activists he could establish clientelist relationships with, and which ones he required repressive tactics to protect his position.

Many activists and Moroccan scholars argue that the constitutional referendum was a "façade" and a survival strategy for the state to frame itself as a more democratic and egalitarian society.[33] We can affirm this argument when looking at the formal strategies of the Moroccan nation-state. For instance, the king took a non-intrusive approach in his interactions with the FM20 movement and instead used the media and his image to create civil fragmentation and to villainize the urban Islamist groups within the movement which were known to support constitutional democracy. In addition, the king acknowledged the moderate demands of more conservative movements, such as the feminists and Amazigh movements, to create a sense of progress across civil society and gather the support of local civilians who were witnessing this massive unrest across the country. Unlike strict regimes in Turkey or the violence that ensued in Algeria between the Amazigh and the nation-state, the Moroccan monarchy presented itself as a malleable, pluralistic promoter of change. This framing effectively assisted Mohammed VI by solidifying the monarchy's judicial and legislative powers as the only actor and mediator able to provide Moroccans safety. In addition, in presenting themselves as malleable, the monarchy was able to promote co-optation and allyship as the only tool for civil society to sustainably survive and receive the representation they needed.

**The Puppet Parties: Co-opting Amazigh Elites**

Monarchies that want to protect their centralized power must negotiate their interactions with counter-publics peacefully and in a way that prevents the counter-publics from effectively amassing national and transnational solidarity with

33. Hoffman and König, " Scratching the Democratic Façade," 1.

other oppressed groups or with the dominant public sphere. As I have explored above, the newly independent Morocco negotiated their interactions with the Amazigh people in various ways. However, we now explore how the monarchy constructed a pro-monarchy Amazigh national identity and fabricated social fragmentation within the public sphere as a way to center the king as the sole arbiter of conflict.

Co-optation and ethnic bargaining in Morocco occur through a process of rewarding Amazigh elites and moderate activists. This process uses symbolic politics to promote conservatism across areas of dissidence. Aslan states, "Rather than trying to eliminate the authority of local power centers, the king used Berber notables and tribal leaders to consolidate his power."[34] In other words, the monarchy's lasting reign was rooted in its ability to be a malleable and adaptable institution that could easily reconstruct a once threatening factor, tribalism, into a beneficial tool for the state that pacified the potential for an uprising.

We see the effectiveness of co-optation and ethnic bargaining during the early years of independence when the monarchy was threatened by political groups that wanted claim over the nation-state. This included the Istiqla party which at the time of independence dominated parliament and demanded a centralized constitutional monarchy. The Istiqla party was a clear threat to monarchical rule. Therefore, the monarchy sought to destroy the Istiqla party by villainizing them as a terrorist group and by favoring the formation and spread of their opposing party, the Popular Movement. The Popular Movement was an Amazigh movement that advocated for rural power centers, and the protection of monarchical rule. In favoring the Popular Movement, the monarchy created societal fragmentation between Islamist and Amazigh groups, thus exhausting the parties from building solidarity with each other and with the wider public.

The monarchy's intentional strategy of creating con-

34. Senem Aslan, *Nation building in Turkey and Morocco*, 81.

flict between political parties is a common strategy across global south nations under patrimonial and monarchical rule. In *State-Society Relations and State Capabilities in the Third World,* Joel Migdal explores this phenomenon by illuminating the political survival strategies used within the global south. The Moroccan nation-state practices what Migdal terms the "big shuffle."[35] The big shuffle is a political survival strategy where the state monopolizes the public space by only prioritizing state agents that are unthreatening against the centralized government. In supporting the construction of the Popular Movement, the more moderate movement, the state was effectively able to monopolize the public sphere and its Amazigh communities. In analyzing the monarchy's state policies, their use of the "big shuffle" to protect their position is evident. Moreover, I would argue the king's effectiveness in intervening in local politics is a main driver in the framing Morocco proudly claims today. This framing is one of a pluralistic (Amazigh-Arab) political system with a moderate Islamic practice.

From the co-optation techniques of the state, it is evident that the Amazigh are continuously used as signifiers of peace, compromise, and unity. This is because traditionalism and tribalism are often infantilized and indexed as passive, folkloric, and unable to threaten modernity. Thus, it is no surprise that in building a strong state, the Moroccan nation-state also interacted with Amazigh communities for state survival through ethnic bargaining. The state co-opts ethnic leaders into state institutions and military positions to fragment ethnic groups and manipulate them into allying with the state. Ethnic leaders at the top of the hierarchy receive rewards and status for their alliance and are demanded to keep the peace and silence their ethnic communities. In these patrimonial relationships, even radical and less trustworthy groups are given positions within the state to pacify the entire ethnic commu-

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35. Joel S. Migdal, "The Politics of Survival:" in *Strong Societies and Weak States*, State-Society Relations, and State Capabilities in the Third World (Princeton University Press, 1988), 216, https://doi.org/10.2307/j.ctvzsmdzz.13.

nity. In co-opting the Popular Movement, the monarchy was able to ensure the alliance of a predominantly Amazigh and rural country. As well, in constructing power centers within peripheral regions, the king could escape blame for the economic disenfranchisement and lack of public infrastructure within mountainous Amazigh communities and rather place the blame on the Amazigh political party. In other words, the Moroccan nation-state ensured its survival through power-sharing, and by creating division among civil society which framed the king as a necessary part of peacebuilding. The negotiations of the state with Amazigh communities and the visibility of Amazigh leaders in the political sphere proved effective for the monarchy's survival but were debilitating for the survival of self-sufficient Amazigh groups. I believe that in co-opting an Amazigh political party into parliament, the Amazigh identity became transactional for the monarchy, such that it was used to water down extreme Islamist groups and represent Morocco as an Islamic country that is friendly to ethnic diversity. This framing is an effective approach to entering the global economy and interacting with the western world.

In addition, Amazigh identities are not homogenous, and their geographical locations and cultural practices expand across all of North Africa. However, in prioritizing certain Amazigh voices over others, the Amazigh movement was framed as one identity and compartmentalized to meet the needs of the monarchy. This was also the beginning transition of pacifying Amazigh communities by representing them as solely a cultural movement. Framing the Amazigh as a cultural movement that can easily exist within a more important Moroccan Islamic unity debilitates them, and prevents them from demanding territorial sovereignty, true political power, and economic self-sufficiency.

# The Fabrication of the Public Sphere Through the Use of State Agencies

Weak states must go through a survival process to bring themselves back to a space of equilibrium where they can control society and endure challenges. Migdal suggests that these survival strategies involve mobilizing the masses through a process of "rewards, sanctions, and symbols."[36] State survival can only occur through the establishment of strong state agencies that represent the needs of the people. Through a more practical lens, we can argue that state agencies garner massive civil support by co-opting tribal leaders and activists. In this way, subaltern groups are forced to act in compliance with the state's demands. A movement that is surveilled by the state cannot revolt as it is being tied down by clientelist state relationships.

King Mohammed VI, the current king of Morocco, is often represented within the domestic and international media as the opposite of his father. He frames himself as the king of the people and a king that has placed Morocco on a path toward liberalization. In a speech given at the 2016 parliamentary opening, his framing of democratization and liberalization through the use of state agencies are present. He stated, "Everyone is responsible for ensuring the efficiency of state agencies because they are the backbone of any reform."[37] In emphasizing state agencies as the only tool for democratic reform, King Mohammed VI suggests that democratic change and the distribution of power to citizens is only feasible through indoctrination within the monarchy's state agencies. In prioritizing state agencies, it is evident that the public sphere and the formal law-abiding process are all manufactured for the particular purpose of creating a unified

36. Joel S. Migdal, "The Politics of Survival:" 210.
37. "Full Text of HM the King's Speech at Parliament Opening 10-14-2016 | House of Representatives," accessed April 30, 2022, https://www.chambredesrepresentants.ma/en/royal-speeches/full-text-hm-kings-speech-parliament-opening-10-14-2016.

and powerful image of the state. In addition, his interpretation of state agencies leads me to believe that all citizens who want significant change must de-radicalize their demands and negotiate their position with the king.

In Morocco, state agencies are instrumental in the protection of power and mass support that the monarchy holds. In such a manner, certain rewards and state positions are provided to community members who comply with the rules of the monarchy. This is reflected in Mohammed VI's first initiatives within his reign, which prioritized the establishment of Amazigh state agencies in the public sphere. In 2001, Mohammed VI established the Royal Institute of Amazigh Culture (IRCAM). In the "*Texte Du Dahir,*" the King's opening speech and declaration for establishing the state agency, he declared that IRCAM was responsible for protecting Amazigh history and disseminating it within civil society.[38] The IRCAM institution was tasked with standardizing the three varieties of Amazigh languages into one language that can be taught across primary schools and across the public sphere to symbolize Morocco's Amazigh-Arab unity. During Mohammed VI's opening speech, he stressed that the Amazigh identity belonged to all Moroccan citizens and should not be used for political movements. He stated, "We want to affirm that Amazighity…cannot be used for political purposes of any kind." [39] In declaring this during the establishment of a state agency, the king pacified the Amazigh movement by using a language of discipline that prevented the Amazigh identity to exist beyond cultural concerns.

In standardizing Amazighness as a cultural rather than political movement, the state erases the idea that Amazigh existence is under threat or experiencing economic and social disenfranchisement. This monarchical image of the Amazigh movement is effective because it symbolically represents the Amazigh identity within state institutions. In my view, it pres-

38. "Texte Du Dahir | Institut Royal de La Culture Amazighe," accessed April 2, 2022, https://www.ircam.ma/fr/textes-fondateurs/texte-du-dahir.
39. "Texte Du Dahir."

ents this question to the public: How can an identity that is nationally recognized within the constitution be on the verge of erasure or subjugation? Thus, the establishment of IRCAM caters to the needs of the monarchy by shifting the framing of the Amazigh movement. In this process, Amazigh communities lose the ability to mobilize on the grounds of collective memory and political initiatives. In addition, in becoming a mainstream movement, they lose their radical roots and simplify themselves to only having one experience, one identity, and one demand that needs to be addressed.

This use of state agencies for the manipulation of the public sphere and the de-politicization of the Amazigh movement is also visible during the Tifinagh vs Latin Script debate of 2003. In the efforts to repair the violent history enforced upon Amazigh communities by King Hassan II, Mohammed VI addressed his father's inability to institutionalize the teaching of Amazigh languages in public schools and began a project to standardize Amazigh languages across all Moroccan state schools. From this decision, a linguistic debate arose within the IRCAM institution and the wider Amazigh community about the decision to standardize a Latin or Tifinagh script in the public sphere.[40] The Tifinagh script is an Ancient Moroccan Amazigh script that has fallen out of use within most Moroccan Amazigh communities. While the Latin script is the universal script of Amazigh communities across North Africa, IRCAM saw the Latin script as reinforcing western worldviews. The state agency, thus, advocated for Tifinagh, and the monarchy approved the teachings of Tifinagh in all primary schools across Morocco. However, the passing of this legislation only considered the voices of urban Amazigh elites who were in a clientelist allyship with the Moroccan state. Paul Silverstein and David Crawford illuminate the true intentions of the monarchy when they argue: "The standard Tamazight developed by Paris-based linguists was part of an effort not only to divide the international Berber

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40. Maddy-Weitzman, *The Berber Identity Movement,* 167-168.

community but to fragment the national one as well."[41] In other words, by choosing Tifinagh, an ancient linguistic practice, and homogenizing three different dialects of Amazigh languages into one, the state was able to disrupt the transnational consciousness of the Amazigh movement and placate it within Moroccan borders.

In "Mobilized Diaspora: Kurdish and Berber Movements in Comparative Perspectives," Ofra Bengio and Bruce Maddy-Weitzman speak on the importance of acknowledging pluralism and change to keep subaltern and ethnic movements alive across the diaspora. They suggest that the "diaspora experience...is defined, not by essence or purity, but by the recognition of a necessary heterogeneity and diversity: by a conception of 'identity' which lives with and through, not despite, difference."[42] Bengio and Maddy-Weitzman urge us to consider how a subaltern diaspora keeps itself protected. The diaspora experience welcomes ethnic transformation as a tool to keep ethnic communities alive as they navigate a globalized world. Considering this, it is evident that the diaspora unity of ethnic communities dies when they are unable to communicate through cultural exchange, practices of collective remembering, and traditions.

I would argue that an ethnic community's inability to communicate across borders occurs when a nation-state manipulates the ethnic identity's image into one that is stoic and fixed within the national borders of the territory under which they live in. This silencing of the Moroccan-Amazigh from the wider North African Amazigh diaspora has occurred in the Moroccan nation-state through the establishment of the IRCAM state agency. More specifically, in IRCAM'S decision to standardize the Tifinagh script over the Latin across public

41. Paul Silverstein and David Crawford, "Amazigh Activism and the Moroccan State," *Middle East Report*, no. 233 (2004): 44–48, https://doi.org/10.2307/1559451.
42. Ofra Bengio and Bruce Maddy-Weitzman, "Mobilised Diasporas: Kurdish and Berber Movements in Comparative Perspective," *Kurdish Studies* 1 (November 2013): 67, https://doi.org/10.33182/ks.v1i1.386.

schools. I came to this conclusion for various reasons. The Tifinagh script is known to be an outdated and ancient language relegated to Moroccan borders. All other Amazigh communities in the North African region, such as Lybia and Algeria, are known to use the Latin script when writing in Amazigh. Additionally, many Amazigh people in Morocco disapprove of IRCAM's decision, and they thought it to be a symbolic action rather than one rooted in progressing the Amazigh movement. This is because in adopting the Tifinagh script, Moroccan-Amazigh people are disenfranchised from the wider transnational Amazigh diaspora. What I am trying to illuminate here is that the monarchy's decision to implement cultural agencies in the country's capital and institutionalize the Tifinagh script went beyond a tool to frame the movement under monarchical surveillance. It also assisted in placating Moroccan Amazigh people from uniting with other North African Amazigh people. In silencing the transnational aspect of the Amazigh movement, you de-radicalize the movement and only allow it to exist under certain conditions.

Another way in which the surveillance of IRCAM plays out is in its location. The IRCAM institute was constructed in the capital of Morocco, Rabat, and sits alongside other state institutes to resemble the acceptance of Amazigh history within the social spheres of a liberalizing Morocco. IRCAM, as an urban institution stationed in the capital of the country, sends the message that only Amazigh community members who make the effort to assimilate into modernization will be given acknowledgment within the public sphere. Before the standardization of state agencies, the monarchy solely relied on tribal power centers. However, in integrating urban Amazigh activists with moderate worldviews into IRCAM, the monarchy's ability to discipline is much more effective, and the potential radicalization of the Amazigh movement is non-existent because co-opted Amazigh leaders will not threaten a system that provides them rewards for their moderate ideologies. If we look deeper into the orga-

nizational structures of IRCAM, we see how the hybridization of de-facto and de-jure regulations proves to be extremely effective in serving the agenda of the nation-state to discipline identities and to de-radicalize the public sphere.

There is no denying that IRCAM and the integration of teaching Amazigh history in public schools are survival strategies for the state to pacify dissidence rather than promote tangible democratic change. While this is evident, it does not capture the full truth and damagingly portrays the Amazigh as puppets of the state. In fact, the Amazigh's choice to partner with the state has assisted them in establishing themselves as political agents. For example, when asked about the importance of IRCAM for the Amazigh movement, an IRCAM employee replied, "It is not only the state that automatically benefits from this process, but we can also benefit too…. By working within the system, you know that one day you will decide."[43] In making this comment, we are urged to reconsider what being a subaltern counter-public entails under a centralized regime. Within the Amazigh movement, being a counter-public movement is rooted in working with the nation-state to establish systems of rewards and symbolic institutions. These tools allow buffers of protection for the Amazigh, as they slowly try to challenge the monarchy's hegemonic ideologies, reconstruct the public sphere into prioritizing Amazigh identities, and repair the economic and societal disenfranchisement that has been experienced within Amazigh communities during the early post-colonial era.

In "Rethinking the Black Public Sphere," Catherine Squire coins the term "strong publics" to describe counter-publics with "ready access to organized forms of association and publicity."[44] Squires suggests that counter-publics that gain access to state institutions can influence the deci-

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43. Senem Aslan, *Nation building in Turkey and Morocco*, 134.
44. Catherine R. Squires, "Rethinking the Black Public Sphere: An Alternative Vocabulary for Multiple Public Spheres," *Communication Theory* 12, no. 4 (November 1, 2002): 457, https://doi.org/10.1111/j.1468-2885.2002.tb00278.x.

sion-making process within the dominant public sphere and uplift their communities out of disenfranchised positions. Using Squire's interpretations of subaltern resistance, I urge us to consider the Amazigh as a "strong public" whose presence in the public sphere exists beyond one of co-optation and rather as one of survival. Moreover, the Amazigh's ability to negotiate their position with the state has today transformed the public sphere into a space where Amazigh identity is prioritized within all power-holding spaces, such as state agencies in the media, and the constitution.

## Conclusion

As I have shown throughout this paper, Morocco is a nation-state that strictly enforces formal components of nation-building. While simultaneously uplifting a historical mystification, through a process of traditionalizing the king's position. In using a fixed historical identity, the Moroccan Kingdom has placated the possibilities for radical reform and the existence of changing identities because that would go against the natural order of power determined by the kingdom's patrimonial ancestors. Daniel Brumberg states, "Weak states are better at dominating than transforming, controlling than changing, surviving than innovating."[45] In stating the adaptability of weak states, we can better understand why post-colonial Morocco adopted the ethnically diverse framing that it still practices today.

What can the Moroccan nation-state illuminate about weak states navigating a process of nation-building? First, we learn that nation-states create their reality through the art of statecraft. In other words, the current international position of the Moroccan nation-state has been constructed through the monarchy's manufacturing of historical narratives and their surface-level framing of a democratic state. Secondly,

45. Daniel Brumberg, "Dissonant Politics in Iran and Indonesia," *Political Science Quarterly* 116, no. 3 (September 2001): 384, https://doi.org/10.2307/798022.

we can better understand the role that states play in the global context. Although states can be mediators of conflict, states also serve as political units and expressions of power. More specifically, states write the narrative for how power-sharing is contested, who is legitimized in the public sphere, and how progress is negotiated in governance spaces.

Timothy Snyder suggests that nation-states have manufactured a political cycle that creates a sense of hopelessness within civil society, thus, ensuring the positions of authoritative leaders remain secure. The first part of this cycle, he calls the "politics of inevitability." Within the politics of inevitability, the laws of progress are predetermined by our historical narratives. Snyder suggests that the politics of inevitability always collapse, and this leads to the "politics of eternity" within nation-states. In this political narrative, society is invaded by external and internal threats which prevent the government from enacting positive progress. In this process, the state takes on the role of mediator of conflict, and the potential for reform is lost in the historical past.[46]

Snyder believes that to remove a state from this cycle of unfreedom, we must study historical contexts. In other words, by studying history, individuals can awaken to possibilities of change, as progress has occurred in the past, and there is hope in the possibility of it continuing. I truly believe that potential change exists in Morocco's use of historical narratives as they navigate their state-building. The Berber Manifesto is a perfect example of the potential for change in studying historical narratives. In this manifesto, Amazigh people illuminate the active position that they had in the past and continue to have in Morocco's fight for liberation.

We should be concerned with the effectiveness of the Moroccan nation-building model because it has completely prohibited the possibility of Amazigh people from creating self-sufficient communities alongside the state without be-

46. Timothy Snyder, *Timothy Snyder Speaks, Ep. 14: Politics of Eternity, Politics of Inevitability*, 2018, https://www.youtube.com/watch?v=Egh-l19elKk8.

ing dominated. This domination goes beyond the state just surveilling its ethnic communities. The nation-state is now able to manufacture historical narratives and manipulate its citizen's collective memory, which inevitably is leading to a process of organized forgetting. To prevent this, the Amazigh people must document their history through their worldview, through oral recordings, dance, and literature. If the Amazigh continue to solely rely on the state to keep its culture alive, it will quickly become a manufactured history inseparable from the state's political agenda.

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# Bibliography

Anderson, Benedict R. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London and New York: Verso, 2006.

Aslan, Senem. *Nation-Building in Turkey and Morocco: Governing Kurdish and Berber Dissent*. Cambridge: Cambridge University Press, 2014. doi:10.1017/CBO9781107294387.

Bengio, Ofra, and Bruce Maddy-Weitzman. "Mobilised Diasporas: Kurdish and Berber Movements in Comparative Perspective." *Kurdish Studies* 1 (November 2013): 65–90. https://doi.org/10.33182/ks.v1i1.386.

"Berber Manifesto." Accessed February 18, 2022. http://amazigh-world.org/human_rights/morocco/manifesto2000.php.

Brumberg, Daniel. "Dissonant Politics in Iran and Indonesia." *Political Science Quarterly* 116, no. 3 (September 2001): 381–411. https://doi.org/10.2307/798022.

"Constitution Marocaine 1962, Digithèque MJP." Accessed April 1, 2022. https://mjp.univ-perp.fr/constit/ma1962.htm.

Dines, Nick. "Towards a 'New' Moroccan Capital? Democratization, Diversity Politics, and the Remaking of National Space in Rabat." *Identities* 28, no. 6 (November 2, 2021): 734–52. https://doi.org/10.1080/1070289X.2021.1990569.

"His Majesty the King Delivers Speech to Nation on 46th Anniversary of Green March | Ministry of Foreign Affairs, African Cooperation and Moroccan Expatriates." Accessed April 1, 2022. https://www.diplomatie.ma/en/his-majesty-king-delivers-speech-nation-46th-anniversary-green-march.

Hoffmann, Anja, and Christoph König. "Scratching the Democratic Façade: Framing Strategies of the 20 February Movement." *Mediterranean Politics* 18, no. 1 (March 2013): 1–22. https://doi.org/10.1080/13629395.2012.761474.

House of Representatives. "Oct.12.2007. Full Speech of King Mohammed VI at Opening of Parliament Fall Session," December 3, 2014. https://www.chambredesrepresentants.ma/en/royal-speeches/oct122007-full-speech-king-mohammed-vi-opening-parliament-fall-session.

Maddy-Weitzman, Bruce. "Arabization and Its Discontents: The Rise of the Amazigh Movement in North Africa." *The Journal of the Middle East and Africa* 3, no. 2 (July 2012): 109–35. https://doi.org/10.1080/21520844.2012.738549.

Maddy-Weitzman, Bruce. *The Berber Identity Movement and the Challenge to North African States.* Austin, TX: University of Texas Press, 2011.

Mann, Michael. "The Autonomous Power of the State : Its Origins, Mechanisms and Results." *European Journal of Sociology* 25, no. 2 (1984): 185–213.

Migdal, Joel S. "The Politics of Survival:" In *Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World*, 206–37. Princeton University Press, 1988. https://doi.org/10.2307/j.ctvzsmdzz.13.

Molina, Irene Fernández. "The Monarchy vs. the 20 February Movement: Who Holds the Reins of Political Change in Morocco?" *Mediterranean Politics* 16, no. 3 (November 2011): 435–41. https://doi.org/10.1080/13629395.2011.614120.

"Morocco - The World Factbook." Accessed February 14, 2022.

https://www.cia.gov/the-world-factbook/countries/moroc-co.

Silverstein, Paul, and David Crawford. "Amazigh Activism and the Moroccan State." *Middle East Report*, no. 233 (2004): 44–48. https://doi.org/10.2307/1559451.

Snyder, Timothy. "Timothy Snyder Speaks," Ep. 14: Politics of Eternity, Politics of Inevitability, 2018. https://www.you-tube.com/watch?v=Eghl19elKk8.

Squires, Catherine R. "Rethinking the Black Public Sphere: An Alternative Vocabulary for Multiple Public Spheres." *Communication Theory* 12, no. 4 (November 1, 2002): 446–68. https://doi.org/10.1111/j.1468-2885.2002.tb00278.x.

Soulaimani, Dris. "Becoming Amazigh: Standardisation, Purity, and Questions of Identity." *The Journal of North African Studies* 21, no. 3 (May 26, 2016): 485–500. https://doi.org/10.1080/13629387.2016.1157481.

"Texte Du Dahir | Institut Royal de La Culture Amazighe." Accessed April 2, 2022. https://www.ircam.ma/fr/textes-fon-dateurs/texte-du-dahir.

"Texte Intégral Du Dahir Sultanien Du 16 Mai 1930 Dit Dahir Berbère," January 2, 2009. https://web.archive.org/web/20090102005102/http://www.amazighworld.net/countries/morocco/documents/dahir_berbere/texte_du_dahir_du_16_mai_1930.php.

"Tribalism: The Backbone of the Moroccan Nation." *The Journal of North African Studies* 4, no. 2 (June 1999): 6–22. https://doi.org/10.1080/13629389908718358.

# Artist Statement
## Mya Goodman

"But I think art is a total thing. A total person giving a contribution. It is an essence, a soul, and that's what it's about ….
In my inner soul art and life are inseparable." -Eva Hesse

To know me, and to know my work, you must first understand two things: first, that I create compulsively and constantly, and second, that I am a communist. I have been an artist for as long as I can remember. My understanding of the world is rooted in its physicality. The tactile qualities of material between my fingers is an essential part of my artistic process and my understanding of an idea.

My interest in sculptural art is tied up in two more specific endeavors: wearable arts and interactive, collaborative work. I am drawn to wearable art as I continuously explore the pieces and articles we carry with us from day to day. They represent an intimate part of our inner selves, physical manifestations and displays of our interests, our style, our histories, our connections. I am interested in the ways I can merge the subtle elements of everyday jewelry and accessories with the louder, less functional elements of contemporary wearable art. I am drawn to interactive and collaborative works because of the ways that my politics connect with my artistic practice. I am fundamentally interested in embodying interconnectedness and interdependence. My project, in art and in life, is in working in community to build the world we all want (and need) to live in from the ground up. I am interested in eliminating hierarchy within my own art in whatever ways I can.

My artistic practices and work are rooted in my identity as a neurodivergent, working-class, Southern leftist. My work is deeply informed by research, historical perspectives, critical analysis, and political theory.

## A Note on the Cover Art:
### *Relics of the Creative Commons Crypt*
### By Katherine Wilson

The cover of this year's *Auspex* is a narrative storytelling piece, with each thesis in this volume being represented by an object. "How to Kill People in a God Honoring Way," which focuses on Catholicism in horror, is represented by a church. "Intellectual Property and Art" is represented by a 'For Sale' sign, to portray the paper's point that American culture conceptualizes ownership of thought in ways that reflect our hyper-individualist, capitalist society. "Maíz Libre para el Mundo" is depicted by the basket of maize along with the maize field, to emphasize the paper's topic of seed patenting and sale. The mirror reflecting the maize field represents "Treatment for Transgender and Gender Non-Conforming People With Disordered Eating," as body image and dysphoria play a role in their development. The crown located on top of the mirror represents the Moroccan Monarchy, the main subject of "Masquerading a Monarchy." The fibers hanging across the front of the church represent research done for small scale indigo dye creation in "Alkaline-Tolerant Bacterial Species Associated with Small-Scale Indigo Fermentation Dye Vats." "Using Embodiment to Boost Creativity Among Musicians" is depicted by the cello and piano as musicians in the experimental group were asked to create a new way of playing their instruments. Lastly, "Motivation in Recovery" is represented by the hand upholding a lightbulb, depicting individuals choosing something that drives them to recover: a light at the end of a darkened tunnel, just within reach.

# Images Used

AllFiberArts. (2021). Indigo Fructose Dye Vat. https://allfiberarts.com/2021/indigo-fructose-vat.htm

Brennan. P. (n.d.). House for Sale Sign. https://www.publicdomainpictures.net/en/view-image.php?image=112964&picture=house-for-sale-sign

Capper, P. (2007). Rolling hills at pataua in the northland region, new zealand. https://commons.wikimedia.org/wiki/File:Northland_hills.jpg

Cuyper, J. (n.d.). Cello. https://picryl.com/media/cello-484101

Monto, T. (2017). Distorting Mirror. https://commons.wikimedia.org/wiki/File:Distorting_mirror.jpg

Pixabay. (2015). Cornfield. https://pixabay.com/photos/cornfield-corn-field-corn-plants-902877/

Pixabay. (2021). Crown Jewels King. https://pixabay.com/illustrations/crown-jewels-king-monarchy-6054798/

Ramsey, A. (2016). English: Baskets of corn at a farm in category:lancaster county, pennsylvania. https://commons.wikimedia.org/wiki/File:Baskets_of_Corn.jpg

Teague, K. (2017). Gravel Hill Church. https://www.flickr.com/photos/retroweb/33806906972

Wallpaper Flare. (n.d.). Person Catching Light Bulb. https://www.wallpaperflare.com/person-catching-light-bulb-idea-hand-creative-create-levitate-wallpaper-aznhx

WikiMedia Commons. (n.d.). John Broadwood & Sons Grand Piano. https://commons.wikimedia.org/wiki/Category:John_Broadwood_%26_Sons_Ltd.#/media/File:John_Broadwood_&_Sons_Grand_Piano.jpg

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