
# THE DREW REVIEW

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# Artist Statement

Art has been with me since my childhood. During my time at Drew, I discovered that I had more possibilities and have started to not only break away from my previous style of drawing and painting, but also to experiment with animation, video production, printmaking, sculpture, and photography. The piece that was chosen for the Drew cover is a landscape painting of Drew's campus that I did for my oil painting class. This painting shows a summer day at Drew. The campus is full of sunshine and life, with the sunlight seeping through the leaves, creating beautiful shadows and light on the grass. I love using my paintbrush to record beautiful landscapes through my perspective. When I paint in nature, I am relaxed and happy. I hope that the beauty that I find in nature can be passed on to other people through my paintings.

Ruolan Sun
CLA 2024

# The Drew Review

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# Foreword

*The Drew Review*, Drew University's annual double-blind undergraduate research journal of the College of Liberal Arts (CLA), commemorates talented students and their impressive authorship of the previous academic year through faculty nomination and subsequent publication.

As a double-blind, peer-reviewed journal, all submissions were submitted without any identifiable information, such as the student's or professor's names. Papers are either rejected or sent back to the author with recommended edits, and this process may occur several times before publication. This year, we received a total of 31 submissions and have published only 11, thus emphasizing the efforts and ability of these authors.

Those interested in submitting their work in the future will require a faculty nomination, which must include the author's name, paper title, and a brief rationale for nomination. All images will be published in black and white, and it is the author's responsibility to ensure that the images are permissible for reproduction under copyright law.

We are very grateful for our faculty advisors Dr. Kimberly Choquette of the Chemistry Department, Dr. Jacob Soule of the English Department, and Dr. Scott Morgan of the Psychology Department. Their help and support is instrumental to the success of *The Drew Review*.

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*Madelyn Fama*

## Abstract

While the 5 Stages of Grief theory is well renowned in society, the applicability of it in the actual grieving process is something that many psychological researchers have been questioning. A vast amount about the experience of grief can be found through research; however, equally as much can be found through the human experience detailed in literature. One of the greatest playwrights in history, William Shakespeare, wrote several plays detailing personal challenges in daily life. Specifically in Hamlet, Shakespeare writes of several different characters going through grief. Each of these characters, Hamlet, King Claudius, and Laertes, experiences grief in varying ways. Inherently, this challenges the notion that grief unfolds in a specific way as depicted in the 5 Stages of Grief theory. Thus, through pairing close readings of Hamlet, as well as scholarly articles written about both the manifestation of grief in the psychological sense and in Hamlet, the 5 Stages of Grief theory is disputed.

**Introduction**

Despite William Shakespeare's *Hamlet* being well known as a revenge play, marked by Hamlet seeking to avenge his father's death, it should also be equally as well renowned for its display of grief. Although the conversations around the psychology of grief occurred much after the creation of *Hamlet,* the intersection between grief and this Shakespearean play is fascinating to look at. The most common connection people make to grieving is the 5 Stages of Grief. The 5 Stages of Grief is a theory about the course that grief takes when people are mourning both the finality of their own life, as well as the loss of someone close to them. The theory was developed by psychologist Elisabeth Kübler-Ross and introduced in her book, *On Death and Dying*. While this theory was revolutionary for its time and opened up the conversation of grief within the psychology field, it lacked consideration of variations within grieving. Shakespeare's *Hamlet* explores these variations of grief and the grieving process that were overlooked by Kübler-Ross in her 5 Stages of Grief Theory.

Before looking at how grief is displayed in *Hamlet* and how it diverges from the 5 Stages of Grief theory, it is important to understand both individually. Shakespeare's *Hamlet* takes place in Denmark, where the beloved King has been dead for two months. The King's former wife, Queen Gertrude, has recently been wed to

the King's brother, Claudius, who has been pronounced the new king. The King's son, Hamlet, is riddled with grief over his father's death, yet his uncle and mother do not seem to be as affected by his death in the way Hamlet is. Through conversations with his dead father's ghost, Hamlet learns that his uncle murdered his father in order to take his place on the throne. Outraged and still processing his father's death, Hamlet vows to avenge his father's life by exposing his uncle's part in his father's demise; he says, "So, uncle, there you are. Now to my word./It is 'adieu, adieu, remember me.'/I have sworn 't" (1.5.117-119). Unfortunately, his thirst for revenge creates a domino effect which inevitably leads to the end of both his own life and the lives of others. His friend, Laertes, is one of the main people in his life who he affects when on his hunt for revenge. Not only does Hamlet accidentally kill Laertes' father, but he also ends up causing the death of Laertes' sister, Ophelia, who Hamlet was in love with. All in all, Hamlet's need for revenge ends up creating chaos in all corners of his life

In her book, *On Death and Dying,* Kübler-Ross outlines 5 stages she saw in people who were either dealing with the death of a loved one or trying to process the end of their own life approaching. The stages she indicated were: denial, anger, bargaining, depression, and acceptance. With a chapter on each of the stages, Kübler-Ross provides a description of what each stage is as well as examples from several case studies she took

part in. The first stage, denial, is described as the refusal to believe something is true. Kübler-Ross uses the word "buffer" in the context of denial to describe how people often use denial to try and protect themselves from the pain the truth of the situation will cause (38). The next stage is anger. The anger stage is where feelings of denial are replaced with feelings of resentment and rage. These feelings are often expressed outwardly, taking out these feelings on the people around them (49). After this stage, then comes the bargaining stage in which promises, usually to God, are made in order to change what has happened (79). The penultimate stage is depression and is categorized as "...a great sense of loss" (83). This sense of loss is attributed to the person who has died. Lastly, the 5 stages end with acceptance. Acceptance can include feelings of peace as well as a void of feelings. After the whirlwind of emotions that come with the other stages, acceptance signifies a sense of relief and an end to the course of mourning. All of these stages are used by Kübler-Ross to mark the process of grief for both those who are grieving someone in life and for people who are grieving their own lives.

While looking at how *Hamlet* provides in depth insight on the diverse orientations of grief, character analysis will be done in order to shed light on the parts that Kübler-Ross missed in her book. These characters include Hamlet, King Claudius, and Laertes—all of whom display four varying experiences of grief due to

*Hamlet*'s complexity. In other words, grief is unique to each individual; thus, streamlining the experiences of grief as a whole to five stages does not encompass the experiences of everyone. This can be seen in these three characters in *Hamlet*, since their experiences with grief are all so different from one another. Through close reading, looking at both empirical psychological sources, and scholarly sources about grief within the play, the complexity that *Hamlet* offers to Kubler-Ross' theory is explored.

**Grief Has No Order**

Kübler-Ross' 5 stages of Grief are just that, 5 stages that people go through when grieving. Innate in her theory is the sense that the process of grief is something that has a distinct beginning, middle and end. However, as seen in *Hamlet,* characters go through these stages in different orientations because people respond to death in different ways. In Hamlet's case, this orientation consists of having simultaneous feelings. In his first soliloquy within the play, he displays both anger and despair at the same time. He cries out, "O God! O God!/ How weary, stale, flat, and unprofitable/ Seem to me all the uses of this world!...But two months dead!—nay, not so much, not two:/ So excellent a king; that was, to this,/ Hyperion to a satyr: so loving to my mother,/ That he might not beteem the winds of heaven/ Visit her face too roughly. Heaven and earth!/ Must I remember? why, she

would hang on him,/As if increase of appetite had grown/By what it fed on: And yet, within a month,—/ Let me not think on't,/ But break, my heart, for I must hold my tongue!" (1.2.133-164). This is the first moment that Hamlet speaks to the audience and is able to express himself freely. Within his soliloquy, there are moments that show both his rage and his anguish over how his uncle and his mother are reacting after the death of his father. Starting off his soliloquy, he cries out to God, which suggests his sense of hopelessness. The people in his life who he would go to for support are the people who are causing him this pain; thus, he feels as though his only confidant or pillar of support is God. He then uses words to describe how he views the world including words like "weary," "stale," "flat," and "unprofitable." All these words he uses have a negative connotation to them, which can be viewed through both the lens of anger and sadness. He feels as though the world is "weary" and "stale" because his father is no longer in it, or he feels as though the world is that way because he is enraged with the actions of his uncle and mother. The most important takeaway from this is that his feelings of anger and sadness are not occurring independently from one another. Recognizing that these feelings are in tandem shows that these "stages" do not occur one after another, but rather that they can and do in many cases happen at the same time.

Then he compares his late father to his uncle, saying that his father was a great king compared to Claudius, who is not. He equates the differences between the two to the differences of Hyperion, a Greek god, and a satyr, a half-man, half-goat. Interestingly, this insult is said in the same breath as his disbelief over the short amount of time it took for his mother and uncle to get over his father's death. Coupled with this insult that comes from a place of resentment and animosity is feelings of pain and sorrow over how quickly his family members have brushed past his father's death. Similarly, near the end of his soliloquy, he says, "And yet, within a month,—/Let me not think on't". Here he cuts himself off where he seemingly could have gone into a speech about how infuriated he is about the quickness with which his mother married her late husband's brother. Yet he stops himself because with that rage comes a deep misery. The thought of his mother moving on so quickly upsets him so intensely that he has to tell himself not to think about it because if he were to continue to think about it, it would continually cause him more anguish. Later this notion will be proved true as he continues to think about his father's death and how his family reacted towards it. This line of thinking eventually leads to him exhibiting behaviors that other characters describe as "madness." All in all, several times within Hamlet's first soliloquy he displays two of Kübler-Ross' stages at the same time.

While the presence of two of Kübler-Ross' stages is expressed in *Hamlet,* the simultaneity of multiple stages is also connected to a major criticism of the 5 Stages of Grief. In Margaret Stroebe, Hank Schut, and Katherin Boerner's article "Cautioning Health-Care Professionals: Bereaved Persons are Misguided Through the Stages of Grief," they summarize many of the critiques fellow researchers have on Kübler-Ross' theory, the most prevalent being the order in which the stages are laid out. They write, "Grief is not a linear process with concrete boundaries but, rather, a composite of overlapping, fluid phases that vary from person to person…Although it is sometimes instructive to conceptualize the manifestations of grief in this manner, it is important to emphasize that the idea that grief unfolds inexorably in regular phases is an oversimplification of the highly complex, personal waxing and waning of the emotional process" (459). A large component of Kübler-Ross' theory is that these stages come in a specific order, starting with denial and ending with acceptance. However, this is not something that is true to the experiences of grief because as the authors of this article put it, "the idea that grief unfolds inexorably in regular phases is an oversimplification of the highly complex, personal waxing and waning of the emotional process." The waning and waxing of the emotional process that they mention is the most important component of this passage. Emotions are not

something that can be predicted. Depending on the interactions a person has that day, the amount of sleep they got the night before, and a plethora of other variables, their emotional state can and will ebb and flow an innumerable amount of times in an innumerable amount of ways. Hamlet's first soliloquy is a perfect example. Already he is in an emotionally sensitive state because of the death of his father. On top of that, his uncle and mother are reacting callously to his form of grieving, while also not taking the time to grieve their brother/husband who died only a couple of months ago. This soliloquy reveals what we learn about grief from *Hamlet.* Hamlet's soliloquy displays the occurrence of multiple stages occurring at once, something missed by the pioneer of the field. Since literature is so often products of the human experience, it makes sense writing pieces that are associated with reality yield a result also rooted in reality and the human experience.

Emotions and grief being influenced by outside variables is also a point of interest expressed by Charles A. Corr in his article "Let's Stop 'Staging' Persons Who are Coping With Loss." Corr goes into how Kübler-Ross' theory does not account for the person outside of their grief as well as the environment the person is in. Corr argues, "The totality of the person's life is neglected in favor of the supposed stages…the resources, pressures, and characteristics of the immediate environment, which can make a tremendous difference,

are not taken into account" (Corr, 228). When he uses the word "totality" he is referring to the person as a whole. Often when people are grieving those around them as well as researchers who are analyzing data from bereaved individuals, the focus is on the grief alone. This is a grave mistake: since humans are extremely complicated and multifaceted, you cannot focus on one part of them while ignoring all the others. People are shaped by their personalities, surroundings, family, friends, and environment; therefore, it is crucial to take all parts of the person into account. For example, when looking at Hamlet in this way, it is important to take into consideration that he not only lost a father, but also had his uncle take the place of his father. Additionally, from the stage directions from the beginning of Act 1 Scene 2, he is seen wearing dark clothes, unlike the rest of the characters in the play. His choice of clothing shows how he is still feeling deep emotions of mourning. All of these components give context to Hamlet and the situation he is in, which help us to understand his emotional state as he works through the grief of his father.

This first soliloquy within *Hamlet* exhibits a character feeling two emotions at the same time and is something neglected in the 5 Stages of Grief, as well as being one of the most frequent criticisms of the theory. In Diane E. Dreher's article, "To Tell My Story: Grief and Self Disclosure in *Hamlet*," she looks at how

Shakespeare used *Hamlet* to help him grieve and thus, the grief experienced in the play is reminiscent of Shakespeare's own grieving. Before writing *Hamlet* Shakespeare lost his own son named Hamnet. The fact that this play entails so much grief, while also having a main character with a name very similar to Shakespeare's own son, suggests he used this play to work through some of his own grief. Pertaining to the experience of feeling more than one stage or emotion at a time Dreher writes, "...the bereaved characters in the play express the range of emotions associated with mourning—shock, sadness, anger, loneliness, yearning, numbness, guilt, self reproach, and anxiety—Hamlet experiences them most intensely" (6). As Dreher states, several characters feel a plethora of emotions relating to grief. She does not make a distinction that these emotions are felt separately from one another, because in the human experience it is extremely common to feel multiple feelings at once. Thus, she is speaking to the fact that more than one emotion or stage can be felt at once. She also lists emotions that are not in the 5 Stages of Grief, which speaks to the complexity and uniqueness of the grieving experience, showing that everyone experiences grief in different ways.

**The Absence of Grief**

Claudius, the main antagonist of *Hamlet,* seems to have an absence of grief despite his close relationship

to his brother who died. Considering those who do not experience any feeling of grief, a form of mental pathology, is extremely useful when looking at grief within *Hamlet* because it sheds light on King Claudius who is often not looked at as deeply as the other characters because of his role as the antagonist. In the same scene where Hamlet expresses his many feelings, Claudius exhibits his lack of feelings towards his only brother's death. He says, "'Tis sweet and commendable in your nature, Hamlet,/ To give these mourning duties to your father:/ But, you must know, your father lost a father;/ That father lost, lost his; and the survivor bound,/ In filial obligation, for some term/ To do obsequious sorrow:  But to persever/ In obstinate condolement, is a course/ Of impious stubbornness; 'tis unmanly grief./It shows a will most incorrect to Heaven,/ A heart unfortified, [a] mind impatient,/ An understanding simple and unschooled" (1.2.90-101). This passage starts with a condescending statement towards Hamlet, suggesting Claudius is thinking of him as weak since he is still grieving his father's death. This allusion of his feelings towards Hamlet is then confirmed by his next lines: "You must know, your father lost a father;/ That father lost, lost his; and the survivor bound." This clearly lays out Claudius' feelings about the loss of King Hamlet. As he states, death is something that touches everyone. He finds it "unmanly" that Hamlet continues to feel the weight of grief still because everyone

eventually loses their father. It is interesting, however, that Claudius talks about King Hamlet's grief as if it does not have any effect on him. He repeatedly uses the word "father," which distances himself from the recent death. King Hamlet was Hamlet's father, but he was also King Claudius' brother. By only acknowledging the parental bond between the two Hamlets, he is ignoring the connection he has to the death that has just occurred. As he continues to speak to Hamlet about his prolonged grief, he persistently uses words that insult him: "... incorrect to Heaven,/ A heart unfortified, [a] mind impatient,/ An understanding simple and unschooled" all display both his callousness and his lack of respect for his brother and nephew. Later in the play, Claudius does acknowledge his part in the demise of King Hamlet. Seemingly speaking to God, he says, "...My stronger guilt defeats my strong intent…" (3.3.41). Here King Claudius does experience an emotion commonly associated with grief, but again, there is no sense of melancholy. He uses the word "guilt" in this passage, which informs the audience again that he is not sad that he lost a brother; rather, he feels guilty he was the one who killed him. He does not feel upset or even regret that he no longer has a brother; more so, he is worried about how God is going to react to what he has done. Claudius displays a repeated lack of sadness over his brother's death and inability to understand Hamlet's emotions since losing his father.

Although less common, some people do not experience feelings of grief when they lose someone close to them. It is important to understand that feeling nothing and feeling numb are two different things. The experience of feeling numb after the death of someone close is a common part of the grieving process for many. With the influx of so many emotions at once following the death of a person, it is common for the person experiencing grief to feel numb, simply because they are feeling too many things at once. This is different from those who feel apathetic. The feeling of apathy can often suggest deeper issues within their mental psyche. In Camille B. Wortman and Roxane Cohen Silver's article "The Myths of Coping With Loss," they explore the expectations society has on those who are grieving. One of their focal points is on those who do not show any signs of grief. They write, "...among those who do not show signs of grief, the preexisting relationship may have been purely narcissistic with little recognition of the real person who was lost…" (350). By looking at Claudius in the frame of grief and the absence of grief, readers can understand the depth of his character more acutely. His absence of grief along with his role in King Hamlet's death both suggest some sort of mental unwellness present. Those who are mentally healthy do not commit murder, let alone commit fratricide and feel nothing. Since Claudius is mentally and emotionally lacking something, he feels no guilt, sadness, anger, or

any emotion towards his brother's death. Overall, analyzing Claudius's lack of grief unearths not only the nuances of his character, but also the nuances of grief in general.

**Grief Expressed Only Through Anger**

While the instances of grief thus far have been on opposite sides of the spectrum, Hamlet feeling many things at once and Claudius feeling nothing, Laertes falls in an odd position within this scope of different grieving orientations. When experiencing grief over his father's death, he feels nothing but rage. He says, "That drop of blood that's calm proclaims me bastard;/ Cries cuckold to my father; brands the harlot/ Even here, between the chaste unsmirched brow/ Of my true mother…How came he dead? I'll not be juggled with:/ To hell, allegiance! To this point I stand,/ That both the worlds I give to negligence,/ Let come what comes; only I'll be reveng'd/ Most thoroughly for my father" (4.4.130-135,147-154). This passage starts with him remarking, "That drop of blood that's calm proclaims me bastard," meaning that there is one drop of blood within him that is calm and it is insulting him by calling him a bastard. By saying this he not only displays his rage outwardly, but also gives a glance at his internal emotions. When he speaks of his blood, he is vocalizing the inner turmoil he is feeling over the circumstance of his father's death. He goes on to say that the death of his

father not only insults him by characterizing him as a "bastard," but also insults his father who is categorized as a "cuckold" and his mother who is labeled a "harlot." His exclamation "To hell, allegiance," shows how quickly his anger has manifested. Shortly after hearing his father has died at the hands of someone within the Danish monarchy, he renounces any connection with, or respect for, the kingship. The vitriol behind his words as well as the words themselves being spoken to the King of Denmark show how intense his fury is. He does not care if his words have consequences; all he can think or focus on is his anger. His lack of concern with the consequences that could come from his animus is further built upon with his words, "...both the worlds I give to negligence,/ Let come what comes; only I'll be reveng'd/ Most thoroughly for my father." Here he declares that he does not care what happens to him now or after he dies. If damnation is in his future it does not matter; all that matters is avenging his father's death. His statement that he does not care if he goes to hell is a very telling statement of how strongly he feels. Throughout the play, the influences of religion are apparent in the way characters talk about heaven and other themes of Christianity. Thus, the acceptance of going to hell over his father's death displays the extent of Laertes' rage.

In Wortman's and Silver's article, they also touch upon the common assumption that immense sadness has to follow after the death of someone: "It is widely

assumed that a period of depression will occur once the person confronts the reality of his or her loss. Then, it is commonly believed, the person must 'work through' or process what has happened in order to recover successfully" (351). As they assert, it is assumed that sadness has to be present in order for grief to take full course. While this is true, it is important to point out that this is a notion in society because of the adoption of Kübler-Ross' theory as truth and that this is not the case for all people. Since the 5 stages Theory is extremely popular within society and the 5 Stages Theory places depression as the penultimate stage, this not only suggests an ending to grief but also that depression or some type of immeasurable sadness has to occur. Since the theory was quickly adopted by society and is used within daily life, there does not have to be a set end point or point where there is a deep sense of melancholy. Laertes is a perfect example. The audience never sees him in anguish about his father's death, rather they see him enraged. This lack of depression over his father's death shows there does not have to be depression, or frankly any stage experience, in order to grieve.

Dreher looks at Laertes' behavior in a different way than all previous articles have looked at grief, specifically Laertes' emotions over his father's death as conveyed through his "actions." She acknowledges that "...having experienced the traumatic death of his father…[Laertes] expresses his grief primarily in actions,

channeling his anger into storming the castle of Elsinore ‘O thou vile king,/ Give me my father,’...” (Dreher, 10). While Kübler-Ross sets up the stages within the parameters of emotions and feelings, often these emotions can be expressed through actions. Laertes only experiences anger, and he exhibits this anger through actions. As Dreher points out, he storms into the castle when he is under the impression King Claudius killed his father, ready to avenge him. His rage is also seen through actions later when he finds out Hamlet is the person who killed his father and he challenges him to a duel. This expression of grief through action is not something explored in Kübler-Ross’ theory; however, it is something that occurs when people are grieving. In Laertes’ case, his anger is being expressed through outbursts such as storming into the castle and dueling Hamlet, but other examples of grief manifesting as actions could be avoiding places or people that remind a person of the loved one they lost, or isolating themselves from others (Mayo Clinic). Overall, Laertes’ character offers an interesting perspective into grief, showing not only that there can be one overarching emotion when mourning, but also that the emotion being felt can be channeled through actions.

**Internalizing Grief and Fearing Judgment**

Hamlet is a rich character in so many ways; thus, delving into his character at different angles is crucial to

try and understand him and his way of grieving more fully. In order to do so, it is important to look at the most famous soliloquy in *Hamlet* at the beginning of Act III. Hamlet declares, “To be, or not to be, that is the question:/ Whether 'tis nobler in the mind to suffer/ The slings and arrows of outrageous fortune,/ Or to take arms against a sea of troubles,/ And, by opposing end them?—To die,—to sleep,/ No more;—and by a sleep, to say we end/The heart-ache, and the thousand natural shocks/ That flesh is heir to: 'tis a consummation/ Devoutly to be wished. To die,—to sleep,—” (3.1.63-74). In this passage, Hamlet is weighing the options of committing suicide. Following the death of his father and the revelation that his uncle was his father’s murderer, he begins to fall deeper into a state of mental unwellness. The readers see his slow descent into what the other characters in the play describe as “madness” most explicitly in his soliloquies. This soliloquy is the most potent of those that show Hamlet’s mental state. In the section of his soliloquy quoted above, he is weighing the options of being alive or dead and his initial posing of the question, “To be, or not to be,” highlights this debate he is having. He then further goes into this question by expanding on what “being” or “not being” is: “Whether 'tis nobler in the mind to suffer/ The slings and arrows of outrageous fortune,/ Or to take arms against a sea of troubles,/ And, by opposing end them?” Using the phrase “...’tis nobler in the mind”

suggests that he is not thinking about whether or not others perceive living through the suffering life brings or ending it by dying to be noble. Rather, he is wondering if "in the mind" this is the case, therefore if *he* considers it nobler to live or die. In a way, this soliloquy marks Hamlet grieving his own hypothetical death.

Throughout a majority of the play, Hamlet has been focused on the death of his father which has resulted in his state of crisis. Moreover, this state of crisis causes him to have ideations of suicide and to begin to grieve himself. Through the utilization of words like "die" and "sleep," Hamlet cements his belief that death would be a relief from what he describes as the "heartache" of being alive. However, unlike the grief of his father which is visible to the other characters, this grief and mental unrest he is experiencing towards himself is concealed within his own mind. The soliloquy offers a look into Hamlet's mind, and there the audience can observe grieving that cannot be experienced by anyone other than the person grieving, which is this internal sense of mourning. By divulging how vulnerable he is, he cannot be judged by the other characters, who have certain expectations of him and his grief. As already stated, his family thinks he has been grieving for too long and he is taking the grief too personally. By keeping all of these feelings inside, he not only is protecting himself but also revealing themes of grief that

have never been accessible such as the unfiltered contemplation of one's own life.

The fact that this soliloquy is so famous and it encompasses these complex feelings of grief suggests how intriguing the internalization of grief and contemplation of suicide is to people. However, suicidal ideation as a reaction of the death of a loved one is not something mentioned by Kübler-Ross. In Corr's article, he touches upon the limitations of only setting up 5 stages when categorizing grieving. He states that when people are mourning, "...there are no grounds to believe that humans are limited to no more than five ways of reacting and responding" (227). While this point is rather obvious, it is important to look deeply into it since it is often looked over due to its simplicity. Much like how Corr explains that many things within a person's life can affect how they feel and what they feel when they grieve, it is also vital to acknowledge that there are more feelings that can be felt other than denial, anger, bargaining, depression, and acceptance. Hamlet is a prime example of this, as he has ideations of suicide. However, his ideations of suicide are restricted to the audience and the confines of his mind as they are divulged within a soliloquy. This soliloquy is full of things that Hamlet keeps secret, yet this is where the audience receives the most insight into Hamlet and his emotional and mental state. Since this revelation of Hamlet's thoughts and feelings is not absorbed by

anyone except the audience, there is no chance for the other characters, as well as society, to categorize what he is feeling. That is where a more frustrating part of studying people comes from. There will always be some sense of individuals holding back when speaking to others either for fear of judgment, wanting to fit in, or shying away from vulnerability. Hamlet here offers a look into his raw psyche, which can not fit into a single stage of grief. In other words, since Hamlet is not being perceived by any other characters in the moments he speaks in soliloquies, he does not feel the need to hold back and therefore he speaks with no filter. This lack of filter allows his most vulnerable feelings to be expressed. Thus, Kübler-Ross and other psychological researchers are unable to categorize this feeling. Hamlet beautifully exhibits that untouchable part of the human mind in this soliloquy.

This internalization of Hamlet's grief is something explored in Jennifer Lodine-Chaffey's "Hamlet's Development of a Mourning Persona." In her article, there are implicit nods to the deep meanings behind why Hamlet hides his personal grief from those around him. Lodine-Chaffey explains not only how "...mourning was often a public and cultural performance, read by others and judged on the basis of its show of sincerity or lack thereof," but how by speaking these things in a soliloquy it implies that Hamlet "...recognizes his inability to outwardly express a

grief consonant with his feelings and the expectations of others" (121). Firstly, the context she gives about the societal expectations of the time is important to better understand why Hamlet feels the need to conceal his true feelings into soliloquies. It has already been obvious that his family members and those who surround him, most vocally his mother and uncle, judge him based on the way he has been grieving. Thus, it is understandable that he would feel the need to keep his more vulnerable feelings away from his family members, in order to not be judged. However, there is another layer within that which is not only that those in society will judge him based on his grief, but also that because of his royalty, he is being scrutinized on an even larger level. Having a title and being in the public eye makes Hamlet more susceptible to public scrutiny. Due to this, he has even more eyes on him and the way he is grieving. Additionally, this grief he is having in relation to himself and his own death is something that is extremely taboo. As stated previously, the influence of Christianity is strong within the characters of the play; thus, any mention of suicide or contemplation of suicide would be met with judgment. Therefore, as Lodine-Chaffey states, Hamlet recognizes he is stuck between grieving in a way that feels authentic to himself and the expectations of how he should be grieving that have been set by society. In order to reconcile with this tension, he resorts to

keeping his feelings bottled up by only speaking them in a soliloquy.

Both the way that Hamlet points feelings of grief towards himself as well as how he feels the need to hide his grief away expose two complexities that were ignored by Kübler-Ross. Being vulnerable in a society that has proven its members judge others for things that do not uphold the expectations set in place is an uncomfortable position to be in. After several attempts to be true to himself and grieve in the way he felt was appropriate, he was met with critiques. In some ways it is much like how the 5 Stages of Grief have set up a roadmap for the "right way" to grieve. Those who do not conform to this are looked at as if they are not grieving in the "right way." Hamlet tries to avoid this judgment by keeping his intense emotions cloaked within a soliloquy. Thus, as life imitates art, the more complex and notable effects of grief, such as suicidal ideation, are left inaccessible to those studying the overarching theme of grief.

**Conclusion**

Through several characters in William Shakepeare's *Hamlet,* the different forms of grief are expressed. These forms of grief have been previously ignored by Elisabeth Kübler-Ross, pioneer of the psychology of grief, due to her oversimplified theory of grief having five stages in a particular order. Through

analyzing how characters such as Hamlet, Laertes, and King Claudius navigate through their grief, readers can not only gather a deeper understanding about the characters' mental states, but also the individual and unique experiences of mourning. Moreover, by connecting not only empirical articles on grief and the grieving process, but also scholarly analyses of *Hamlet*, you can get perspectives from experts in both fields. Thus, by looking at *Hamlet* and the 5 Stages of Grief within the contexts of each other, people can have an enriched understanding of both.

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# Travel Writing Across History: The Evolution of the Genre & Its Cultural Influence

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## Abstract

This paper provides an overview of the travel writing genre, from its earliest appearances in society to its contemporary forms, in an effort to examine how and why it has transformed throughout history and what purpose it serves in society and culture. Travel writing is and has been instrumental in shaping people's perceptions of the world, especially when it comes to places and cultures unfamiliar to them. By looking at the ways the genre has evolved over time, we can see how it has adapted to mirror changes in the world and enhance readers' understandings of sociocultural differences and similarities around the world. With much of the world now having been widely explored and travel today being far more accessible to the average person, travel writing has even more to better suit people's needs and interests. This paper argues that the digital age has resulted in a new branch of travel writing, changing the way the genre

is perceived and shifting the influence that it can have on society's perceptions of the world and its cultures.

People have long held a fascination with the idea of the "other," be it other places, other people, or other cultures. Throughout history, people have been deeply intrigued by aspects they deem different from themselves, and with this fascination comes a curiosity to observe and learn more about the other. This fascination has also lent itself to a desire to explore new parts of the world, seeing and experiencing the "other" firsthand. It is partially a result of these fascinations that travel writing was able to establish itself as a lasting fixture in global societies. As New Zealand based writer Petrina Darrah writes, "Travel writing, by definition, is writing that describes places the author has visited and the experiences they had while traveling." Some form of travel writing has existed as a genre for centuries, as travelers have documented their travels and the places and peoples they have encountered for nearly as long as they have been traveling. The style of these documentations has changed as the world has changed, making travel writing a permanent but ever-changing genre. This has never been truer than in the 21st century, as much of the world has undergone a shift towards a more digital existence. Travel-based content has been no exception, with online blogs and social media pages popping up as more and more people turn towards content creation as a career. This cultural shift has sparked a debate over the state of travel writing and

where digital formats and platforms fall within the divisions of the traditional print genre.

This project aims to look at the ways in which travel writing as a genre has evolved over time and the suggested implications for society and the world its transformations provide. The paper aims to provide a historical overview of the genre, beginning with what it looked like a few centuries ago and how it has evolved into its current contemporary state. It will explore the global circumstances that have shaped the genre at each stage, as well as some of the key travel writers who have shaped the genre throughout history. This project will also look at the increasingly varied ways in which the genre can be defined today, and what influence travel writing holds within global society, particularly regarding the way it contributes to audiences' understanding and perception of other cultures and communities. By exploring the ways in which societal and cultural perceptions of others have been molded throughout history, we can better understand the relationships that exist today. As travel writing guides readers to view parts of the world unfamiliar to them, the digital revolution can be seen as opening a new branch of the genre, born out of a need to adapt to the latest societal and global evolutions in the contemporary period.

Using Darrah's definition, it is easy to understand how travel writing has been a persistent and influential

genre among human cultures for centuries. A brief look at some of the early stages of travel writing and key figures who shaped its development helps to illustrate some of the early precedents within travel writing that influenced its evolution as it became ever more prominent in western societies and cultures. As early as Herodotus, an ancient Greek author known as the Father of History, people have been documenting their journeys and sharing information about new locations they visit. Thought to be one of the earliest travel writers, Herodotus was best known for his work *Histories*, which detailed the Greco-Persian Wars after extensive travel around the Mediterranean and Egypt (Wells). This early production of travel writing sparked further fascination with travel among those who encountered it, offering a preliminary demonstration of how works in the genre can influence its audience. Another notable travel writer from these earlier periods was Marco Polo, whose book *The Travels of Marco Polo* included twenty years' worth of travel stories and accounts, focusing on his experiences traversing the Silk Road in the 13th and 14th centuries (Wells). This work again provided detailed, if at times exaggerated, descriptions of the places, peoples, and cultures he encountered along the way.

While hardly a comprehensive examination of the earliest examples of travel writing, these two spotlights exemplify the preliminary foundation of the genre. These works established precedents that

attempted to make familiar the overarching sense of the "other" and emphasized describing places and people outside of the writer's subjective experiences. They are not personal reflections or blatant expressions of opinion, but are rather intended to be processed as objective representations of a new locale. This understanding of the early stages of the genre is reinforced by a multitude of research on the topic. In *Travel Writing: The Self and the World,* Casey Blanton explains how early on "the physical world newly discovered was more compelling than the mind of the traveler, and the narrator's purpose was to record the details of this often exciting journey" (6). Blanton's analysis offers a clear depiction of travel writing as it established its foothold in western society during these early periods. These global circumstances surrounding the production of travel writing remained the primary motivation and outside influence shaping the genre for centuries while much of the world remained unexplored by a wide audience.

Travel writing is without question a broad-encompassing genre, particularly when considering its lasting presence from early history to contemporary times. As wide-reaching as it is, the genre has clearly evolved over the course of history through its characteristic styles and subjects. Blanton's first chapter, "Narrating Self and Other: A Historical Overview," examines these changes and provides critical insight to

the state and characteristics of the genre at different points in time. The early works of travel writing up to just a few centuries ago tend to resemble more information-focused works. Blanton writes that "at one end of the spectrum lie the object-bound journey accounts of sailors, pilgrims, and merchants whose trips were inspired by necessity…people and places of the outer world are described in what is taken by the narrator to be a factual, disinterested way" (3). This paints a clear picture of the travel writing genre as it was first formulated centuries ago. As the means to travel and access remote destinations were highly limited for many centuries, the focus of travel writing presided on sharing information about the world with those who could not see or experience it themselves. As a result, much of travel writing originally relied on an impersonal account of places, peoples, and cultures, and it was these accounts that formulated the basis of western societies' understandings and perceptions of the world for years to come.

While travel writers largely kept with this theme of descriptive accounts, a shift began to develop in the focus and style of travel writing in western societies during the seventeenth and eighteenth centuries. Instead of producing only impersonal pieces of writing on travel, writers began to incorporate more of their own personal thoughts and reflections into their works. One of the most influential historical developments that heightened

this transformation was the period of the Grand Tour that became a social rite of passage among European elites, with many young men in high social classes traveling throughout monumental European cities to improve their education in history and the classics. This shift in travel's purpose to benefit the character of the traveler inherently gave way to changes in writing about travel. Laurence Stern, an emblematic writer of the time who helped usher in this new era, took the idea of the Grand Tour and flipped it on its head in his 1768 book *A Sentimental Journey Through France and Italy*. Instead of discussing specific "tourist" sites, Sterne's book focused almost entirely on his personal journey; it was a depiction of his meandering travels and amusing encounters recollected in the manner of a personal narrative (Wells). This shift in the genre went hand-in-hand with the changing motivations behind travel itself. Suddenly people were traveling less to explore and share their discoveries and findings with others for informational purposes and were instead traveling more to further their own personal education and self-growth. Travel writing began to reflect these societal changes, gradually inviting an unprecedented incorporation of the self into the writing and indicating a departure from the purely descriptive qualities of earlier works. The new focus on the personal aspect of travel and travel writing remained a lasting fixture in the genre long after the Grand Tour faded out

in western society, inherently shaping the way that audiences internalized new understandings of the world.

However, as this relationship between the self and the world, or the self and the "other," was a new phenomenon in travel writing, it was not always clearly understood or distinguishable regarding its place in the genre. Soon enough, "the entanglement between self and world was one of the central concerns of travel writers" (Blanton 11). Representing this nearly inextricable relationship became a permanent facet of travel writing. Although its style and forms continued to evolve, often existing in a somewhat fluid state, the genre never regressed back to the purely impersonal descriptive accounts. Nearly all works of travel writing after this shift expressed some clear connection to the narrator and his or her subjective experiences, opinions, and reflections. As Blanton states, "This narrator…is a relatively new ingredient in travel literature, but it is one that irrevocably changed the genre" (4).

By the start of the 19th century, the inclusion of the self in travel writing and emphasis on personal discoveries were a staple of the genre in its new form. Renowned writers like Isabella Bird became emblematic of this time, crafting works of travel writing that centered on the use of personal reflections and humor to convey a message about a place and/or a culture and its people. As a key figure who helped solidify the role of the self in the genre, Bird shaped the presence of a

subgenre of travel writing authored by women. Her book *The Hawaiian Archipelago: Six Months among the Palm Groves, Coral Reefs and Volcanoes of the Sandwich Islands*, published in 1875, centered on her experiences utilizing travel as a means of recovery (Wells). This epitomized the genre-defining shift in travel writing of the eighteenth and nineteenth centuries, as the motivations behind travel evolved to stem more from a desire for personal improvement than a desire to educate others. Written works such as those by Bird "served to shift the emphasis in travel writing from descriptions of people and places to accounts of the effects of people and places on the narrator" (Blanton 15). These works exemplify the ways in which travel writing had unquestionably changed from its previous state. The near universality within travel writing during this time of conveying a strong sense of self and the personal impacts of travel on the narrator denotes the irrevocable shift that became the basis of the genre moving forward.

During this period of significant transformation within the genre, the foundation for the characteristics of the genre as it exists today was established. Despite the underlying reconstruction of the genre, the "complex interplay between self and world, between the empirical and the sentimental, signal[ed] the beginning of the richest period of travel writing: the late nineteenth and early twentieth centuries" (Blanton 19). With writers like Bird, Sterne, and Twain crafting widely influential

works, the travel writing produced amidst this transformation informed the work of many writers who followed. This is evident in works where the narrator/author's personal voice is most prominent, such as writings that make use of humor or satire to convey a particular point about traveling or the people, places, and cultures being explored. For example, there are often thought to be echoes of Twain's style and comedic approach in the works produced by contemporary American travel writer Bill Bryson. It is from these persisting influences that the legacy of 19th century travel writing can be seen.

Returning to Blanton's discussion of travel writing as a spectrum, these more self-aware and individual-focused works of travel writing fall into the other category that she describes. She argues that there "lie the more explicitly autobiographical travel books that we have come to expect today as travel literature" (4). These are the works that began with writers like Bird in the 19th century but stretched over time to include more recent modern and contemporary travel writers like Bryson, Anthony Bourdain, and Padma Lakshmi. In that regard, viewing these opposing differentiations of travel writing as existing on a spectrum provides a miniature snapshot of the evolution of the genre over time. While both categories discussed by Blanton can be seen as subgenres under a broader umbrella of the travel writing genre, works of travel writing are not delineated as

purely one or the other. Rather, there is often an overlap between these two seemingly opposite ends of the spectrum, resulting in "what we have come to expect today as travel literature contain[ing] a balance of these two elements: impersonal and personal" (Blanton 5). This mixing of personal and impersonal denotes not only the changing genre from its original state in earlier centuries, but also the way that the shifting genre reflects the changes in the world. By responding to shifts in the world at large, travel writing in turn reflects and filters these changes back onto those consuming the genre, providing additional material to guide readers' understandings of and relationships to different places and cultures around the world.

Travel writing has at times been perceived as "armchair travel" due to the way it allows people to learn about other places, peoples, and cultures without ever having to leave their homes. This grew out of the impersonal characteristics that dominated travel writing when, centuries prior, the world had not been widely explored, and only small numbers of people had easy access to travel to far-off destinations. However, as the world developed and became more globally connected, increasing numbers of people could travel further and see the world for themselves. As a result, information on and understanding of foreign places and cultures gradually became commonplace in society. This contributed to the shift in travel writing that revised the

genre to incorporate a prominent focus on the self, which only became increasingly true during the 20th century. Peter Hulme and Tim Youngs state in *The Cambridge Companion to Travel Writing* that "as the earth's wildernesses get paved over, travel writing increasingly emphasizes the inner journey, often merging imperceptibly into the memoir" (94). This highlights the inherent necessity for travel writing to adapt in response to the changing world, providing an underlying motivation for the genre to evolve into a more self-focused style of writing.

Applying this understanding of travel writing or literature as encompassing both personal and impersonal aspects within its pages to Darrah's general definition of travel writing (describing places and experiences the author encountered while traveling) provides a key overview of the basic necessities that must be present in order for travel writing to be produced. However, while this newer understanding of travel writing indicates the point to which the genre has evolved up to the contemporary time, it remains a broad definition of the practice. It prompts speculation and debate as to what specifically would be qualified as travel writing or travel literature considering the new state of the genre and the ways in which the world, travel, and technology all rapidly changed towards the end of the 20th century.

The defining characteristics of contemporary travel writing rest upon this idea of merging the personal

and impersonal to create a piece that both reflects the impact of travel experiences on the author/narrator and presents descriptive information about a new place, culture, and/or people. However, while these characteristics shape the genre's parameters in terms of craft and style, travel writing remains open to interpretation when it comes to people's approach to the subject and the kinds of things that can be a subject of the genre. Particularly in the 21st century, since so much of the world has now been widely explored and developed, there is already a vast body of travel writing that discusses countless spots around the world. Additionally, since most places on the planet are now accessible to almost anyone thanks to cheaper and faster modes of travel, it is easy enough for people to simply decide to travel somewhere and experience it firsthand themselves, instead of relying on reading about it from someone else's perspective. As Jolanta Sztachelska says in his introduction to *Metamorphoses of Travel Writing: Across Theories, Genres, Centuries and Literary Traditions*, "it is not easy to say something new, something that has not been known about for a long time" (1) in regard to travel. This necessitates new approaches to travel writing, which is where a certain level of ambiguity develops as to what constitutes notable travel writing and how these works can shape a society's perception of the world and their interactions with it.

This debate of what is good travel writing and why it should be recognized and absorbed is something that the series *The Best American Travel Writing* sought to address. Beginning in 2000, *The Best American Travel Writing* was a yearly anthology that featured a collection of notable travel essays and literature from that year. Each edition featured a guest editor who curated that year's anthology by choosing around 25 pieces from a larger selection presented by the series editor and crafting an introduction. It is from these introductions that we can gain a deeper understanding of travel writing and travel literature and expand our understanding of what travel writing is and the different meanings that can be drawn from it. Each editor offers their own take on what constitutes significant travel writing, using this personal interpretation of the genre to inform the selections they made for the anthology. Examining these subjective perspectives of travel writing and its influence among audiences offers a deeper understanding of the genre's ability to subconsciously shape cultural interactions and exchanges.

American author Bill Bryson guest edited the first edition of the series in 2000. By this time, Bryson was a best-selling author known throughout the United States and the United Kingdom for his humorous books on travel, most of which center on exploring and describing places closer to home, even if seemingly mundane. Reflecting on this interest in his introduction

to *The Best American Travel Writing*, Bryson discusses how he finds such fascination in a stroll around a park that he elects not to engage in the more adventurous or dangerous travel experiences. According to him, "the greatest reward and luxury of travel is to be able to experience everyday things as if for the first time, to be in a position in which almost nothing is so familiar that it can be taken for granted" (xxv). It is from this perspective that he provides a commentary on travel writing in his introduction, including a brief overview of how the genre has shifted since the latter half of the 20th century and the importance of travel itself.

These preexisting interests and familiarities guide Bryson's curation of the anthology. Instead of choosing pieces of travel writing that mirror his own approach, he includes essays depicting greater adventure and risk, focusing on more exotic locations. This choice indicates what he may believe to be the value in reading travel writing. It offers an opportunity to learn about places, cultures, and peoples that are remote and unfamiliar to the reader, providing the chance to open up the world a little bit more and remove the reader from a centrally focused bubble. This point connects with his aforementioned commentary on escaping the ubiquitousness of American culture, as the selection of exotic travel essays takes readers on a journey into unfamiliar territory. When these adventurous and distant pieces mix the personal reflection and impersonal

description that has become characteristic of the genre today, they provide audiences with even greater insight as to how traveling and experiencing new places outside of one's comfort zone can impact the self.

Bryson's explanation for the selections he made when curating this issue points toward this underlying idea of the importance of expanding people's horizons to permit greater understanding of and connection to the world outside of their homes. He offers a final key characteristic of travel writing in his introduction, one that can be applied not just to the anthology at hand but to the genre as a whole. In describing his selection of travel essays, he emphasizes how "they share… a penetrating curiosity, an almost compulsive desire to experience and try to understand the world at some unfamiliar level" (xxvi). This quality of possessing a curiosity about the world and seeking to understand the unfamiliar through one's travels and writings is one that could be attributed to many works within the genre. It can be assumed that, to Bryson, it is this curiosity about the world that is a significant characteristic of travel writing and is an important aspect in producing valuable and noteworthy travel literature.

Bryson's introduction to the 2000 issue offers a basis for understanding the importance of travel writing in connecting people with the unfamiliar and responding to a curiosity about the world. This is especially useful to have had during the time of publication, when travel

writing was seemingly experiencing an upsurge in American society. An even clearer definition of what types of content and styles should be counted within the genre of travel writing is presented in the following issue of *The Best American Travel Writing*. Paul Theroux, an American travel writer of equal or greater fame than Bryson, served as guest editor for the 2001 issue of the series. In his introduction, Theroux takes great care to explain precisely what he considers to be works of travel writing and what he feels should not be considered a part of the genre. Working towards his personal definition of travel writing by first discussing what travel writing is not, Theroux argues that the genre of travel writing does not include luxury transportation, hotel reviews, expensive meals, or weekends spent wine tasting or on pleasure-seeking holidays; all of these are over-edited texts more akin to public relations (xix). In summation, he asserts that "[travel writing] is not necessarily tasteful, perhaps not even factual, and seldom about pleasure" (xix). Under this perspective, real, valuable works of travel writing do not merely list information about a place and things to do for the reader to follow. Rather, significant travel writing is produced when it adopts the role of offering unfiltered reflections of personal discoveries and observations, exploring beyond the surface level and providing worldly insight and inspiration to its audience.

One of the most significant requirements for a work to be classified as travel writing is the prominence not just of the self in the writing but of a sense of place. There remains creative flexibility within this idea of place, as Theroux suggests that "unless there is a strong sense of place there is no travel writing, but it need not come from topographical geography" (xxi). The idea of a sense of place coming from something other than a definitive geographical point opens up the genre to be more inclusive of different styles and subjects of travel writing. The piece could be about the writer's experiences in Paris, or it could be about the self-discoveries and worldly reflections made while traveling about their room, so long as there is a clear sense of place shaping the narrative of the work. Travel writing need not necessarily be a purely objective description of a definitive location, but it should take the reader on the journey with the narrator. In essence, this approach to the genre of travel writing suggests that while "place" may have a loose definition that can be interpreted in different ways, it is the strong sense of place that invites the audience to make discoveries with the narrator in his or her experiences.

While Bryson and Theroux's definitions and insights work in tandem together, being only a year apart, successive editions of *The Best American Travel Writing* offer evolving perspectives on the genre as it continued to shift over the years to reflect the

ever-changing western society. The 2008 issue of the anthology series, guest edited by famed author, chef, and television documentarian Anthony Bourdain, presents an entirely new perspective on travel writing's influence. In his introduction, Bourdain addresses a relatively new concern for the negative impacts that travel writing can unintentionally cause for its subjects. As he explores in his discussion of the darker side of the genre, "writers are indeed, as Henry Miller suggested, traitors to the human race… We change the charming and unspoiled by visiting and telling others" (xiv-xv). Up until now, none of the sources here, and few outside sources, have painted travel writing in a negative light, which Bourdain takes care to strongly emphasize in his treatment of the subject.

This focus on recognizing the ways in which travel writing can bring harm to a place or cultural group represents a shift in the travel writing community. Prior to this, the genre facilitated formulating personal reflections and providing threads of connection to people throughout the world. As Bourdain posits, "Travel writers seem to seek not just other places, but their own place – as if trying to position themselves precisely in a large and ever-shifting landscape" (xiii). By engaging with travel writing produced in this vein, audiences could immerse themselves in the narrator's mind, following their journey of external exploration and internal self-discovery to broaden their own

understanding of their place in the world. However, only basing one's understanding of the world on the subjective experiences of others has the potential to create skewed perceptions and spread misconceptions. It can paint other places and cultures in an alienating light, relegating them to a limited identity of "the other" as much as it can foster cultural connections. On the other hand, even when sowing positive perceptions, travel writing can unintentionally invoke harmful results. It can spark waves of over-tourism, after which hidden gems will no longer be hidden, and authentic experiences may be overpowered by commercialization. In this vein, the community's shift to address the potential adverse impacts of travel writing and the detrimental outcomes that can arise from outputs of travel writing invites audiences to share their awareness and concern.

In a time when travel is widely accessible for most people, travel writers have to be more conscientious of how their works may influence people and places beyond simply sharing their experiences and discoveries regarding their position among other places and cultures. Bourdain's issue of *The Best American Travel Writing* tackles this growing concern through its collection of essays, as they highlight the "slippery moral dimensions…[and] the stories in this collection illustrate brilliantly the queasy détente one must sometimes reach within oneself when trying to see and understand the world" (Bourdain xiii). By making these

selections, Bourdain emphasizes the urgency of the matter as by this time, fewer and fewer places remained undiscovered by travelers and tourists. The same circumstances apply today, but this newfound focus on the potential cultural dangers of travel writing is representative of a significant shift within the genre and community. This shift in the genre was not based upon the internal style or format, as many of the previous changes had been, but rather on external aspects such as the sociocultural impacts of the content. As a result, the subject matter within travel writing began to increasingly demonstrate these concerns over the role of travel writing in contributing to over-tourism, all falling within the evolved classifications of the genre.

If the 2008 edition of *The Best American Travel Writing* was representative of the sociocultural concerns of the time within the community and global society, then the anthology published in 2021 was even more of a mirror of the global concerns at the time. Published almost a year after the world shut down due to the COVID-19 pandemic, it is almost surprising that a collection of travel writing essays over the last year was able to be curated at all. Guest editor Padma Lakshmi tackles the realm of complex emotions and reactions that were prevalent throughout the world during this tumultuous time in her introduction, particularly regarding how much of the world was forced to remain isolated in their homes, unable to explore and connect

with other people. For many people, the isolation put a halt to their livelihoods and individual creativity, resulting in mental fatigue as "the lack of mobility led to a lack of motivation" (Lakshmi xxiii). This was felt tenfold by people whose energy and interests stemmed from the ability to travel and experience new places and things; for people like Lakshmi, a writer and television host, the COVID-19 shutdown froze a piece of their identity. She expresses how crucial travel is to her as an individual, capturing the ways that the loss of travel was felt not just by her but by everyone impacted by the pandemic:

> I felt in a way that I had ceased to exist as my whole self. I craved wandering and its discoveries like I craved the air. I cannot imagine a life without travel. I could not do the work I do, or know the things I know about food and people, or understand other cultures and my own, had I not spent a good portion of every year of my life since age four traveling (xiii).

Even those who did not travel often felt the despair of losing the capability to do so, as people's freedom to move and engage with others was taken away by the pandemic. The underlying curiosity and desire to fuel human connection was never felt so acutely as it was during the shutdowns early in the pandemic, as people

lost access to many outlets for these things. Ironically, despite all the factors inhibiting travel and creativity, the year proved to be a good one for travel writing, as travel writers produced poignant pieces that allowed those stuck at home to find a semblance of curiosity, adventure, and understanding through all the tumultuous events of the world. Lakshmi reflects the appeal of travel writing during this time, discussing how "the beauty of good writing is that it transports the reader inside another person's experience in some other physical place and culture and, at its best, evokes a palpable feeling of being in a specific moment in time and space" (xxviii). More than that, the 2021 anthology represents the restless sentiments of its time, reflecting the ways in which people benefit from traveling and experiencing other people, places, and cultures; the essays in the collection "all remind us of why we need to roam" (Lakshmi xxix). In this manner, this issue of the series also serves to reflect a subtle new evolution in the purpose and influence of travel writing as a genre.

Travel writing may have done surprisingly well throughout 2020 and 2021 despite the COVID-19 pandemic, but it could not avoid the outer circumstances inflicting changes on the genre over the last few years. Despite the pertinence of the issue, *The Best American Travel Writing* was discontinued after 2021. Contributing to this was the rise of the Internet and social media, for there is now a vast wealth of information about the world

readily available at a second's notice. This has unquestionably altered the place and role of the genre of travel writing within society. A *Literary Hub* article by Thomas Swick discusses the discontinuation of *The Best American Travel Writing* and what it represents about both the genre and American culture. Within his article, Swick asserts that "the move is based not on a drop in travel writing's quality, or even quantity, but rather its increasing inability to attract a large audience." People no longer need to rely on works from travel writers to learn about a place or experiences in a new location and culture; they can either easily search for quicker, more direct information online or visit it themselves. Additionally, with the accessibility and ubiquitousness of social media, more and more people can use the Internet as their own expressive outlet in response to their own experiences. There has been a massive surge in digital blogs and social media accounts on travel, which individuals can use as their own outlet to share their own travel experiences and perspectives with a much wider network. Although there is no explicit confirmation on this matter, a combination of these factors likely played a part in the waning audience of travel writing in its traditional sense and the ultimate end of *The Best American Travel Writing*.

Most people today would probably first refer to travel blogs and social media feeds if asked about the concept of travel writing. There are so many travel blogs

covering different styles, formats, and topics that it would be nearly impossible to definitively generalize this new wave of writing about travel. However, the few defining characteristics of blogs in general that are prominent in travel blogs include a more informal, conversational writing style and a focus on nearly entirely personal experiences, opinions, and advice. There are also travel magazines, such as *Travel and Leisure* or *Conde Nast Traveler*, that exist both in print and online and are somewhere in between traditional travel writing and the contemporary blog. They publish a mixture of travel essays, more akin to the writings from *The Best American Travel Writing*, and shorter listicle-style articles, more akin to online travel blogs. These two mediums dominate the travel conversation space today, with the blogs especially representing a sharp shift from the formal print essays and anthologies of just a few years ago. The end of *The Best American Travel Writing* in some ways represented the end of an era in travel writing, providing a tangible shift closer to fully embracing the digital medium and style of writing about travel.

However, the end of the series did not mean the end of the genre. The genre of travel writing is far from obsolete and has simply changed forms and evolved to fit more prominently with the new mediums and platforms of social media and digital blogs. What is important to note is that the new emphasis on travel

blogs and social media grew out of traditional travel writing as its own movement; it did not necessarily originate because of prominent print travel writers, like Bryson or Theroux, shifting to embrace the digital blog style. As a result, this evolution of the genre has almost taken the form of a new subgenre of travel writing that exists in tandem with traditional travel essays and books. In this vein, the traditional travel writing that Swick and many of the writers who introduced *The Best American Travel Writing* reference has not fallen into obscurity. Rather, it has more so taken a backseat in terms of popularity and cultural prominence to the new digital medium and forms of writing about travel. In fact, traditional travel writing is still being produced to a high level of quality, just at a smaller scale, as indicated by Swick:

> What's especially frustrating about the decline in popularity of travel writing is that it has never been better, thanks in part to technology, one of the forces that seems to work against it. Seeing the increase in the number of travelers, and their easy access to the Internet, travel writers realized that it was no longer enough just to describe a place, or meet its inhabitants; they had to excavate its meanings. As a result, the work they produced became richer, deeper, and infinitely more expansive.

From this it can be understood how this narrative, prose-like travel writing persisted and maintained its power and influence, even as it reached a smaller and smaller audience.

According to Swick's analysis, travel writing is losing its popularity and relevance in societal culture, as evidenced by the end of *The Best American Travel Writing*. Swick, like Theroux and others before him, only applies the term travel writing to the type crafted within the genre prior to the shift towards blogs and social media. The way in which he speaks on the subject suggests that he does not consider travel blogs to be a part of the genre, a perspective similar to Theroux's view that travel writing did not include luxury vacations, hotel reviews or lists of the best restaurants and cafes. However, this disregards the role that travel blogs can still have in connecting people with new places and cultures and inspiring them to travel and gain their own experiences. While blogs, with their often more informal style and shorter formats, may differ in their approach from traditional travel essays, they nonetheless address many of the same goals and subjects within their form. As a result, travel blogs today should be seen not as a termination of travel writing but as an evolving branch of the same genre. Although the new branch may differ from the previous state of the genre, it is merely representative of the ways that the genre has evolved in

correlation to the changing world. As Swick claims, "the very existence of *The Best American Travel Writing 2021* is a testament to the resilience and adaptability of the genre," and that holds true even after the end of the anthology and the embrace of the digital wave. This new form still holds a critical place within travel writing.

Travel writing has undergone multitudes of changes over the centuries, including shifts in subject, form, style, medium, and purpose. Through all these changes and evolutions, the genre has persisted, maintaining a significant place in sociocultural conversations and serving in one way or another to deepen readers' understandings of the world. Even in recent years, as the world has grown innately more interconnected and people have come to be more aware of the influence of their actions and crafts, travel writing has held people's interest and continued to impart experiences and discoveries from narrator to reader. The recent shift to emphasize individual blogs has once again transformed the genre, but it does not take away from the significance of the practice; it only alters the way in which this significance is conveyed to its audience. The defining characteristic of travel writing rests upon a writer sharing the understandings they have developed about a people, place, or culture through their travels. Regardless of the supposed parameters of the genre, the genre seeks to invite audiences in and offer connections between different people and places and deepen

understanding of the world. Travel writing has experienced numerous transformations to continue to forge these understandings, but it has never gone away, a testament to the withstanding curiosity and desire for connection among humanity.

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# The Intersection of Arts and Crafts Medievalism and Late Victorian Orientalism: A Closer Look at William Morris's Bullerswood Carpet (1889)

*Sudenaz Yilmaz*

## Abstract

Medievalism and Orientalism, two important facets of Victorian studies usually considered separately, share common ground. Both perspectives stem from the idea that the past *or* the distant is more "authentic"—used as a euphemism for "primitive"—which is perceived to be desirable for modern Western audiences. This connection can be observed in the works of prominent Victorian artist and Arts and Crafts designer William Morris who utilized both medieval European and Islamic art and architecture as sources of inspiration to create modern Western designs. Through a close analysis of Morris's famous Bullerswood carpet (1889) in comparison to the Safavid Kerman carpet he owned and displayed at Kelmscott House, this research reveals that the "half Eastern half Western" aesthetic of the Bullerswood, described as "livable exoticism" by Stephanie Bancroft, was a natural result of his Arts and Crafts medievalism

and interest in Islamic art—ultimately reinforcing the Orientalist attitudes of the time. As such, it underlines Morris's subconscious association of the medieval West with the Orient due to their shared perceived primitivism, and Victorian modes of expressing elite and cosmopolitan worldview through domestic decorations with the rise of British imperialism. Ultimately, the paper provides both a novel approach to William Morris's work and a model for how medievalism and Orientalism could be combined to consider other works of Victorian art and design in a productive manner.

## Introduction

Victorian Britain was marked by both medievalism, passion for or emulation of the arts and traditions of medieval Europe, and Orientalism—as defined by Edward Said—the Western perception of the East as an exotic, irrational, and undeveloped "other" to be studied, controlled and dominated.[1] Although primarily separated in scholarly literature, medievalism and Orientalism share common ground. In its simplest terms, both perspectives stem from the idea that the past *or* the distant is more "authentic"—used as a euphemism for "primitive"—which is perceived to be something desirable by modern Western audiences. The use of both medieval European and Eastern art in the Arts and Crafts movement (1880s-1910s) is an example of this connection, and provides insight about how late Victorians perceived non-Western cultures.[2] Arts and Crafts designers sought to apply the pre-industrial "authentic" skills and processes, believed to have disappeared in Great Britain with the Industrial Revolution, to contemporary design practices, and were inspired by the art and architecture of medieval Europe. However, as Rosie Ibbotson suggests, non-European cultures were seen as lagging behind compared to

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[1] Edward Said, *Orientalism* (New York: Random House, 1978), 3.
[2] The terms "East," "Eastern," "Orient," and "Oriental" throughout the paper refer to present-day Turkey, Greece, Middle East, and North Africa.

Europe from the imperialist perspective of nineteenth-century Britain, and thus were also perceived to embody the past, the more "authentic" way of living, in the present.[3] Therefore, Arts and Crafts designers took inspiration not only from medieval art but also from Eastern art to react against industrialization, which shows that in nineteenth-century Britain, medievalism and Orientalism were intertwined.

These two perspectives intersect at multiple layers in the designs of William Morris (1834-1896), a prominent Arts and Crafts designer known as a pioneer of British decorative art and, more broadly, modern design. Morris's interest in medieval European art and architecture is well known, but his interest in Eastern art and architecture is less often discussed in the scholarly literature about him. In particular, Islamic art had a significant influence on Morris's textile designs, as he collected Islamic art from the mid-1800s onwards, with a large portion of his collection consisting of Persian carpets from the sixteenth and seventeenth centuries.[4] Because of his interest in Persian carpets, the South Kensington Museum (now the Victoria and Albert

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[3] Rosie Ibbotson, "Revisiting the Medievalism of the British Arts and Crafts Movement," in *The Oxford Handbook of Victorian Medievalism,* ed. Joanne Parker and Corinna Wagner (Oxford: Oxford University Press, 2020), 532.

[4] Stephanie Bancroft, *William Morris and Islamic Art* (Ann Arbor: ProQuest LLC, 2013), 4.
Persian carpets are heavy textiles produced in Iran for domestic use or export, incorporating traditional design and imagery.

Museum) asked Morris to be an adviser for the purchase of a group of these objects in 1883. During his time at the South Kensington Museum, Morris had the opportunity to further observe a variety of Islamic art objects that came into the collection.[5]

My research expands upon scholarship that has addressed Morris's engagement with Islamic art by evaluating his 1889 Bullerswood carpet design (fig. 1) as the product of the intersection of Arts and Crafts medievalism and late Victorian Orientalism by comparing it to the Safavid Kerman carpet (fig. 2) he owned and displayed at Kelmscott House, his home in London.[6] Arts and Crafts medievalism refers to the movement's principle of drawing inspiration from medieval art and architecture in order to create modern designs, in response to the negative effects of industrialization on Victorian society. Late Victorian Orientalism refers to the fascination with the "authenticity" of Eastern art and culture that emerged in Great Britain during the second half of the nineteenth century as a result of British imperialism and the subsequent exposure to imported products from Eastern countries.

The Arts and Crafts practice of using medieval sources as inspiration to create modern designs, as Ayla Lepine suggests, is grounded in the motive to reverse the

[5] Bancroft, *William Morris and Islamic Art*, 4,5.
[6] Ibid, 4.

pervasive idea that modernity comes from a break with the past, and to prove that the modern, in fact, only comes from engagement with the past.[7] In late Victorian Orientalism, this concept translates into taking inspiration from Eastern sources to create modern Western designs. As Morris states,

> We, people of the West must make our own hand-made Carpets, if we are to have any worth the labour and money such things cost; and that these, while they should equal the Eastern ones as nearly as may be in material and durability, should by no means imitate them in design, but show themselves obviously to be the outcome of modern and Western ideas; guided by those principles that underlie all architectural art in common.[8]

This idea is consistent with the Arts and Crafts medievalist concept of modernity. However, in this case, the *past* equals the *Orient*—the inherent primitivism of

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[7] Ayla Lepine, "The Pre-Raphaelites: Medievalism and Victorian Culture," in *The Oxford Handbook of Victorian Medievalism,* ed. Joanne Parker and Corinna Wagner (Oxford: Oxford University Press, 2020), 488-489.

[8] Morris and Co. brochure, *The Hammersmith Carpets*, October 1882, quoted in Linda Parry, *William Morris Textiles* (New York: The Viking Press, 1983) 86.

Oriental objects gives them the kind of authenticity that medieval objects have.[9]

As a result of this reversed perception of "modernity" and the influence of Eastern objects, Morris's designs look "half Eastern half Western," or, in Stephanie Bancroft's words, they inhabit "livable exoticism." In *William Morris and Islamic Art,* published in 2012, Bancroft writes, "The term 'livable exoticism' refers to the incorporation of patterns and motifs from pre-industrialized non-western cultures into western design in such a way as to make the exotic nature of the non-western motifs palatable or acceptable to fully incorporate within the broader spectrum of western tastes."[10] Bancroft, like Ibbotson, follows in Said's footsteps and attributes this quality of Morris's designs heavily to the influence of Islamic art and Orientalism without taking his Arts and Crafts medievalist preoccupations into account. However, the Bullerswood carpet's comparison with the Safavid Kerman carpet reveals that Morris's "livable exoticism" was a natural result of the convergence of his Arts and Crafts medievalism and interest in Islamic art, ultimately reinforcing the Orientalist attitudes of the time.

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[9] It is important to take into account that the medieval era ends between 1400 and 1450 CE; the Persian carpets Morris appropriated were from 1500-1700 CE.

[10] Bancroft, *William Morris and Islamic Art*, 1.

**Literature Review**

Linda Parry has contributed the most to our current knowledge about the connection between Morris and Islamic art. In her book *William Morris Textiles*, published in 1983, she discusses Morris's Oriental carpet collecting and how it led to his work at the South Kensington Museum, as well as the changes in his designs that followed.[11] However, other than Parry, not many scholars have covered Morris and Islamic influences on his designs extensively. For example, Peter Floud and Barbara Morris also conducted research on Morris's carpet designs in the 1950s and 1960s, but did not say much beyond acknowledging the contribution of the South Kensington Museum to his knowledge of Islamic art.[12] As Bancroft writes in *William Morris and Islamic Art*, "References to Morris's interest and interactions with Islamic art are…reduced to a generalized statement—hardly satisfying given how tantalizingly different this information is compared to standard references of influence, such as medieval

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[11] Parry, *William Morris Textiles*, 74-99.

[12] For Floud, see Peter Floud, "Dating William Morris Textiles," in Architecture Review 126, no. 750 (July) 1952, 14-20, and "The Wallpaper Designs of William Morris," in Penrose Annual No. 54, 1960, 41-45. For Morris, see Barbara Morris, "William Morris: A Twentieth Century View of His Woven Textiles," in Handweaver and Craftsman 12 (Spring) 1961, 6-11, 54-55, and "William Morris: His Designs for Carpets and Tapestries," in Handweaver and Craftsman 12 (Fall) 1961, 18-21, 36.

tapestries and Italian textiles."[13] Bancroft's work is the first detailed examination of this connection, and opens doors for further research. There are many facets of this topic still open to more extensive studies, ranging from the acquisition of the Eastern objects that Morris has encountered to the various resources that enabled his interaction with those artifacts. Likewise, no focus has been given to smaller-scale individual piece analyses either. Within the scope of this paper, I present a highly focused study analyzing Morris's Bullerswood carpet through the lenses of Arts and Crafts medievalism and late Victorian Orientalism.

**Arts and Crafts Medievalism and William Morris**

The Arts and Crafts movement, which played a key role in carpet collecting and manufacture in nineteenth-century England, emerged as a reaction against the harmful effects of British industrialization. The leaders of this movement reformed the design and production of a variety of objects, from buildings to furniture and jewelry. Although Morris was not actively involved in the movement during its first years, his leadership in producing beautiful and functional craft objects, building a connection between the producer and the product, and returning to small-scale manufacturing methods later served as a great source of inspiration for

[13] Bancroft, *William Morris and Islamic Art*, 6.

designers who were active in the movement, and those who came after.[14]

Morris himself was greatly influenced by the Gothic Revivalist art critic John Ruskin's ideas, one of which is that medieval architecture should be examined not just in terms of its style but also in terms of the labor practices involved in its making.[15] Ruskin believed that in Victorian manufacturing practices, factory workers were divorced from what they made and found that to be "socially and aesthetically damaging."[16] He suggested that Victorian designers should take inspiration from medieval architecture's emphasis on the individuality of the worker and its imperfect nature to confront the negative effects of mechanized labor on Victorian society. Morris, thus, turned to the art and architecture of medieval England and France for his Arts and Crafts designs, not to imitate medieval art but more so to apply its principles to his designs and create modern objects to combat modern problems. For example, for the decoration of the St. George Cabinet, Morris used a figurative scheme commonly used on bridal chests in the medieval era, and painted the interior using a medieval

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[14] Victoria and Albert Museum, *Arts and Crafts: An Introduction,* accessed May 8, 2023. https://www.vam.ac.uk/articles/arts-and-crafts-an-introduction.

[15] John Ruskin, "The Nature of Gothic," in *Architecture and Design in Europe and America, 1750-2000*, ed. Abigail Harrison-Moore and Dorothy C. Rowe (Blackwell Publishing, 2006), 230.

[16] Victoria and Albert Museum, *Arts and Crafts: An Introduction.*

technique revived from illuminated manuscripts by the designer William Burges.[17] While the cabinet is perceived as "medieval in spirit," the advanced rendering of the figures clearly distinguishes the object as a product of the modern era.

**Late Victorian Orientalism, William Morris, and South Kensington Museum**

In response to industrialization, the members of the Arts and Crafts movement sought to return to pre-modern ideals, mainly focusing on Gothic architecture and art. However, from the second half of the nineteenth century onwards, there was also a growing fascination with Eastern art and culture in Europe.[18] Great Britain, in particular, the wealthiest country of the time due to its widespread colonies, was exposed to the art and designs of many different cultures through the products it imported.[19] In *Late Victorian Orientalism: Representations of the East in*

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[17] Victoria and Albert Museum, *St George Cabinet,* accessed January 2, 2024. https://collections.vam.ac.uk/item/O8144/st-george-cabinet-cabinet-webb-philip-speakman/

[18] Caliah Jackson, "Persian Carpets and the South Kensington Museum: Design, Scholarship and Collecting in Late Nineteenth-Century Britain," *Journal of Design History 30* no.3, (2017): 266.
Henceforth referred to as *Persian Carpets*.

[19] Linda Parry, *Textiles of the Arts and Crafts Movement,* (London: Thames and Hudson, 2005), 31.

*Nineteenth-Century Literature, Art, and Culture from the Pre-Raphaelites to John La Farge,* Eleonora Sasso writes,

> During the nineteenth century the spread of an Oriental mania, affecting the Victorians' conducts, gestures and behaviours which sometimes were irrational and absurd…was almost unstoppable. There were more than 30 different English editions of *Arabian Nights* published between 1850 and 1890, and such Oriental luxuries as tea, opium, ceramics, chinoiserie, Indian silks and other goods entered Britain through imperial trade.[20]

As a result, as Bancroft argues, owning exotic and foreign-looking objects became a symbol of having an elite and cosmopolitan taste in the late Victorian era.[21] This reception of Islamic art in the second half of the nineteenth century in Great Britain was placed in a critical framework by Said in his watershed book *Orientalism*, published in 1978. Until then, an Orientalist referred to a scholar who studied Eastern cultures. Orientalism was also known as an art genre in which

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[20] Eleonora Sasso "Introduction," in *Late Victorian Orientalism:Representations of the East in Nineteenth-Century Literature, Art, and Culture from the Pre-Raphaelites to John La Farge* (New York: Anthem Press, 2020) 2,3.
[21] Bancroft, *William Morris and Islamic Art*, 2.

Western artists depicted imagined scenes from the East. However, after Said's work, as Caliah Jackson puts, "...the terms 'orientalism' and 'the Orient' were forever imbued with connotations of European imperialism and the subordination and essentialization of Middle Eastern and Asian cultures."[22] Given the complexity of the term, it is important to note that in this paper, I address Orientalism within the context of Said's work.[23]

During the time when Orientalism was widespread in Great Britain, Morris, as a young man, was also interested in Eastern cultures. His knowledge of the East was solely based on the sources he had access to, as he never traveled to the region himself. Thus, his perception of the Orient was fantastical or fictive, as was his perception of the Middle Ages. Similar to how he participated in post-medieval fantasy with his reinterpretations of the Arthurian legend,[24] he was fantasizing about the Orient through books like *Arabian Nights*, which he considered a kind of Bible, as well as stories like *Aladdin and the Wonderful Lamp*, and *Hasan*

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[22] Jackson, *Persian Carpets*, 266.

[23] It is also important to notice that Morris's Orientalism differed from other Orientalisms in art history, in that it did not have an erotic dimension; Morris tended to express his fantasy of the Orient not through imagined and erotic scenes of the East, but through real objects.

[24] Bryan C. Keene and Larisa Grollemond, *The Fantasy of the Middle Ages: An Epic Journey through Imaginary Medieval Worlds* (Los Angeles: Getty Publications, 2002) 17.

*of El-Basrah*, whose moral messages intrigued him.[25] Additionally, he had a great admiration for the art and culture of Persia, which he referred to as the "holy land," and was a Persian carpet collector. In March 1876, he wrote to his daughter May Morris about his newly acquired Persian carpets, saying, "It will make you feel as if you were in the Arabian Nights."[26] As a result of this great interest, in 1883 he became an adviser for Persian carpets at the South Kensington Museum and facilitated the acquisition of the Ardabil Carpet from the shrine of Safavid Sheikh Safi. He described the design of this famous seventeenth-century carpet as "singular perfection."[27]

The South Kensington Museum was established in 1852 as a result of concerns about the quality of British industrial design exhibited at The Great Exhibition of 1851.[28] In an effort to react against industrialization, the museum prioritized antique and handmade objects over modern ones. However, in doing so, they did not limit themselves to the art and architecture of medieval Europe, and also placed great importance on the “authentic” art objects of Eastern

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[25] Eleonora Sasso “Aza’ib, Mutalibun and Hur Al-ayn: Rosetti, Morris, Swinburne and the Arabian Nights,” in *Late Victorian Orientalism:Representations of the East in Nineteenth-Century Literature, Art, and Culture from the Pre-Raphaelites to John La Farge* (New York: Anthem Press, 2020) 66.
[26] Parry, *William Morris Textiles*, 85.
[27] Sasso, *Aza’ib, Mutalibun and Hur-Al ayn*, 66.
[28] Jackson, *Persian Carpets*, 265.

cultures that Britain imported through imperial trade. Jackson says, "The museum's collection and scholarly activities were shaped by an intellectual climate that was itself defined in part by the British colonial project and a broader fascination with peoples, histories, and cultures of regions beyond western Europe."[29] Oriental carpets, especially those made in Iran, Turkey, the Caucasus, Pakistan, Afghanistan, and Turkmenistan during the Safavid period, constituted an important part of the museum's collection. The Islamic patterns and motifs in the exhibited objects were highly appreciated by Arts and Crafts members, many of whom, such as Morris, had a relationship with the museum.[30] Just by looking at the founding purpose and collection of the South Kensington Museum, we can start to observe the intersection of Arts and Crafts medievalism and Late Victorian Orientalism.

**Arts and Crafts Medievalism and Late Victorian Orientalism in the Bullerswood Carpet**

In order to see how Arts and Crafts medievalism and Late Victorian Orientalism influenced Morris's carpet designs, I will examine the Bullerswood carpet made in 1889, which is currently in the collection of the Victoria and Albert Museum. Described as "an exuberant amalgamation of almost every motif devised by Morris for carpets," the Bullerswood is Morris's last carpet

[29] Jackson, *Persian Carpets*, 265.
[30] Ibid., 266.

design.[31] His interest at this time moved to tapestry and book production, and his design company Morris and Co.'s carpet designs after 1890 were taken over by Henry Dearle.[32] The Bullerswood is also one of the hand-knotted carpets that Morris and Co. called "Hammersmiths," after the location of Morris's house in London, where they were first woven, and it was commissioned by wool trader John Sanderson for his home, known as Bullerswood in Chislehurst, Kent.[33] To evaluate the relationship between Persian carpets that Morris admired and his own carpet designs, I will also compare the Bullerswood carpet with the famous seventeenth-century Safavid Kerman carpet Morris owned and exhibited at Kelmscott House (before making the Bullerswood), which is also currently in the collection of the Victoria and Albert Museum.[34]

As mentioned previously, using the medievalist Arts and Crafts understanding of modernity as coming from engagement with the past, Morris utilized Eastern art, as well as medieval art, as inspiration to create modern Western designs due to his subconscious association of the medieval West with the East because of their shared perceived primitivism. Similar to Gothic

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[31] Victoria and Albert Museum, *William Morris Textiles,* accessed May 1, 2023, https://www.vam.ac.uk/articles/willam-morris-textiles.
[32] Parry, *William Morris Textiles*, 97.
[33] Victoria and Albert Museum, *William Morris Textiles.*
[34] Purchased from Jane Morris, Kelmscott House, The Mall, Hammersmith. (V&A)

Revivalist Ruskin's suggestion about taking inspiration from medieval art, he observed Islamic art not to imitate it, but instead to learn from its fundamental principles and techniques to make original objects. For example, in all Hammersmith carpets, including the Bullerswood, he used the coarser Turkish (Ghiordes) knot, an ancient technique "in which the two tuft ends of the knot appear together between two warp threads," resulting in strong knots.[35] While his favorite designs were that of Persian carpets, he used the Turkish knotting technique to weave his carpets because it made them more durable. From this perspective, we see that Morris did not aim to create exact imitations of Eastern carpets; he used the parts that suited his ideals and made independent decisions on the rest, in order to create *Western* crafts. This was an attitude that originated from his medievalist Arts and Crafts background.

On the other hand, although the technique is different, the Bullerswood carpet's design clearly embodies Persian influences. The main similarity between the Bullerswood and the Kerman carpet is, in Parry's words, "the one-way directional sweep through the design" found in Persian "vase" carpets, one of which is the Kerman carpet.[36] Additionally, the decorative border that frames the Bullerswood, the

[35] Parry, *William Morris Textiles*, 88.
[36] Ibid., 96.

symmetrical floral patterns, and the ribbons that connect these patterns also show parallels with the Kerman carpet. For example, the motif that resembles a seven-lobed sycamore leaf with a flower bud in the center, leaning toward the middle line of the composition, is present in both designs.

However, Morris's claim that his designs do not imitate the Eastern ones is further validated by the fact that there are more differences than similarities between these two carpets. Unlike the Kerman carpet, Morris's design has a "millefleur" pattern, which is created by depicting many small flowers and leaves together as an "all-over background covering," similar to those we are accustomed to seeing in Western medieval tapestries. The all-over background covering in the Kerman carpet, on the other hand, is made up of small flowers and buds without leaves. The "repeating curving acanthus" leaves used in the border of the Bullerswood are also not a pattern seen in Persian designs, as it was also not used in the border of the Kerman carpet. Moreover, in both designs, the repeating larger-sized motifs create a contrast with the smaller background sprigging patterns, and are connected by occasionally overlapping ribbon-like branches; however, the visual effects created by them in the two compositions are very different. The branches in the Bullerswood add a greater sense of depth to the design compared to the ones in the Kerman carpet. Morris was opposed to adding shading to motifs in order

to give them a three-dimensional effect, thus, in the Bullerswood carpet, he achieved three-dimensionality by cleverly using the shapes and forms without resorting to shading.[37] The "meandering branches" in the composition create "intersecting ogees," and they pass behind and over the patterns at various points, giving the design a sense of depth. Morris was also able to push the dark blue background of the carpet to the very back of the imaginary space of the design, giving the impression that all the other patterns stand on top of this background. In contrast, all the motifs in the Kerman carpet appear to be on the same plane. The illusionistic space Morris created in the Bullerswood carpet is quite modern and Western compared to the flat forms of medieval and Islamic art.

As a result of this comparison, we see that Morris's medievalist Arts and Crafts mindset, which led him to apply the techniques and fundamental design principles of Eastern carpets to his own designs without imitating them, resulted in a "half Eastern half Western" aesthetic, or, "livable exoticism" in the Bullerswood carpet. We can detect the Persian influences on the Bullerswood, but also can sense that it differs from Persian carpets in many ways—it looks more modern, and perhaps because of that, more Western. This quality, as Bancroft suggests, makes the Bullerswood ideal for satisfying its patron's interest in authentic,

[37] Parry, *William Morris Textiles*, 85.

Oriental-looking objects within a Western framework—that is, a more comfortable and secure context.[38]

**Conclusion**

My purpose in this paper has been to demonstrate that Morris's Arts and Crafts medievalism and his incorporation of Islamic art elements in his designs cannot be examined solely within their own contexts—medievalism and Orientalism were intertwined in many layers in the late Victorian era, and perhaps this intersection most fascinatingly appeared in Morris's carpet designs. The Bullerswood carpet provides us with an outlet through which we can trace this intersection of Arts and Crafts medievalism and late Victorian Orientalism. This carpet became an object that reinforced the Orientalist tastes of the time precisely because it was designed according to the Arts and Crafts medievalist practice of applying the fundamental principles of pre-industrial, "authentic" art to modern designs rather than imitating them, to create original modern objects. By doing so, as seen in the Bullerswood carpet and his similar designs, Morris balanced the exotic nature of Eastern motifs—seen as "authentic" because of their inherent primitivism—with more familiar forms; thus, placing the Eastern carpets that Victorian society was interested in but perceived as "too

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foreign" into a Western framework. In other words, he provided "livable exoticism" for the Victorian audience through his original carpet designs.

Therefore, this study also reveals that Morris's carpets offer key clues not only about his personal interests, but also about Victorian modes of expressing an elite and cosmopolitan worldview through domestic decorations with the rise of British imperialism—ultimately to the detriment of Eastern cultures. Shedding light on the intersection of Arts and Crafts medievalism and late Victorian Orientalism in Morris's carpets, then, is instrumental in expanding our comprehension of how the cultural, social, and political landscapes of the Victorian era shaped the material culture and artistic developments of Great Britain. Likewise, closely examining such examples of Victorian visual culture through this intersection provides new territories in art history from which to reflect upon Said's enduring ideas on the subordination of the Orient.

**Fig. 1** William Morris. Bullerswood Carpet. 1889. 764.8cm x 398.8 cm. Wool. © Victoria and Albert Museum, London.

**Fig 2.** Safavid Kerman Carpet once owned by William Morris. Safavid Iran, 1600-1700. Cotton warp, silk and cotton wefts, and wool pile. 523 x 330 cm, © Victoria and Albert Museum, London.

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# Prions: From "Slow Viruses" to "Proteinaceous Infectious Particles"

*Abigail Goldman*

## Abstract

Unique among infectious diseases, prion diseases are caused by the misfolding of the protein $PrP^{C}$ into the neurotoxic infectious agent $PrP^{Sc}$. Prion diseases occur in both animals and humans and arise through spontaneous, genetic, and acquired mechanisms. Although $PrP^{Sc}$'s precise three-dimensional structure has not yet been determined, it is clear that this conversion involves a change in secondary structure. Sophisticated diagnostic tools have recently been developed to detect the presence of $PrP^{Sc}$ based on its ability to induce the misfolding of $PrP^{C}$. Various compounds have been tested against prion diseases in clinical and preclinical trials, but treatments to slow disease progression are not currently available to patients. This paper argues that treatments that target $PrP^{C}$ by reducing its expression or blocking the binding of $PrP^{Sc}$ would be most effective against prion diseases, citing *PRNP*-knockout mice, RNAi, and monoclonal antibodies as examples.

## Introduction

Prion diseases are a group of neurodegenerative diseases characterized by the presence of prions, infectious agents that are composed of a single protein. Prions consist of pathological scrapie prion protein ($PrP^{Sc}$), the misfolded form of normal cellular prion protein ($PrP^{C}$). This misfolded protein forms aggregates that recruit additional $PrP^{C}$ and convert it to $PrP^{Sc}$. These aggregates have neurotoxic effects that manifest as symptoms of prion diseases. Prions are unique because unlike all other infectious agents, such as bacteria, viruses, and fungi, they do not contain nucleic acids.

The scientific understanding of prions has undergone a significant shift over the past century. Scrapie, the earliest known prion disease, was discovered in the mid-18th century, but it was not experimentally proven to be infectious until 1936 (Ma and Wang 2014). Many then assumed that the scrapie agent was a "slow virus" given scrapie's long incubation time (Ma and Wang 2014). However, Stanley Prusiner's discovery of prions in 1982 revealed that scrapie is a protein-based infectious disease. In fact, Prusiner coined the term "prion" as a shorthand for "proteinaceous infectious particles" (Zhu and Aguzzi 2021). Although Prusiner's proposal that prions were the infectious agents responsible for prion diseases was controversial at the time, numerous studies have largely supported Prusiner's

claims. An overview of key events in prion research is presented in Figure 1.

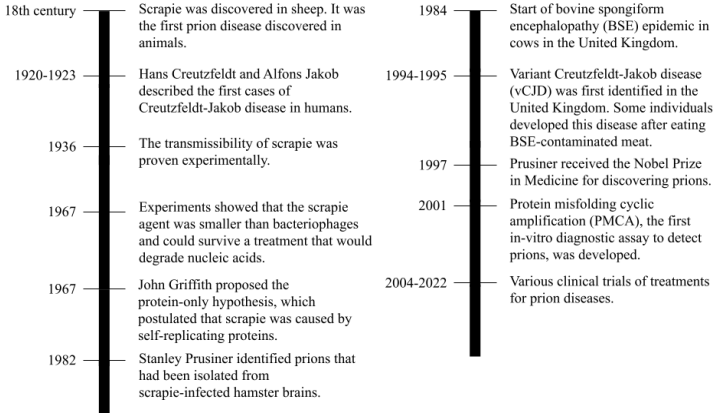


**Figure 1**. Timeline of major events in prion research.

In the years since Prusiner's discovery of prions, researchers have vastly expanded their understanding of these infectious agents and how they trigger neurodegeneration. This paper provides a broad overview of the current state of the field, describing clinical manifestations of prion diseases, the molecular mechanisms of these diseases, and diagnostic tools. It also addresses a significant challenge facing prion research: the lack of effective treatments for prion diseases. Because these diseases are fatal, there is an urgent need to develop drugs that can extend patients' lifespans and enhance their quality of life. Based on the characteristics of *PRNP*-knockout mice as well as the effectiveness of RNAi and monoclonal antibodies

against prion diseases, this paper argues that therapeutic agents that target $PrP^{C}$ by reducing its expression or blocking the binding of $PrP^{Sc}$ are viable treatments for prion diseases. Finally, this paper examines the future of prion research, highlighting the emerging field of prion-like diseases.

**Prion Diseases**

Prion diseases occur in both animals and humans. The most common animal prion diseases are scrapie in sheep, bovine spongiform encephalopathy (BSE) in cows, and chronic wasting disease in cervids (Geschwind 2015). Prion diseases in humans occur at a rate of about 1 to 1.5 cases per million people per year in developed countries, and they occur by three mechanisms: sporadic, familial, and acquired (Geschwind 2015). They are the only known diseases that occur by all three of these mechanisms.

Eighty to ninety-five percent of human prion disease cases are sporadic Creutzfeldt-Jakob disease (sCJD), in which the conversion of $PrP^{C}$ to $PrP^{Sc}$ occurs spontaneously (Geschwind 2015). The main symptoms of sCJD are rapidly progressive dementia, behavioral abnormalities, loss of muscle coordination, extrapyramidal features, and involuntary muscle jerks (Geschwind 2015). Like all other prion diseases, sCJD is fatal; the mean survival rate is six months, and 85% to

90% of sCJD patients die within one year of disease onset (Geschwind 2015).

Genetic and acquired human prion diseases vary in mechanism, age of onset, and survival time but feature symptoms similar to sCJD. Ten to fifteen percent of human prion disease cases are genetic and arise from an autosomal dominant mutation in *PRNP*—the gene encoding $PrP^{C}$—that makes misfolding into $PrP^{Sc}$ more likely (Geschwind 2015). Genetic prion diseases include familial Creutzfeldt-Jakob disease, Gerstmann-Straussler-Scheinker syndrome, and fatal familial insomnia, and *PRNP* mutations associated with these diseases have been mapped and reported (Mastrianni 2010). Less than 1% of human prion disease cases involve the acquisition of $PrP^{Sc}$ from an external source (Geschwind 2015). Variant Creutzfeldt-Jakob disease (vCJD), the only prion disease known to be directly transmitted from animals to humans, is the best-known acquired prion disease due to its role in the United Kingdom's BSE epidemic (Geschwind 2015). Another example is iatrogenic Creutzfeldt-Jakob disease, in which an individual is exposed to prions during a medical or surgical procedure (Geschwind 2015). Iatrogenic Creutzfeldt-Jakob disease has been transmitted from blood transfusions from vCJD-infected individuals, contaminated human growth hormone, and contaminated dura mater grafts (Geschwind 2015). Kuru, which spread among the Fore tribe of Papua New

Guinea through acts of ritual cannibalism, is another type of an acquired prion disease (Geschwind 2015).

**$PrP^C$**

Although $PrP^{Sc}$ is responsible for the pathology of prion diseases, an understanding of its precursor $PrP^C$ is equally important. $PrP^C$'s N-terminal domain contains octarepeat sequences that can bind copper ions, while its C-terminal domain is composed of two antiparallel β-sheets and three α-helices, with two glycosylation sites (Legname 2017). The protein is bound to the cell membrane by a glycosylinositol phospholipid anchor (Zhu and Aguzzi 2021). $PrP^C$ is primarily found in the central nervous system, and it is located in areas of the brain such as the olfactory bulb, striatum, hippocampus, and prefrontal cortex (Das and Zou 2016). The protein is mainly expressed in neurons but is also found in glial cells and extraneural tissues (Das and Zou 2016).

$PrP^C$ is a constitutively expressed, multifunctional protein. It has been implicated in synaptic transmission, memory, neurite outgrowth, neuronal development, regulation of circadian rhythm, axon guidance, synapse formation, neuroprotection, myelin maintenance, the maintenance of ion homeostasis, cell-cell adhesion, the modulation of cell-cell junctions, signaling, and cell differentiation (Zhu and Aguzzi 2021; Sigurdson et al. 2019; Das and Zou 2016). Because $PrP^C$'s octarepeat region can bind

copper ions, $PrP^C$ can also function as a copper transporter and antioxidant (Das and Zou 2016). For example, $PrP^C$ inhibits activation of the glutamate N-methyl-D-aspartate receptor (NMDAR) by binding to copper ions (Gasperini et al. 2015). These copper ions act as electron acceptors that facilitate the inhibitory S-nitrosylation of cysteines on NMDAR, thus preventing excitotoxicity (Gasperini et al. 2015).

**$PrP^{Sc}$**

The intracellular buildup of $PrP^{Sc}$, the misfolded form of $PrP^C$, results in the neurodegeneration observed in prion diseases. $PrP^{Sc}$ is identical to its $PrP^C$ counterpart in terms of amino acid sequence. Although cryo-electron microscopy has helped elucidate certain structural features of $PrP^{Sc}$, its exact atomic structure has not yet been determined (Zhu and Aguzzi 2021). Theoretical models of its structure include a spiraling protofibril, a left-handed β-helix that consists of stacks of four-rung β-solenoids, and a parallel in-register β-sheet (Zhu and Aguzzi 2021). It is clear, however, that $PrP^{Sc}$ is primarily composed of β-sheets (>43% β-sheet content), whereas $PrP^C$ is primarily composed of α-helices (42% α-helix content) (Das and Zou 2016). Thus, the conversion from $PrP^C$ to $PrP^{Sc}$ is mainly characterized by a change in secondary structure.

The precise mechanism by which $PrP^C$ is converted to $PrP^{Sc}$ is unclear, although there are several

hypothetical models for the conversion. It is likely that $PrP^{C}$ must overcome an energy barrier and reach the intermediate reactive state PrP* before it can be converted to $PrP^{Sc}$ (Ma and Wang 2014). During the conversion process, $PrP^{C}$ and $PrP^{Sc}$ may form a steric zipper in which complementary amino acid side chains from two β-sheets interlock through hydrogen bonds and newly converted $PrP^{Sc}$ becomes part of the growing fibril of the aggregate (Sigurdson et al. 2019). Cofactors involved in this process include polyanions, which reduce repulsions between positively charged surfaces (BW Caughey, interview, March 25, 2023), and phospholipids, which help $PrP^{C}$ achieve the PrP* state (Ma and Wang 2014).

The primary neurotoxic effect of $PrP^{Sc}$ stems from prolonged activation of the unfolded protein response (UPR). In a healthy cell, the UPR is activated by the accumulation of unfolded or misfolded proteins, and it inhibits translation so that the level of misfolded proteins in the cell can decrease (Moreno et al 2012). The buildup of misfolded proteins triggers the phosphorylation of protein kinase RNA-like ER kinase (PERK), and PERK phosphorylates the α subunit of eukaryotic initiation factor 2 (eIF2-α), which represses translation (Moreno et al. 2012). In prion diseases, the continued accumulation of $PrP^{Sc}$ leads to sustained activation of the UPR, causing levels of key proteins to decline and eventually triggering synaptic loss and

neuronal death (Moreno et al. 2012). As neurons die, holes form in the brain in a process called spongiosis; hence, prion diseases are also called transmissible spongiform encephalopathies (Das and Zou 2016). This neurodegeneration results in the symptoms observed in prion diseases.

**Diagnosis of Prion Diseases**

Prion diseases can only be definitively diagnosed postmortem based on an autopsy of the brain, but methods to detect probable sCJD have been developed (Das and Zou 2016). Traditional diagnostic approaches include detecting periodic sharp- and slow-wave complexes on an electroencephalogram, conducting a cerebral spinal fluid analysis for increased tau and 14-3-3 proteins, and looking for signal changes on magnetic resonance imaging (Das and Zou 2016).

More sophisticated techniques that detect the presence of $PrP^{Sc}$ in a sample through its conversion of $PrP^{C}$ to additional $PrP^{Sc}$ have also been developed, starting with protein misfolding cyclic amplification (PMCA) in 2001 (Das and Zou 2016). In PMCA, a sample of brain homogenate from the patient is mixed with normal brain homogenate containing $PrP^{c}$ (Ma and Wang 2014). If $PrP^{Sc}$ is present in the original sample, this results in the formation of new $PrP^{Sc}$ (Ma and Wang 2014). Although PMCA is suitable for research, it is not effective as a diagnostic test because it takes weeks to

perform and brain homogenate is difficult to obtain from a patient (BW Caughey, interview, March 25, 2023). Amyloid seeding assays (ASA) operate similarly to PMCA; however, they are plate-based assays that use recombinant $PrP^{C}$ (Das and Zou 2016). Although ASA is faster than PMCA, it is prone to false positives in which the recombinant $PrP^{C}$ spontaneously misfolds into $PrP^{Sc}$ (BW Caughey, interview, March 25, 2023). The real-time quaking-induced conversion assay (RT-QuIC) is similar to ASA in design and can detect whether a patient sample converts recombinant $PrP^{C}$ to $PrP^{Sc}$ based on changes in fluorescence (Das and Zou 2016). RT-QuIC is rapid, has very few false positives, and can be used with blood, skin, and nasal samples from patients, thus revolutionizing the diagnosis of prion diseases (BW Caughey, interview, March 25, 2023).

The development of faster and more accurate diagnostic methods such as RT-QuIC will allow prion disease patients to receive earlier diagnoses, which is crucial for maximizing the effectiveness of the treatments discussed in this paper. PMCA, ASA, and RT-QuIC also exploit the conversion of $PrP^{C}$ to $PrP^{Sc}$, illustrating how the protein-based nature of prion diseases plays an essential role in advancing the field of prion research.

## Overview of Treatments

Although no approved treatments for prion diseases currently exist, numerous compounds have been examined as potential treatments. Over the past two decades, various clinical trials of treatments for prion diseases have been conducted. These clinical trials tested flupirtine, quinacrine, pentosan polysulfate, doxycycline, and monoclonal antibodies. Therapeutic approaches of interest that have not yet advanced to clinical trials include RNAi and a PERK inhibitor. Table 1 displays the therapeutic targets of these treatment methods as well as preclinical and clinical data.

**Table 1**. Characteristics of potential prion disease treatments.

| **Name of Drug** | **Type of Drug** | **Mechanism of Action** | **Preclinical Data (Mice)** | **Clinical Data (Humans)** |
|---|---|---|---|---|
| Doxycycline | Second-generation tetracycline antibiotic | Makes $PrP^{Sc}$ more prone to proteinase K digestion (Shim et al 2022); antioxidant, anti-inflammatory, and antiapoptotic activities (Haik et al. 2014) | Stopped neuronal loss and astrocyte proliferation; delayed onset of clinical symptoms; extended survival (Shim et al 2022) | No effect on survival rate or neurodegeneration (Haik et al. 2014) |
| Flupirtine | Repurposed small-molecule drug; nonopioid analgesic | NMDAR antagonist (Shim et al 2022); increases levels of proto-oncogene *bcl*-2; stabilizes glutathione levels (Otto et al. 2004) | Protected neuronal cells from apoptotic death (Otto et al. 2004) | Decreased cognitive decline; no effect on survival rate (Otto et al. 2004) |
| GSK2606414 | PERK inhibitor | Inhibits the UPR; restores protein | No clinical signs of disease 12 weeks | Clinical trials not yet performed |

| | | | | |
|---|---|---|---|---|
| | | translation (Moreno et al. 2013) | post-infection; protected against cognitive decline and neurodegeneration; mild weight loss and hyperglycemia (Moreno et al. 2013) | |
| Pentosan polysulfate | Large polyglycoside molecule; heparin mimetic | Stabilizes native PrP and intermediates; competitively affects binding of $PrP^{C}$ and $PrP^{Sc}$; enhances $PrP^{C}$ internalization and redistribution (Shim et al 2022) | Prolonged prion incubation time (Tsuboi et al. 2009) | No effect on clinical signs of prion disease; possibly prolonged survival (Tsuboi et al. 2009) |
| PRN100 | Monoclonal antibody (immunotherapy) | Binds to $PrP^{C}$ and prevents misfolding into $PrP^{Sc}$ Mead et al. 2022) | Prolonged survival time, reduced $PrP^{Sc}$ levels, decreased neurodegeneration (White et al. 2003; Song et al. 2008) | Decreased $PrP^{Sc}$ levels; no adverse effects (Mead et al. 2022) |
| Quinacrine | Acridine derivative and repurposed antimalarial drug | Binds to PrP and acts as a pharmacological chaperone (Shim et al 2022) | Strain selection and build-up of drug-resistant prions (Bian et al. 2014) | Mild cognitive benefit; no effect on survival rate; adverse gastrointestinal effects (Geschwind et al. 2013) |
| RNAi | Biological mechanism that degrades mRNA | Knocks out $PrP^{C}$ expression (White et al. 2008) | Protected against cognitive decline and neurodegeneration; prolonged survival (White et al. 2008) | Clinical trials not yet performed |

As Table 1 demonstrates, many proposed treatments for prion diseases have failed to replicate promising preclinical data in clinical trials or have undesirable side effects. However, two treatments—RNAi and monoclonal antibodies—cleared $PrP^{Sc}$ aggregates and reduced neurodegeneration without adverse effects. Both of these treatments reduce the

amount of $PrP^{C}$ available for conversion to $PrP^{Sc}$, thereby eliminating $PrP^{Sc}$'s method of replication.

### *PRNP*-Knockout Mice

An examination of *PRNP*-knockout mice, in which $PrP^{C}$ is not expressed, provides insight into the effectiveness of treatments like RNAi and monoclonal antibodies. Experiments conducted with *PRNP*-knockout mice indicate that *PRNP* knockout confers resistance to prion diseases and has few adverse effects. In one study, *PRNP*-knockout mice homozygous for defective *PRNP* alleles from birth ($PRNP^{0/0}$) were still alive more than 13 months after scrapie infection, outliving scrapie-infected wild-type mice ($PRNP^{+/+}$) by 7 months (Bueler et al. 1993). The $PRNP^{0/0}$ mice were still free of scrapie symptoms at the study's conclusion, and their brains did not exhibit signs of prion disease pathology or infectivity (Bueler et al. 1993). *PRNP*-knockout is also neuroprotective when conducted after disease onset. Knocking out $PrP^{C}$ in mice 8 weeks post-infection protected against neuronal loss, reversed spongiosis, and prolonged survival fourfold compared to control mice (Mallucci et al. 2003). *PRNP*-knockout during this timeframe also reversed deficits in object recognition memory and burrowing behavior, the two most common early cognitive symptoms exhibited by scrapie-infected mice (Mallucci et al. 2007). These encouraging results

clearly indicate that reducing $PrP^C$ expression via *PRNP*-knockout confers significant resistance to prion diseases and reverses their neurotoxic effects.

Interestingly, although heterozygous *PRNP*-knockout mice ($PRNP^{0/+}$) developed scrapie symptoms, their incubation time was longer than that of $PRNP^{+/+}$ mice, which correlates with findings that $PrP^{Sc}$ incubation periods are inversely related to $PrP^C$ concentration (Bueler et al. 1993). This suggests that a treatment that reduces $PrP^C$ levels by at least 50% could still have a beneficial effect on disease course.

One cause for concern is that $PrP^C$ knockout could lead to off-target effects related to a loss of $PrP^C$ function. However, experimental evidence suggests that reducing $PrP^C$ expression does not pose a significant health risk. The brains of scrapie-infected adult-onset *PRNP*-knockout mice did not show evidence of neurodegeneration (Mallucci et al. 2002), which indicates that loss of $PrP^C$ function does not initiate the neurotoxic effects observed in prion diseases. Thus, a treatment that reduces $PrP^C$ expression will not exacerbate prion disease symptoms. In addition, $PRNP^{0/0}$ mice do not display any significant physiological abnormalities, and they are almost identical to $PRNP^{+/+}$ mice in terms of cognition and behavior (Bueler et al. 1992). Although animal studies cannot reveal all possible side effects in humans, the normal development of $PRNP^{0/0}$ mice for at least 7 months (Bueler et al.

1992) suggests that therapeutic knockout of $PrP^C$ would do minimal harm to the patient.

It is true that $PrP^C$ knockout results in disruptions to circadian rhythm, olfaction, and peripheral myelination (Legname 2017) and reduces the excitability of hippocampal CA1 neurons in mice (Mallucci et al. 2002). However, since *PRNP*$^{0/0}$ mice otherwise develop normally, these off-target effects could be insignificant to overall patient health. Other proteins may compensate for $PrP^C$'s multitudinous functions, which could explain why a loss of $PrP^C$ function is not catastrophic. Regardless, the off-target effects of $PrP^C$ knockout are arguably preferable to dying of a prion disease.

In sum, studies of *PRNP*-knockout mice reveal that reducing $PrP^C$ expression is an effective treatment for prion diseases. By removing the source of $PrP^{Sc}$ replication, $PrP^C$ knockout prevents the onset of prion diseases and reverses clinical symptoms with minimal off-target effects.

The advent of the gene-editing tool CRISPR means that direct *PRNP*-knockout could one day be feasible in humans. Ideal candidates for clinical trials would be individuals who possess *PRNP* mutations associated with a genetic prion disease or individuals at risk of developing an acquired prion disease. Somatic deletion of *PRNP*, which would be performed on an existing person's cells, would be most beneficial if conducted before prion disease onset. CRISPR could

also be used to correct *PRNP* mutations associated with genetic prion diseases rather than knocking out the entire gene. Deletion of *PRNP* in human embryos—a heritable change to the genome known as germline editing—would likely confer resistance to prion diseases from birth. However, such a drastic approach would require more extensive studies of $PRNP^{0/0}$ mice to confirm that *PRNP*-knockout would not be harmful to humans. Due to the novelty of CRISPR and the controversy associated with germline edits, indirect approaches to reducing $PrP^{C}$ expression are currently the preferred approach for treatment of prion diseases in humans.

**RNAi**

An alternative method to decrease $PrP^{C}$ levels would be to use RNAi, which is a biological mechanism that silences genes by degrading mRNA transcripts and thus preventing their translation into proteins. Because RNAi reduces $PrP^{C}$ expression, it is similar to the *PRNP* knockout methods described above. RNAi has been adapted for therapeutic purposes, and it can be delivered to cells using lentiviruses containing short hairpin RNAs (shRNAs; Pfeifer et al. 2006). In the context of prion diseases, RNAi reduces the levels of $PrP^{C}$ available for conversion to $PrP^{Sc}$. To illustrate this, the infection of a cell culture with *PRNP*-specific lentiviral shRNA vectors led to reduction of $PrP^{C}$ levels by 97% and a

corresponding decrease in $PrP^{Sc}$ levels compared to uninfected cells (Pfeifer et al. 2006).

Experimental data from the therapeutic use of the *PRNP*-specific lentiviral shRNA vector LV-MW1 in prion-infected mice reveals that RNAi is an effective treatment against prion diseases. Eight weeks after prion infection, mice received either LV-MW1, the control virus LV-Empty, or no treatment (White et al. 2008). The LV-MW1 treatment, which was injected into the hippocampus, resulted in an 80% reduction in $PrP^{C}$ mRNA (White et al. 2008). Compared to the LV-Empty and untreated groups, which began to show cognitive decline 8-9 weeks post-infection, the LV-MW1 mice retained sustained levels of burrowing and object recognition memory for 8-11 weeks post-infection (White et al. 2008). The LV-MW1 mice also survived longer than the other two groups, with mean incubation times 23.5% longer than the untreated mice and 19.3% longer than the LV-Empty mice (White et al. 2008). Neuropathologically, the LV-MW1 mice had more CA1 pyramidal neurons, less extensive spongiosis, and lower hippocampal $PrP^{Sc}$ levels than the LV-Empty and untreated mice (White et al. 2008).

Although the LV-MW1 mice eventually succumbed to prion disease, the results of this study indicate that RNAi does provide a therapeutic benefit by protecting against cognitive decline, extending survival, and reducing neurodegeneration. By decreasing $PrP^{C}$

expression, RNAi prolongs the $PrP^{Sc}$ incubation period, which translates to improved disease course. Thus, the effectiveness of RNAi against prion diseases in mice demonstrates that reducing $PrP^{C}$ expression is a promising approach to treating prion diseases.

**Monoclonal Antibodies**

Like *PRNP* knockout and RNAi, monoclonal antibodies can reduce the amount of $PrP^{C}$ available for conversion to $PrP^{Sc}$, but they do so through a different mechanism. mAbs are synthetic versions of antibodies, which are molecules that bind to foreign particles called antigens, marking them for destruction by the immune system. mAbs that are designed to bind to $PrP^{C}$ can prevent binding by $PrP^{Sc}$ or cofactors, thereby blocking the conversion of $PrP^{C}$ to $PrP^{Sc}$ (Peretz et al. 2001). Thus, mAbs can be used to treat prion diseases. To demonstrate, the use of antibodies in prion-infected mouse neuroblastoma cells resulted in a significant reduction in $PrP^{Sc}$ levels compared to untreated controls and, in some cases, sustained repression of $PrP^{Sc}$ levels below detection (Peretz et al. 2001).

Several experiments have tested $PrP^{C}$-specifc mAbs against prion diseases in mice. In one experiment, treatment with mAbs 7 days post-infection resulted in a 99% reduction in $PrP^{Sc}$ levels, and treatment 30 days post-infection resulted in a 96% reduction in $PrP^{Sc}$ levels (White et al. 2003). Treatment with mAbs also extended

survival by more than 303 days compared to untreated mice (White et al. 2003). Mice that received mAbs did not exhibit clinical symptoms at any point during this study (White et al. 2003). Additionally, inoculation of mice with mAbs at the onset of clinical symptoms (120 days post-infection) reduced $PrP^{Sc}$ levels by up to 78%, extended survival time by 12 days, and decreased spongiosis and neuroinflammation (Song et al. 2008). Although this therapeutic benefit is modest, it reveals that mAbs can improve disease course even after neurodegeneration has been firmly established.

The mAb PRN100, which is orally available and can cross the blood-brain barrier, was recently tested against CJD in humans in a Phase 1 clinical trial (Mead et al. 2022). Because only six people were enrolled in this clinical trial (Mead et al. 2022), it is impossible to generalize the results to all CJD patients. However, the study still provides clues as to possible therapeutic benefits of PRN100. For example, scores on the MRC Prion Disease Rating Scale stabilized for three participants, which suggests that PRN100 may have a cognitive benefit (Mead et al. 2022). In addition, a decrease in $PrP^{Sc}$ levels compared to control patients was observed in the brains of the two participants who consented to an autopsy (Mead et al. 2022). Although the sample size of this clinical trial is too small to determine whether PRN100 alters the course of CJD, the

experimental data reinforces the effectiveness of mAbs against prion disease.

By binding to $PrP^{C}$ and blocking its conversion to $PrP^{Sc}$, mAbs reduce $PrP^{Sc}$ levels, abrogate $PrP^{Sc}$-induced neurotoxicity, and prolong survival in prion-infected mice. Preliminary clinical data also indicate that mAbs such as PRN100 may be effective against prion diseases in humans. Taken together, studies of *PRNP*-knockout mice, RNAi, and mAbs demonstrate that approaches that target $PrP^{C}$ by reducing its expression or blocking the binding of $PrP^{Sc}$ are encouraging treatments for prion diseases.

**Future Directions**

Although the approaches described above represent major steps forward in prion research, there are still several challenges associated with developing treatments for prion diseases. These challenges include ensuring that treatments can cross the blood-brain barrier, minimizing adverse effects, and avoiding strain selection, or the proliferation of drug-resistant conformations of $PrP^{Sc}$ (Bian et al. 2014). Moreover, prion disease patients often do not receive a diagnosis until after the appearance of clinical symptoms and extensive neurodegeneration, at which point treatments are less effective. This is especially true for sCJD because it arises spontaneously. The development of more sophisticated and rapid diagnostic tools, such as

RTQuIC, will help streamline the diagnostic process, allowing patients to begin receiving treatments sooner. In the meantime, increased awareness of prion diseases and diagnostic tests among primary care physicians is the best method to help secure earlier diagnoses and maximize treatment effectiveness (BW Caughey, interview, March 25, 2023).

Since an understanding of the mechanisms of prion diseases is necessary to develop new treatments, future prion research should seek to further elucidate the conversion of $PrP^{C}$ to $PrP^{Sc}$, which is still poorly understood. Specifically, researchers should determine what triggers the initial misfolding of $PrP^{C}$ into $PrP^{Sc}$ as well as the cofactors vital to the conversion process. Researchers should also continue to perform *PRNP*-knockout studies to clarify the functions of $PrP^{C}$ and the possible side effects of therapeutic $PrP^{C}$ knockout.

One important new frontier of prion research involves prion-like diseases, which include other neurodegenerative diseases such as Alzheimer's disease and Parkinson's disease that involve aggregates of misfolded proteins. In Alzheimer's disease, misfolded amyloid-β and tau form aggregates known as plaques and tangles, respectively (Das and Zou 2016). In Parkinson's disease, α-synuclein, which typically has a high α-helical content, misfolds into a β-sheet conformation that forms fibrils and recruits additional

normal α-synuclein (Das and Zou 2016). This process has substantial similarities to the mechanism of $PrP^{Sc}$ replication observed in sCJD.

A large body of evidence indicates that prion-like diseases will eventually be classified under an expanded definition of prion diseases. To illustrate, prion research is already being used to develop new diagnostic tests and treatments for Alzheimer's and Parkinson's disease. For example, the SYNTap test for Parkinson's disease functions similarly to RT-QuIC, detecting misfolded α-synuclein in a patient sample based on whether the sample converts recombinant α-synuclein to the misfolded conformation (Siderowf et al. 2023). An RT-QuIC assay that detects tau aggregates is currently being refined as a diagnostic tool for Alzheimer's disease (BW Caughey, interview, March 25, 2023). This tau RT-QuIC assay was recently used to establish that the mAb PNT001 reduces the concentration of tau aggregates in mice (Foster et al. 2023), demonstrating that approaches that are effective in treating prion diseases can also be applied to prion-like diseases.

**Conclusion**

Reducing levels of $PrP^{C}$ and thereby eliminating $PrP^{Sc}$'s means of replication is a revolutionary approach to treating prion diseases. Studies of *PRNP*-knockout mice demonstrate that silencing *PRNP* confers resistance to scrapie without significant adverse effects. By degrading $PrP^{C}$ mRNA and preventing the binding of

$PrP^{Sc}$ to $PrP^{C}$, respectively, RNAi and mAbs reduce neurodegeneration, provide cognitive benefits, and extend survival, all without notable neurotoxic effects. Significantly, the mAb PRN100 performed successfully in a Phase 1 clinical trial, crossing the blood-brain barrier without adverse effects and showing preliminary evidence of effectiveness. This promising study suggests that humans could one day receive access to these types of treatments and highlights the need for continuing research in this area.

In the last 40 years, the field of prion research has evolved from regarding scrapie as a viral disease to embracing prions as a unique type of infectious agent. Broad acceptance of the protein-only hypothesis has enabled researchers to clarify the nature of prion diseases, particularly the formation and neurotoxic effects of $PrP^{Sc}$. Recent advances in the field, including the development of new diagnostic tests and clinical trials, have all been carried out with one primary goal: to aid prion disease patients who will eventually succumb to an agonizing death. By improving their understanding of prions, researchers aim to increase patients' survival time, enhance patients' quality of life, and explore whether these diseases can be cured. Overall, treatments that reduce $PrP^{C}$ expression or block the binding of $PrP^{Sc}$ to $PrP^{C}$ offer hope that the suffering caused by these fascinating yet terrifying diseases could one day be alleviated.

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# Orthographic Representation of Clicks and the Influence of European Missionaries on Southern African Orthographies

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## Abstract

This paper outlines the role of European missionaries on southern African orthographies during the colonization of the African continent. Southern African languages in particular have high rates of click usage, which presented an issue for amateur colonial orthographers. Click mechanics and various ways of presenting these sounds visually are presented. Xhosa and Zulu are part of the Bantu language family and are two of the most well documented and transcribed click languages in southern Africa, while Khoesan is part of the San dialects and has been especially difficult for orthographers to pin down. The work of mother-tongue speakers of these languages are compared to the writings of colonial orthographers. In addition, the reductive nature of transcribing an oral language, as well as the ideological background of the Protestant colonial orthographic process, is discussed. The English language biases of early orthographers meant that many

transcribed African languages were Romanized; that is, written using Latin script and symbolism. It is important to note that while languages with clicks that come from Africa are often seen as crude or underdeveloped by the West, onomatopoeic click usage is very common throughout the world to demonstrate a variety of emotions. This paper argues that in order to acknowledge the colonial origins of anthropological practices, and to adjust practices accordingly, it is necessary to engage in orthographic conversation with mother-tongue speakers.

In 1853, missionary Lewis Grout stated, in regard to the creation of a Zulu orthography,[1] that "any system of notation which is simple, sufficient, and in good taste, and on which all men are agreed, will satisfy us" (Grout, 439, 1853). Over the course of his time in Southern Africa, Grout collected significant information about the Zulu speaking peoples and laid the groundwork for early documentation of the Zulu language. Creating workable orthographies is not an easy task, and modern orthographers and linguists note many issues with the scripts of many African languages. This is due, in part, to the presence of Christian missionaries and the colonization of Africa by European powers in the nineteenth century. The role of these missionaries is notable in the creation of scripts for Southern African click languages, as the use of phonetic clicks clearly diverged from European conventions of language. The people endeavoring to commit these languages to paper were amateur linguists at best and not always equipped to properly represent the complexities of human speech. Two of the most well-documented click languages of Southern Africa include Xhosa and Zulu, and although the writing systems created during colonialism work, they also have their flaws. In contemporary anthropology, anthropologists include the reflective and reflexive turn of the postmodern movement in their

[1] Defined as "the conventional spelling system of a language" (Oxford Languages).

analyses. This shift lends itself to wider conversations concerning the decolonization of academia and language, which are addressed in this paper. Through this perspective, a sense of agency may be returned to the formerly oppressed. It is argued that attempts made by European Christian missionaries to create scripts representative of Southern African click languages are insufficient and symbolic of European colonialism.

Orthographies are powerful within the societies that utilize them, but they are not a necessary part of civilization (de Voogt, 2021). The colonists who arrived in Southern Africa did not hold this same belief, and instead began to create writing systems for languages of which they had no prior knowledge, with various dialects that had survived orally for centuries. Despite this fraught background, the orthographies and grammars developed for Xhosa and Zulu continue to be used today. Zulu and Xhosa are both defined as part of the Bantu language family, with linguistic origins and similarities to Khoesan languages. Khoesan languages are considered the origin of clicks in Nguni languages, such as Xhosa and Zulu. The number of Xhosa and Zulu speakers is much smaller than those who speak Khoesan, but Khoesan vernacular also has almost four times as many clicks in their phonemic inventories as their Bantu counterparts (Miller, 2016). Early studies of Khoesan have often referred to clicks as remnants of the past, a discussion that will be mentioned further on in this

paper.

## Significant Terms

Orthographers, linguists, and translators all work on different aspects of written language. In order to understand the relevance of colonization's impact on Southern African orthographies, one must recognize the distinctions between each discipline. Orthography is the study of "system[s] of spelling or notation" (Oxford English Dictionary, 2023), while linguistics is the "study of language and its structure" (Oxford English Dictionary, 2023). These two fields are very closely related, and therefore, there is quite a bit of overlap between the two, with orthography often seen as socio-linguistics. Translations become more complicated when the additional concepts of transcription and transliteration are introduced. In terms of an individual word, translation is its equivalent in another language, while a transcription is how the word is written, and transliteration is the new spelling of the word in the script into which the word is being translated (Oxford English Dictionary, 2023).

Before discussing the details of orthography further, it is necessary to establish an understanding of the concept of literacy. Colonial powers used literacy as a form of social and political capital over oppressed groups, but narrow colonial definitions do not

encompass the broad nature of the concept. Literacy's cognitive and societal importance depend on the society's needs. In Western culture, it is often thought to be indispensable for a society, but many communities in Africa have survived and thrived for centuries without it. Scribner and Cole explain that "literacy may influence how a society does its work, but not the structures of mental operations" (Scribner & Cole, 235, 1981). As opposed to the ideas of the colonists, there has been no evidence found that literacy significantly impacts one's cognitive functions outside of a solution-based educational environment (Scribner & Cole, 1981). Therefore, when literates are discussed in this paper, the term is referring to those who are able to read and write a specific script, and is not in any way equated to cognitive function or role in society.

**Xhosa Orthography: The First Attempts**

Orthographic development of Xhosa began in 1823 with missionary John Bennie (Maseko, 2017). He created a writing system that fit his understanding of the phonology of the language. As mentioned previously, the issue with writing down any language is that language does not conform to "fixed rules" (Maseko, 82, 2017). By confining the language to a set list of rules, not only are regional dialects excluded, but continuous change of the language is also unrecorded. Bennie's efforts have

been helpful over the years in understanding Xhosa, and in conjunction with fellow missionary William Boyce, the Old Orthography was created in 1834. This script did not account for the full range of dialects possible in Xhosa, and was based on the amaXhosa group, which spoke a dialect of the language named isiXhosa (Oosthuysen, 2016). Within this orthography are a few conventions which remain in the modern Xhosa writing system. Specifically, the letters c, q, and x continue to be used to represent the different types of clicks in many click languages. Miller defines Xhosa as a three-click inventory language, meaning it contains dental, lateral alveolar, and central alveolar clicks (Miller, 3, 2016). A century later in the 1930s, the New Orthography was introduced. This version attempted to include more specific and unique phonetic symbols as well as address tonal differences. While admirable, this version of the Xhosa writing system did not catch on. One reason for this was the increased importance of the printing press when it came to keeping written records. Most printing presses used in Southern Africa in the twentieth century were shipped from Europe or manufactured using Latin[2] lettering. Since the missionaries creating the orthographies often used Latin symbols to represent the indigenous African languages they were encountering, using European printing presses was normally not an issue. The New Orthography's introduction of different

[2] Also referred to as Roman.

symbols clashed with the printing presses of the time, causing the rendition to lose favor with local speakers and European colonists alike.

Four decades later in 1972, the Revised Standard Orthography was introduced in South Africa by the Department of Bantu Education of the Republic of South Africa. This system was a version of the Old Orthography that was revised by first language speakers of isiXhosa and constricts the script to Latin lettering for practicality. This is the standard script that is taught in schools today (Oosthuysen, 2016). It is interesting to recognize the trials and errors faced by orthographers of Xhosa, as it is clear that this was not an easy process. Additionally, while much of the work completed by missionaries was ultimately used in the modern script, indigenous speakers were at the forefront of the issue and pushed for a resolution. The decision by the government of the Republic of South Africa to not only revise the orthography, but also emphasize the inclusion of speakers whose mother tongue was the language at hand, contributed greatly to this initial attempt to conclude the Xhosa orthography debate. Oosthuysen also mentions that the orthography was updated once again in 2005 to ensure relevance (Oosthuysen, 3, 2016). Although it is unfortunate that remnants of colonial power continue to influence indigenous African writing through the weight of the Latin printing press, advancements have been made in acknowledging

African ownership of their languages and writings.

The 1873 newspaper, Isigidimi SamaXosa[3], is one of the few examples of a Xhosa script written and edited by primary Xhosa speakers. Gqoba, the editor of Isigidimi SamaXosa from 1873 to 1888, contributed significantly to the role of mother-tongue speakers in early Xhosa writing. This specific time period lacked significant colonial oversight on indigenous writings and literacy, which is important to note when comparing mother-tongue writing against colonial impacts. Maseko states that there were early Xhosa scripts developed and used by local isiXhosa speakers in Latin lettering, but they did not align with the European grammaries[4] prescribed by missionaries and government officials. One of the issues faced by missionaries and first language speakers alike was the variation within the Xhosa language and its dialects when it came to creating an expansive orthography. In contrast to languages such as English, which had been committed to paper centuries before, and had, therefore, clearly prescribed rules of writing and punctuation, Xhosa was much more fluid in its approach to writing. There were understandable difficulties for Xhosa literates and European missionaries when attempting to commit Xhosa to

[3] Available for viewing at the National Library of South Africa website.

[4] A book on the grammar of a script and/or language (Oxford Languages).

writing (Maseko, 2017). The commitment of a language to an orthography, however, is at its core a limiting action. Mtuze states it best, positioning orthography creation as "the reduction of Xhosa to writing" (Mtuze, 165, 1989). The written word will never fully convey the complexities of spoken language. Orthographic development requires the active involvement and inclusion of first language speakers, as they are the only ones who can fully articulate the nuances of the language. In terms of transliteration, there should be parties present which are both familiar with the language being translated and the language it is being translated into. Through this, a more accurate and full translation can be achieved.

**Zulu Orthography: Phonological Complexity**

Rycroft acknowledges that despite the issues in both the 1985 English-Xhosa Dictionary and the 1969 Scholar's Zulu Dictionary, they are significant contributions to the field of orthography and, more specifically, intercultural communication (Rycroft, 2009). The development of Zulu orthography, also referred to as isiZulu, is similar to Xhosa in many ways. Grout writes extensively on the mechanics of the Zulu language and the difficulties in creating an accurate orthography. Like with Xhosa, the European missionaries who led the process based their work on the Latin alphabet. Oftentimes, Latin letters are given

different sound values and have different names in Zulu orthography, or new symbols inspired by Latin lettering are invented. While this phenomenon is common, Grout is one of the missionaries who had trouble accepting the phonological complexity of many African languages. He states that many consonants blend together, which is, according to him, "[an] evil [that] must and will be corrected, as knowledge is extended among the people" (Grout, 443, 1853). By positioning the traditional Zulu forms of speech as an "evil" (Grout, 443, 1853), Grout clearly shows the attitude of missionaries and colonists toward indigenous languages. Instead of approaching the act of orthography creation with the goal of producing the most accurate and functional system possible for the Zulu people, early colonial orthographers focused on quick solutions that would aid their own objectives. Grout, like many, thought of the indigenous population of Africa as physically and intellectually less than Europeans, and thus believed that for the Zulu people to understand writing, the symbols needed to be as simple as possible (Grout, 435, 1853). Additionally, Grout claims his desire to represent Zulu orthographically as close to spoken tongue as possible, but also states that representing "obscure" (Grout, 441, 1853) vowel sounds and dialectic differences is not a priority. While Grout's work has been a basis for much Zulu orthographic scholarship, it is important to recognize his biases and revisit his studies through a modern lens. When applying

a postmodern approach to his work, it becomes clear that instead of being a conduit for the indigenous people to speak through, Grout, and many academics of the time, created their own narratives of the lives of the colonized. Unfortunately, until postcolonial theory began to gain traction in contemporary academic circles, these accounts constituted the main and most detailed resource about many indigenous communities.

In 1959, the Standard Zulu Orthography was introduced by the Department of Bantu Education of the Republic of South Africa. In this orthography, various changes were made to the system created in the nineteenth century such as a discussion of the writing of sounds such as ejectives and implosives. These terms refer to consonants that use an additional glottalic airstream. Variations of Latin letters are introduced to indicate additional phonetic differences. For example, [ɓ] is the phonetic symbol for the *hh* sound, which will now be represented only by *h* during spelling with the [ɓ] following the word in dictionaries. This symbol is an altered version of the *h,* which is common in orthography creation, as previously mentioned. The role of tones is also addressed, as it was previously thought that there were nine tones in Zulu, but that has since been refined to two: high and low. In a similar way that < c >, < q >, and < x > spell different types of clicks in Xhosa and Zulu, < ’ >, < ‘ >, and < ^ > are used “to indicate the high tone, the low tone, and the high-low

tone cluster respectively" (Doke, viii, 2014). This system continues to be utilized in schools. Allowing variation in the language to be represented, the system can be described as more accurate (Doke, 2014) or versatile. Grout mentioned specifically in his work the dialectal fluctuations amongst onomatopoeic[5] click usage, but this specific issue does not require more attention than other dialectal differences in the Zulu orthography (Grout, 454, 1853). The edition of the English-isiZulu / IsiZulu-English Dictionary adapted a modern orthography and was published in 2014; it is fairly up-to-date and is a reliable source for this discussion.

There is also the matter of writing nasals in click languages. Nasal clicks and nasality are important parts of click languages that have presented a certain challenge to orthographers, especially when paired with the European desire to stay away from introducing new non-Latin symbols. Doke describes the ways in which nasality is represented in his dictionary, which includes *nc, nq,* and *nx* for Zulu nasal clicks, compared to the occurrence of "a nasal consonant occurring before a radical click" (Doke, xx, 2014) in Xhosa, which is represented by *nkc, nkq,* and *nkx* (Doke 2014). There are many intricacies involved in representing a sound which, when first committed to paper, was foreign to the

[5] Onomatopoeic clicks are common in various languages and are not always assigned a phonetic representation. These clicks are often used as a way to fill space or express an emotion quickly.

orthographers within a phonemic context. Explaining the definitions of each sound and how it is seen in a dictionary is important for overall understanding of a language and script. As mentioned by Doke, nasal clicks and nasals followed by a click are also common in Xhosa, albeit in a different way. Oosthuysen also makes a point of discussing this part of speech in his 2016 *Grammar of isiXhosa.* Here, he explains the morphological structures within which nasals and clicks are written. This is different from how a word is spelled using the correct script, instead referring to the ways in which orthographers indicate these linguistic intricacies. The role of noun classes contributes to the formation of these words, as both *n* and *m* are employed to indicate a nasal depending on the noun class in use (Oosthuysen, 25, 2016). This aspect of writing clicks concerns linguistics more than the creation of orthographies, and while orthographers have found solutions to writing nasals, the work continues.

**Khoesan Orthography: The Wider Problem**

Khoesan is a group of click languages in Southern Africa, and the origin of clicks in Xhosa and Zulu. The coherence of this language group, however, is currently up for debate. Multiple languages organized under the linguistic umbrella of Khoesan are more likely to be different language groups themselves. Sands states

that the Macro-Khoesan Family's three main branches of Southern African Khoesan, Hadza, and Sandawe might not be fully representative of linguistic reality. Instead, it is possible that Hadza is unrelated enough from Sandawe and Southern African Khoesan to be defined as part of a different language family altogether (Traill and Vossen qtd Sands, 1996). In Sands' other work with Gunnink, she states that she uses the term Khoesan "as shorthand for three language families, Kx'a…, Khoe Kwadi…, and Tuu" (Gunnink and Sands, 194, 2015). It is clear that within the twenty years following her correspondence with Traill and Vossen, Sands' doubt concerning the legitimacy of Khoesan as a language family has only grown and some consensus has been reached that Khoesan consists of three different language groups/families with Sandawe and Hadza as outliers. Sands' definition of Kohesan is used.

It is important to discover the intricacies of various dialects and languages to give a voice to their speakers. Due to globalization, minority language speakers all over the world adapt to the language of the majority group, which oftentimes has gained that status as the majority through colonialism and capitalism. Chebanne states, "Because of colonial boundaries and missionaries' divergent interests, these languages have been rendered insecure [by] dialectal minorities and their role reduced to personal and family use" (Chebanne, 284, 2015). Therefore, in countries such as South Africa

where English and Afrikaans take cultural precedence, marginalized groups find themselves disconnected from the political, social, and educational landscape. The formation of schools for minority language speakers, as seen in the creation of Xhosa and Zulu orthographies for educational purposes, can be very helpful, but a danger comes in continuing to isolate already politically and socially marginalized peoples through educational divides under the guise of ethnic preservation. Khoesan people need to be able to write effectively in their mother-tongue in order to "demand education in their languages" (Chebanne, 294, 2015), but most have not been taught the Khoesan script, or learned very little in elementary school, which means that they require more robust education in Khoesan to properly learn. Otherwise, a vicious cycle continues. Chebanne argues for more policies regarding minority language education, specifically those that encourage educational institutions, entertainment programs, and community organizations to regularly utilize local dialects. In this way, the otherization of minority language speakers and writers will be combatted (Chebanne, 2015).

Much of the early information about Khoesan languages was recorded by Dorothea Bleek and her father. These works were particularly influential in Khoesan orthography studies, even though many of the languages on which they were based went extinct later (Chebanne, 2015). Bleek focused on the San language

groups, and she hoped to help in the preservation of minority languages during European imperialism of Africa in the early twentieth century. Her style of anthropological fieldwork, however, had fallen from popularity by the 1930s, when she did a majority of her data collection, as she focused heavily on collection as opposed to interpretation. By compiling her own work with the notebooks and information recorded by her father decades previously in the 1870s, Bleek put together a dictionary of San dialects. While this work is no longer a part of the general literature, Devenish argues that her understanding of the cultures she was studying added immensely to her orthographic efforts. She also acknowledges the ways in which Bleek's gender may have impacted her success and acceptance in the field of anthropology. Either way, Bleek's dictionary was particularly formative when it comes to click language orthography (Devenish, 2018).

In the same way that European missionaries struggled to conceptualize language variation in their orthographic attempts, many words in Southern African languages can be spelled in a variety of ways, and judging the correctness of one against another comes down to knowledge of the subject and personal academic preference. Chebanne, Güldemann, and Gunnink use the most common spelling <*Khoisan*> with an *i* and one *a*, while Mtuze omits the *h*. Alternatively, Smith prefers the spelling <*Khoesaan*>, drawing from the term of

*Khoekhoen* for Nama people (found in Namibia) and *Sa-n,* also meaning people (Smith, 37, 1998). I personally chose to use the spelling <*Khoesan*> in my writing because I feel it bridges the gap between the various spellings. The argument of many linguists and orthographers is that there is no correct or incorrect way to spell a word as long as people understand what one means. Context is, then, a powerful tool.

European colonists arriving in Africa in the nineteenth century did not know what to make of the click languages of indigenous South Africans. By using their racist ideologies, many scholars, politicians, and missionaries of the time came to the conclusion that clicks were a historic remnant—that they were evidence of African barbarism and a connection to prehistoric humans (Sands and Güldemann, 2009). This idea that clicks were merely a glimpse into the past can be disputed quickly based on the fact that click languages were and continue to be used in the present. Sands and Güldemann also argue that clicks are not more likely than any other phoneme to be a remnant of the past (Sands and Güldemann, 2009). Additionally, the suggestion that clicks are "exotic" (de Voogt, 1, 2019) is reductive to the communities which use this form of communication. The missionaries used words such as exotic, rare, and even non-human to describe the click languages of Southern Africa, but this is only because they had most likely never before encountered clicks

used phonemically. In reality, clicks are very common in languages around the world, especially in Mediterranean countries as non-phonemic indicators of approval or agreement. By labeling the use of clicks as exotic, speakers are otherized and kept separate from larger conversations about orthographies and linguistics. Additionally, the idea that clicks, as remnants of the past, would have never changed or fluctuated in use is illogical. As English consonants and language evolve over decades and centuries, so does every language and phoneme (de Voogt, 2019). The standardization of many European languages through the creation of orthographies may have slowed this phenomenon, but change still occurs. If anything, the recording of a language restricts the creativity and variation of human speech and interaction.

**Colonialism, Missionaries, and Orthography**

Missionary work and colonialism went hand in hand in Africa. The reason that missionaries were often at the forefront of orthographic construction is straightforward—the Bible. In order to convert the indigenous peoples to Christianity, missionaries had to communicate with the groups with whom they were interacting. A language barrier is difficult to overcome, but a literacy barrier is far more difficult. Not only did the groups subject to conversion not have a writing

system for their language, but they could not speak, read, or write the European languages in which the Bible was published. Therefore, learning the indigenous languages and translating the Bible were the main purposes of script development by European missionaries. This was a task, however, that most of the missionaries had never encountered before, and in which they had little to no training. Creating a script is a huge operation, especially when one is unfamiliar with the language at hand, not to mention a language with phonemic sounds one may have trouble processing as phonemes. The emphasis in the design of orthographies for Xhosa, Zulu, Khoesan, and many other languages in Southern Africa was on missionary ease of learning over accuracy and helpfulness to indigenous speakers. Maseko explains that in the case of committing isiXhosa to writing, "the writing of words was an interpretation" (Maseko, 86, 2017) rooted in the missionaries' mother tongue and script. The focus was on what was heard by the missionaries and not what was said by the speakers. The missionaries also wanted to learn the languages and create a workable script as quickly as possible. Proper linguistic training was not a priority and most likely not available. Orthographies for many languages were created quickly, most of them practical but not without their issues. The lack of linguistic training can be seen when studying these systems, and many needed improvement in the decades following. In addition, there

were sometimes multiple scripts created by separate missionaries for the same language or for different dialects, with some systems being discarded and others combined to create modern standard orthographies (Maseko, 2017). Bolton states clearly the connection between missionaries, orthographies, and colonialism, saying "the orthographic project itself, [was] a product of ideology and convenience as missionaries and colonial officials sought to pursue their various agendas in the region while 'civilizing' the population along European standards" (Bolton, 75, 2016). This, along with the previously mentioned power of the European printing press (and typewriter), restricted the possibilities when it came to the creation of writing systems for oral communities.

Under colonial rule, the agency of the oppressed is often taken away. Mtuze highlights some of the ways in which colonized groups fought back against the Westernization of their languages. Specifically, he discusses how missionaries and priests would create new words in the languages they were attempting to learn and write in order to explain Christian ideas. Many of these words are now "shunned" (Mtuze, 173, 1989), while words which the colonists rejected are being revived. By altering languages and formatting scripts in ways that made sense to the colonists, "Africa may have become more legible to Europeans alongside orthographic Romanization, but in the process it became more

illegible to Africans themselves" (Bolton, 75, 2016). It is unfortunate that Southern African languages were not able to evolve on their own without an oppressive colonial power. For instance, many East and North African communities, through interaction with Arab and Muslim populations, created their own scripts using Arabic. Many of these systems thrived, most notably the Kiswahili Arabic script in Zanzibar, a region of modern Tanzania. The arrival of European colonizers in these areas resulted in the Romanization of these historically oral or Arabic-based languages and scripts. To reiterate Bolton's point, this change gave legibility to Europeans, while being detrimental to the literacy journey of the indigenous people[6] (Bolton, 2016).

In the context of power and the various imbalances in colonized Southern Africa, Mtuze compares the linguistic framing between *the* Bible and *the* dictionary. When it comes to orthographies, dictionaries or grammars, they were often thought of as final, but that is not accurate. For English, the Oxford Dictionary is updated online every three months, with a physical revision every four years (Oxford English Dictionary, 2023). Dictionaries go out of date and orthographies ideally need constant changing and updating, in stark contrast with the Bible. While there

[6] One could argue that Arabic script adaptation was a similar religious and colonial endeavor, particularly in parts of East Africa that experienced Omani war and occupation.

are many versions of the Bible, it is not the same standardization practice as with large-scale dictionaries. Mtuze explains, "The dictionary comes to be looked on as a legislative organ, to which one turns for a standard of 'good' as opposed to 'bad' usage" (Mtuze, 167, 1989). In reality, the dictionary should be a resource to understand modern linguistic and orthographic conventions, not state with certainty one way or another how words will forever be interpreted. The early orthographies of Southern African click languages should not be the same today as they were in the nineteenth century. They should also not be used in the same way. Since missionary learning and Bible translation were the main goals of colonial orthographers, original orthographies and dictionaries were mainly used for language standardization and translation, but that should not be the purpose of these collections. Orthographies and dictionaries should work hand in hand to clearly represent contemporary linguistic and grammatical understandings, and secondary uses, while important, should remain secondary.

The orthographic process is not an easy undertaking. It requires complex knowledge of linguistics and grammar of the language being spoken. Christian missionaries arriving from the European continent had the singular purpose of conversion, but to achieve that, they had to immerse themselves in the cultures of Southern Africa in ways not previously

attempted. The anthropological work done by these missionaries and colonists form the basis of modern orthographic writings in this region. The Romanization of Southern African click language orthographies by European missionaries during colonialism altered how mother-tongue speakers of these languages interact with their script. Xhosa, Zulu, and Khoesan speakers are widespread throughout Southern Africa, despite the effects of European imperialism on these communities. Anthropologists and academics have a responsibility to confront the colonial history of anthropological research and actively engage with the speakers of click languages.

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# Colonial Thought and Environmental Aesthetics

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## Abstract

This paper explores the influence of colonial thought on the canon of environmental aesthetics, and argues that a broader, more intersectional, and indigenously rooted collection of philosophies is necessary for the future of sustainable environmental practices and philosophies. Indigenous theories of land are ontologically grounded and highly localized. They shape a reciprocal and non-authoritative relationship between humans and land that does not privilege one over the other. Some contemporary philosophers, such as Yuriko Saito, have developed philosophies that are similarly focused on the inherent value of nature, and root their philosophies in a multifaceted and intersectional understanding of perception and interaction with the environment. However, many of the philosophers that have formed the canon of environmental aesthetics, including prominent figures Aldo Leopold and Theodore Roosevelt, perpetuate a colonial understanding of nature. Such philosophies are delocalized, and view land as a resource

to be obtained, and either exploited or preserved as a commodity. This is evident in the myth of wilderness, which argues that wilderness exists where people do not live. This idea is inextricably connected to the ethnic cleansing and genocide of indigenious peoples, which shaped the context within which these philosophers were writing. Colonial philosophies intentionally erase the intimate and essential connection between people and the land they occupy. If environmental respect and sustainability is to be built, there must be a divestment from the destructive nature of colonial thought, and re-emphasis on the value of indigenous and localized philosophies.

The study of environmental aesthetics encourages an exploration of self and environment, and pursues the idea of conservation through the lens of aesthetics. In fact, through encouraging an aesthetic experience, which includes feelings of sublimation, wonder, and awe, many prominent philosophers in the field have done tangible work in conservation. For instance, Aldo Leopold and Theordore Roosevelt both wrote on philosophies of nature, and were instrumental in the establishment and protection of The Grand Canyon. However, underpinning these early conservation efforts was colonial efforts to occupy land, and the resulting forced removal of indigenous tribes in order to preserve a colonizer's imagined ideal of wilderness. The influence of colonial thought, which erases indigenous knowledge by removing indigenous communities from their land, has shaped much of the norms of environmental ethics and aesthetics. It is crucial to explore the impact of colonial and Western thought in the canon of environmental aesthetics in order to avoid rooting contemporary conservation efforts in the same exploitative philosophies that have been used to justify the destruction of land. In order to do so, I explore how indigenous knowledge and the work of contemporary philosopher Yuriko Saito conceptualize nature, emphasizing the importance of relationship and locality. I compare these works to the delocalized and often exploitative philosophies of Theodore Roosevelt,

Robert Marshall, Aldon Leopold, and Stan Godlovitch. I argue that environmental aesthetics is incomplete without indigenous knowledge, and by excluding it from the canon, it reproduces patterns of exploitation and domination that ultimately destroy land.

To explore how colonial thought has permeated the field of aesthetics, it is first important to understand how indigenous knowledge conceptualizes the aesthetics of nature. This is explored in depth in Lauren Eichler and David Baumeister's article "Settler Colonialism and the US Conservation Movement: Contesting Histories, Indigenizing Futures." It is critical to acknowledge that indigenous communities are not a monolith, and that there is no universal understanding of nature that exists across all indigenous communities. For the purpose of this paper, however, I will focus on communities who have a relationship to nature that is ontologically and morally distinct from Western and colonial thought (Eichler and Baumeister, 211). In many indigenous origin stories, emerging from the land is used not metaphorically, but literally. This shapes the ongoing relationship between people and land, where both are seen as full, complete, and worthy of being understood for their own unique characteristics. This view forms a relationship that is rooted in a foundation of respect and curiosity. This view frames a duty to protect and care for the land, not in a utilitarian or anthropocentric conception, but as a means of

maintaining a relationship with another being (Eichler and Baumeister, 213). The philosophy of indigenous communities, therefore, is one of both self and place.

Within an indigenous framework, obtaining a deep knowledge of the land refers to a local, specific, and unique piece of nature, not an amorphous or conceptual one. Anna Cook and Bonnie Sheehey explore how this relationship to place relies on a fundamentally local knowledge of land in their article "Metaphorical and Literal Groundings: Unsettling Groundless Normativity in Environmental Ethics." Cook and Sheehey suggest that this form of hyper local knowledge creates a "grounded normativity" (339). This describes a norm that knowledge of the land is transferred through generations, which provides a framework of ethical engagement both with nature and with humans. The norm that is established is both literally grounded in the sense that it has to do with the earth, and represents a moral connection to the land. For instance, land is a central figure in many indigenous traditions and ceremonies, where it is often considered an active participant (Cook and Sheehey, 338). This leads to an alternative epistemology, where the individual is seen as emergent from the land, and remains in intimate relationship with it. In this sense, knowing the land is "not simply a process of acquiring objective facts, but is a moral activity" (Cook and Sheehey, 338). This framework is practiced within indigenous communities.

For instance, the Nuu-chah nulth-aht on the western coast of Vancouver Island practice sustainable fishing, rooted in the concepts of “hishuk’ish tsawalk (everything is one), uu-a-thluk (taking care of), and iisaak (respect) (Greenwood and Lindsay, 83). These essential practices do not rely on the abuse or overuse of the land in order to sustain the Nuu-chah nulth-aht. Rather, the philosophies and practices of indigenous communities utilize reciprocity, and are non-authoritarian, non-dominating, and non-exploitative.

Other contemporary writings express the same view: that exploiting the land or its inhabitants is a moral failing equal to exploiting people, though they may take a different approach. In her piece “Appreciating Nature On Its Own Terms,” Yuriko Saito explores how to shape environmental aesthetics around a relationship with nature that acknowledges its wholeness independent from humans. The model of understanding nature on its own terms, Saito argues, forms a distinctly moral relationship (152). Entering into a relationship with nature fosters an ability to sympathize with other forms of consciousness, and in doing so, expands the breadth of one's own ethical and moral conceptions. Appreciating nature on its own terms necessitates a willingness to “listen to a story nature tells of itself through all its perceptual features” (Saito, 155). Importantly, this requires not imposing our own context upon nature, as that removes the moral benefit of

extending an ear to stories that are unfamiliar to us.

There is no one way to hear this story, and many established models can be used as a means to better understand the land. For instance, the cognitive model introduced by aesthetic philosopher Allen Carlson can allow us to better understand the story nature is telling through its “sensuous surface” (Saito, 156). The cognitive model suggests that a scientific understanding can provide context to nature, which deepens an aesthetic appreciation of it. Understanding the symbiotic relationship between mycelium networks and trees, for instance, can increase one's appreciation of both. This can contribute to developing a knowledge of nature on its own terms, as the more deeply and varied ways that something is known, the more “true” the aesthetic appreciation becomes (Saito, 157).

Saito also suggests using indigenous knowledge and folklore as a means of appreciating nature. These narratives were often developed to explain or make sense of perceptual features of nature, such as the specific shape of a mountain or how a distinct flower came to exist. Folklore and indigenous tales may employ anthropomorphic devices to explain natural phenomena, but this is typically used to explore the story nature tells in terms people can better grasp. These mythologies utilize and reproduce the unique relationship between person and land that is central to many indigenous philosophies. However, not all mythical tales are

appropriate to utilize in understanding nature. While much of folklore is highly localized—exploring the origins of a specific tree or animal that is indigenous to the land—other origin stories, such a Judeo-Christian genesis, attempt to assimilate the world into a universal and delocalized story of its creation (Saito, 163). This is common in colonial-influenced aesthetic philosophy, as much of Western colonial thought was shaped around Christian mythology. Indigenous knowledge, in contrast, explores the specific ways in which natural objects communicate their stories with us. It is these frameworks, which explore nature as a collection of unique and distinct consciousnesses, that I believe should shape environmental ethics and aesthetics.

Colonialism's relationship to land relies on an erasure and denial of the unique character of nature. In colonial thought, the emphasis on the land is centered around acquisition, domination, and exploitation. Land is seen as something to be gained; it is something upon which resources can be extracted (Eichler and Baumeister, 214). More specifically, in settler colonialism, the land is seen as something to be subdued, divided, and owned. This is especially evident in the commodification and privatization of land; what the land has to offer is transformed into elements from which to extract profit.

The need to privatize land creates an entirely new ethical relationship to it. Humans are

conceptualized as separate from the locality of land. Where there is a will and ability, people are entitled to conquer and exploit because the material offerings of the land outweigh the potential for a deep and lasting relationship (Eichler and Baumeister, 214). Moreover, the philosophy that is derived from colonial thought promotes a delocalized universality, an idea that there is a universal way of aesthetically appreciating nature that can be understood and applied to any piece of land (Cook and Sheehay, 345).

The acquisition, privatization, and commodification of land also requires the erasure of the indigenous people, philosophy, and history of the land. To do so, colonialism can justify itself by claiming the land was unoccupied, and the indigenous people were in need of saving and civilizing (Cook and Sheehey, 343). The act of forcibly removing people from their land is then justified by suggesting the colonizers were saving indigenous people from the savagery of nature.

One of the prominent narratives of colonialism devised to justify forced removal is the myth of wilderness. The myth of wilderness relies on the ontological assumption that true wilderness is devoid of humans, and that conserving wilderness (especially from development and exploitation) requires the removal of humans (Eichler and Baumeister, 215). This is evidenced in the writings of Theodore Roosevelt, who

has been memorialized as a father of conservation. He writes that "at the time when we first became a nation, nine tenths of the territory now included within the limits of the United States was wilderness" (Eichler and Baumeister, 215). The rest of the territory, he claims, was occupied by settlers. Other accounts claim that when Columbus landed in North America, he found an untouched wilderness, which, in line with other philosopher's ideas of wilderness, implies that there were no people living on the land. Yet another thinker, Robert Marshall, who was in part responsible for the creation of *The Wilderness Society* along with Aldo Leopold, defined wilderness as "a region which contains no permanent inhabitants, possesses no possibility of conveyance by any mechanical means and is sufficiently spacious that a person in crossing it must have the experience of sleeping out" (Eichler and Baumeister, 217). This definition more clearly states the pervasive nature of this concept of wilderness. Marshall was writing in the mid-twentieth century, more than fifty years after Roosevelt's musings on wilderness. Marshall, like Roosevelt, was a fierce advocate for the preservation of nature, sensing the urgency in conserving it. However, the plans these thinkers suggested centered around the development of National and State Parks, the vast majority of which were constructed on the basis of forced removal or genocide of the indigenous people living on the land. The myth of

wilderness made the mass genocide that occurred both more palatable and, under their definition of wilderness, a requirement of conserving the land (Eichler and Baumeister, 217).

For these men, this concept of wilderness centered around preserving a certain relationship between man and nature, one where a person could enter into an untamed and unknown land. It relies on hypermasculine, individualist, and nationalist ideals (Eichler and Baumeister, 217). This reinforces a delocalized relationship to nature. Moreover, the colonial concept of wilderness did not exist. The land was not empty; in fact, early settlers appropriated the systems that indigenous cultures had already established. This included water ways, trails, and deer parks (Eichler and Baumeister, 218). It was an intentional written erasure of indigenous people that became central to efforts to conserve land from the very exploitation its writers championed.

This conceptualization of wilderness is present in much of Aldo Leopold's work. Leopold, a prominent figure in environmental aesthetics and conservation, is often referred to as the father of ecology. In many of his pieces, he advocates for a deeper understanding of nature, but does so through a colonial framework. He uses the concept of wilderness to promote a form of ethical aesthetic appreciation and relationship that is derived from colonial thought, as is clear in "A Taste for

Country." The piece centers around a distinction between land and country. Land describes the pieces of nature that have been privatized and built upon—a place where there are mortgages and farms. Country, in contrast, captures the spirit of nature (Leopold, 86). It is the untouched wild areas, where only nature lovers will find meaning and beauty. To be in the country requires a willingness to look beyond what is dull and find interest within it.

As is true with much of Leopold's work, the idea seems to encourage forming a relationship with the land as indigenous philosophy suggests, but it does not acknowledge the influence of colonial power in making the initial separation of land and country. Rather, the piece glorifies the country in its wild and untamed form. Moreover, it fails to acknowledge the rich history of approaching nature, especially dull nature, with knowledge of its function or story, as much of indigenous knowledge does. Instead, it suggests that only an advanced aesthetic thinker can find interest in the country.

In one of his seminal pieces, "The Land Ethic," Leopold uses these ideas to suggest an ethical framework through which people should engage with nature. He opens the piece by explaining a form of ethical evolution, where throughout the course of human (Western) history, societies have expanded the breadth of what is considered ethical and unethical in

the treatment of fellow humans (Leopold, 1). He uses the example of Odysseus, who killed twelve enslaved women when he returned from Troy for suspected misbehavior. This was considered well within his right, as these women were considered his property. However, this behavior falls outside the norm of modern ethics. It is clear humans have the ability to expand ethical consideration to encompass more people. Leopold argues that this form of ethical evolution can and should be further expanded to include nature, claiming that "there is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it" (1). Furthermore, Leopold argues that this expansion of ethics can and must happen primarily among private landowners because the issue is too complex and widespread for any governmental agency to take on. He concludes by stating that what he is suggesting—an ethical relationship with land—will be challenging to achieve considering the current disconnection between man and the land, but that everything must be evaluated based on its ethical, aesthetic, and economic rightness. A thing, he contends, is "right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold, 6).

The message I believe Leopold was trying to get across—that we must interact with nature through ethical consideration in the same way we interact with

each other—is both important and resembles the traditions of indigenous cultures in addition to the work of Saito. However, Leopold continually reinforces a colonial aesthetic philosophy, both through what he explicitly states, and what he fails to address. The concept of ethical evolution alone is both deeply Eurocentric and, in his writings, explained through allegory. The story he tells moves linearly, tracking a kind of a positive progress from Ancient Greece, to the Renaissance, to the Industrial Revolution, and finally to an inclusion of nature in contemporary Western ethics. Leopold fails to encompass the development and robust nature of philosophies and ethical considerations that were formed outside of the Western understanding of history. The relationship he describes initially between Odyessus and the enslaved girls describes a separation of "us" and "other," which systems of colonialism rely on. Othering any group allows for the justification of violence, as is evident in the forced removal and genocide of indigenous people in the United States and in the exploitation of land that is characteristic of colonialism. An extension of this form of ethics assumes that this separate and opposed relationship is inherent or foundational.

Insisting that European history is representative of global cultural history erases the rich histories of indigenous cultures and is wholly delocalized. The form of ethical extension that Leopold advocates for

suggests a universal norm that is entirely disconnected from the land (Cook and Sheehey, 348). Unlike Leopold's ethical evolution, indigenous cultures around the world have been in relationship with their land for centuries, learning its unique characteristics and passing knowledge down from ancestors. The progress Leopold describes came at the cost of the physical, psychological, and material safety of both the land and indigenous people living on it (Cook and Sheeyhey, 348). The story Leopold describes is not one of progress, but one of settler colonialism. Striving to be more connected to the land, while important, further reinforces the initial disconnection from it. The vague terms he uses to describe land are representative of a continued delocalization. This colonial influence is never directly addressed in Leopold's piece. An ethical relationship with the land cannot be established within the same colonial framework that exploited, abused, and caused the mass destruction of it.

Delocalization, or universal modes of relating to the land as a means of ethically engaging and conserving it, is explored by Stan Godlovitch in his essay "Icebreakers: Environmentalism and Natural Aesthetics." Godlovitch argues that the mode of aesthetic appreciation and conservation that takes the entirety of nature into account is acentric (134). A centric view, in contrast, locates value based on the perceiver and their unique history and context. In doing

so, it creates a moral framework that differentiates and creates hierarchies of objects. An acentric model expands the idea of a moral relationship to the land by removing the constraints of human perspective from it. In removing the viewer, Godlovitch argues, it becomes clear that value exists intrinsically in all things, living and nonliving (Godlovtich, 135). Environmental movements that focus indiscriminately on all of nature are acentric (Godlovitch, 137). Other models, such as Carlson's scientific model or Saito's model of appreciation, which seek to understand nature by applying knowledge to it, are attempting to assimilate nature into a form that humans can understand. Nature, however, functions on a different scale than humans and cannot possibly be reduced to scientific theories or folklore. According to Godlovitch, the only way to acentrically appreciate nature is through his mystery model, which emphasizes the ineffability and mystery of nature instead of anthropocentric emotions such as "awe" (Godlovitch, 145). "To appreciate nature acentrically," Godlovitch suggests, "one must avoid being impressed or overwhelmed by it" (147). In doing so, we may understand and conserve nature without imposing human bias upon it.

Godlovitch's view, like Leopold's, strives to apply a moral understanding of nature that can foster indiscriminate appreciation and conservation. However, the entire concept of an acentric appreciation of nature

is delocalized. It intentionally asks that the specifics of land are disregarded in place of a universal and unemotional understanding of nature. Insisting that feelings of awe, for instance, are centric and therefore must be disregarded, removes the possibility of forming real relationships with any piece of nature. Awe should not be the only emotion that motivates an interest in land, but it is a powerful and rare emotion nonetheless. The ability of nature to provoke awe in anyone is incredible and should not be disregarded because it might result in someone developing a love and care for a specific piece of nature, and therefore assigning it a higher value. Moreover, I do not believe that an acentric model is the only one that allows for conservation. One can have an affinity for a specific piece of nature, and still support, even actively participate in, the conservation of another piece of land. Care is not finite.

There is an abundance of knowledge, a rich history of traditions and folklore, and contemporary philosophy which advocates for an understanding of nature through relationships. However, the canon of environmental aesthetics emphasizes the work and methods of thinking derived from colonialism. If contemporary environmental conservation efforts are to be inspired by or rooted in the aesthetics of nature, then the dominance of Eurocentrism and colonialism must be addressed. It is essential that these ideas be explicitly and critically explored within and outside of the field of

environmental aesthetics, and should be offset, if not replaced, by the breadth of indigenous knowledge and philosophers who present similar norms of reciprocity and relationship with the land. It is evident in the environmental degradation and crisis we are experiencing that colonial and Western conceptualizations of land have failed us, but we are not lacking knowledge or sustainable practices. There is hope to conserve the climate and implement sustainable practices, and it is found within the philosophies and understandings of land that indigenous communities practice.

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# Not Guilty by Reason of Insanity: Neuroscience's Changes to the Law

*Bella Landino*

## Abstract

The following literature review analyzes the intersections between the law, neuroscience, and the emerging field of neuroethics. In particular, it examines the insanity plea and its foundations in terms of morality and free will, as well as specific court case examples. For this reason, studies were selected that not only provided philosophical theories, but also experimental research on topics such as brain lesions and forms of responsibility. Additionally, two cases of insanity in the law were examined to understand its success and adjustments to the legal system. These were then put into context with the advancements within neuroscience and the future for the insanity plea based on its successes and failures. Through such specific case evidence, the findings demonstrated that free will and morality are separate from behaviors and the need to adjust the legal system to such discoveries. Finally, this reveals to the field of neuroethics that we often look at aspects of criminality as scientifically supported, even though they are a social construct that neuroscience does not adhere

to. Human constructs of healthy behaviors are based on pro-social rules, rather than the science behind the brain and how it conducts, or fails to conduct, certain behaviors, and therefore should be adjusted within the legal system.

**Introduction**

Neuroethics is a new and constantly advancing field at the intersections of neuroscience, psychology, sociology, and philosophy. It is a way of understanding ourselves as human beings who function in society, and the ways that functioning is impacted by the physical scope of our brains. Specifically, the International Neuroethics Society describes neuroethics as "a field that studies the implications of neuroscience for human self-understanding, ethics, and policy" (*BRAIN 2.0 Neuroethics* 2023). Thus, neuroethics combines the physical mechanisms of our brains with the societal mechanisms of our outside world. This field incorporates both ethical principles of neuroscience and philosophy to guide principles of life. Questions of how we should live and what contexts we should change based on society are what comes up in the exploration of the brain and mind. One of the most notable contributions to this field has been by philosophy professor Dr. Walter Glannon, of the University of Calgary. His book, *Brain, Body and Mind: Neuroethics with a Human Face*, provides considerable insight into the field of neuroethics and the foundations for many other neuroethical findings. For these reasons, neuroethics has developed from the depths of different fields and unanswered questions of neuroscience. Its intersection with philosophy and ethical principles is what gives it life and guides our brains to decision making.

**Neuroethics and the Law: Development of Neuroscience and Criminal Justice Systems**

Neuroscience—and later neuroethics—comes from the cumulation of biology, psychology, and philosophy aiming to explain the brain's creations of behavior. Since its development, humans have seen technological advancements that have tremendous contributions to numerous fields. From neuroimaging techniques, we have been able to explain behaviors and therefore understand human beings' actions from the brain. Particularly, these behaviors intersect other fields, such as law. As they developed together, human society has been able to incorporate the discoveries of neuroscience into the legal system. Neuroethics is one field that has strongly intertwined the two into various debates and discoveries of criminal behavior and changes to the law, such as the insanity plea. Dr. Lincoln Frias, professor of ethics at the Universidade Federal de Alfenas, and Professor Henry T. Greely at Stanford Law School made contributions that connect neuroethics and legal principles. These ideas include moral and legal responsibility, and the law after neuroscience, such as neurotechnology. Because of authors like Frias and Greely, neuroethics has been able to advance the field of neuroscience and criminal justice systems to present new questions up for debate.

## Present Study

Does insanity excuse morality and criminality in the law? Since the development of neuroscience and criminal justice systems, there have been debates over whether the mind and mental state impact morality. In their article, "Moral Responsibility After Neuroscience," Frias explains, "After the development of neuroscience and neuroscientific technologies the claim that the mind is independent of its neural instantiation could not be held without justification" (2013). Frias argues that our free will and mind are distinct from the neural actions that take place when we choose to behave. By looking at neuroethics from a legal perspective, there is a further examination of the mental processes that form decision-making and therefore criminality. Based on how free will and morality can be separated from behaviors, legal systems must be adjusted to account for discoveries in neuroscience and neurologically impaired behavior. This will be supported through the examination of moral versus criminal responsibility, definitions of free will, two famous cases of the insanity plea, advancements in neuroscience, and recommended changes to the law. With development of neuroscience and neurotechnology, adjustments to the legal system will accommodate accurate brain processes and form progressing ways of determining responsibility.

## Moral versus Criminal Responsibility

In terms of neuroscience and the law, there are differences between moral and criminal responsibility. Generally, moral responsibility is used in the context of neuroethical questions of morality, while criminal responsibility is solely utilized in the legal and justice systems. Before understanding the concepts of free will, we must define these two forms of responsibility and how they impact both neurological and legal processes. Frias states, "To be morally responsible is to deserve praise/reward or blame/punishment for what we do" (Frias 2013). In other words, moral responsibility is a social construct based on our actions, and whether they are right or wrong. Meanwhile, in their article, "What if? The farther shores of neuroethics: Commentary on 'Neuroscience may supersede ethics and law,'" Greely also explores the differences between moral and criminal responsibility in their commentary on Scott's "Neuroscience may supersede ethics and law" (Scott 2012, Greely 2012). Based on our criminal justice system, "criminal law is concerned not just with retribution for freely willed immoral actions, but with deterrence (both generally and with regard to future acts by a specific defendant), incapacitation (depriving the convicted man of the chance to carry out more crimes), and even rehabilitation" (Greely 2012). The essence of their argument is that our legal systems hold criminal responsibility based on the concept of free will, rather than the neural processes that occur to cause immoral

behavior. Based on these definitions, moral responsibility examines the individual's interpretation of right and wrong and how we hold these people accountable metaphorically for their actions. In contrast, criminal responsibility is defined as how we physically blame and punish people who commit crimes. One can be held morally responsible for positive and negative actions but can only be criminally responsible for negative actions. For instance, moral responsibility can extend into both positive and negative actions from saving a person's life to taking a life away. However, criminal responsibility is only negative in terms of the illegal actions people are accountable for.

From the neurological perspective, we examine moral responsibility and morality through the lens of states of consciousness, illness, and injury to make decisions. Therefore, moral responsibility when applied to brain injury and illness can explain or correlate the negative actions that we then hold people criminally responsible for. Greely further states that "in some cases, neuroscience will reveal that someone does not now have, or did not at the relevant time have, the capabilities required to hold them legally, or morally, responsible" (2012). In other words, the developments of neuroscience can point to processes that demonstrate how people who commit crimes may not be able to be responsible because of an altered state. When someone has a brain injury or illness, this then impacts their

responsibility and can potentially excuse their criminal responsibility. Although they may be morally responsible, neuroscience can dispute the criminal responsibility and free will of people who commit crimes. Such neural developments give insight to the workings of the justice system and force further investigation into neuroscience within the law.

**Free Will in the Law and Neuroscience**

As neuroscience has advanced, the idea of free will has become controversial due to its lack of appreciation of neurological processes. Certain experiments and case studies have determined that the human brain lacks the mechanisms of making decisions consciously; rather, we can only choose *not* to decide. For example, Frias discusses in their article the case of a 40-year-old man who suddenly had a strange addiction to pornography and infatuation with his stepdaughter (Frias 2013). Instead of being sentenced, the judge allowed him to go through rehabilitation that did not solve the sexual desires he was acting upon. It was not until he had a neurological examination for a headache that his doctor discovered he had an orbitofrontal tumor. He had never behaved like this before, and the hypersexuality disappeared once the tumor was removed, suggesting that the behavioral anomalies were a result of the tumor. Even after it reappeared months later, along with the behavior, a second surgery rid of the

tumor and his hypersexuality (Frias 2013). This case demonstrates how brain injury and illness impact morality, and thus, the "free won't" of a patient. Morality, therefore, is the principles that we hold when making decisions, while "free won't" is the ability to stop unconscious actions. In this example, the processes specifically occurring cannot be determined, since MRI and CAT scans can only detect missing or malformed structures, such as tumors or lesions. A functional MRI would be able to examine the processes occurring and identify a pattern within a certain behavior. While used as a correlational study, some conditions point to changes in desires and decision-making. In comparison to the tumor example, psychiatric conditions have a more difficult problem of determining the physical origins of behavior than those with identifiable changes in structure. These act more on an individual basis and are responses to the immediate environment versus the manifestation of functional changes.

Generally, neuroscience has shown how we cannot even decide to conduct an action. Rather, the neurological mechanisms that occur only stop us from beginning an action: our "free won't." The concept of free will is more socially constructed by legal systems than backed up scientifically. The process we utilize in neuroscience decision-making is this idea of "free won't," where we can only decide *not* to act upon an unconscious impulse. This is exemplified by the action

of jaywalking. In the law, free will states we have the conscious capacity to decide to cross the street, knowing there is no crosswalk, and we could get hit by a car. However, free won't of neuroscience tells us we *will* jaywalk unless we consciously decide *not* to. In other words, we will unconsciously and unwillingly conduct an action unless told not to by our free won't mechanisms.

The neurologically impaired, such as the man in Frias' example, cannot control the issues with their potential actions, since they have impaired mechanisms of "free won't." Neurological conditions, such as tumors, damage the processes necessary in decision-making, including decisions not to act. Mental causation tells us that free will is flawed and cannot cause the actions of the neurologically impaired. They are left at the will of their disease and without the necessary tools to make socially acceptable decisions. For instance, in the original article, "Neuroscience may supersede ethics and law," Scott describes these ideas of free will in terms of punishment in the justice system (Scott 2012). Once being able to examine the neurological processes occurring in the brain, "rather than being subject to punishment, the miscreant is deemed the victim of a cruel pathology, deserving of sympathy and treatment. The alien that forced him to commit a crime was his own brain, as if mind and brain were separate" (Scott 2012). The essence of their argument is that all free will and

responsibility are dismissed in terms of punishment for those who are at the expense of their disease. In this way, the mind and brain are determined as separate; however, the brain has more power to control actions.

The ideas of will and responsibility are the central argument for criminal behaviors that include atrocious and socially inexcusable actions in court systems. Schleim's article, "Brains in Context in the Neurolaw Debate: The Examples of Free Will and 'Dangerous' Brains," also goes into depth about neurologically impaired brains being the potential cause for actions. Similarly to Frias, "Many texts discussing the forensic implications of neuroscience refer to cases where brain damage such as that caused by an accident, a tumor, or surgical resection is related to alleged criminal behavior" (Schleim 2012). In other words, there has been neurological research that points to some criminal behaviors being caused by brain injury or illness, having impacts on the criminal justice system. Because of neurological impairments, the legal system has introduced pleas, such as the insanity defense. Oftentimes, pleading not guilty for reason of insanity is utilized to explain criminal behaviors and take the blame of free will off the defendant. Without the mechanisms that create "free won't," there is reason to believe a person may not be criminally responsible for their actions and therefore can claim insanity.

**The Insanity Defense**

The insanity defense was the first legal proposition that incorporated neurological and psychological foundations in defending criminal cases. The largest controversies from the insanity defense come from whether or not neuroscience should interfere with our social constructs of criminal responsibility and free will. However, based on the neurological advancements that have been made, there is room for the law to change and adjust to how we define free will for the legally insane. Nonetheless, insanity is not a neurological or scientific term, only a legal one used in the context of determining responsibility. The concepts of *mens rea* and *actus reus* specifically give insight into the legal nature of insanity. For example, "in legal parlance, the actus reus (‘bad act’) must be appropriately linked to the mens rea (‘guilty mind’)" (Glannon 2011). In other words, to hold someone criminally accountable for their actions, there needs to be a synonymous relationship between actus reus and mens rea. In this sense, actus reus is the crime itself, and mens rea is the criminal intent, or intentions to commit the crime. Both actus reus and mens rea are essential to prove guilt in court and therefore assign criminal responsibility. However, when determining legal insanity, there must be evidence that mens rea was impaired in some capacity based on the perpetrator’s mental state. Establishing such evidence can be very difficult, causing a series of rules throughout

history to be developed in the creation of the insanity defense, including M'Naghten Rules, Durham Rules, and the Model Penal Code Rule (Johnson 2014).

The beginning of the insanity defense was based on the case involving Daniel M'Naghten, who had accidentally shot the private secretary of the then Prime Minister of England (Adjorlolo 2019). Through trial, he was found not guilty because of insanity, causing the public to respond both negatively and positively: many felt the verdict excused his actions, while others were interested in this new defense. Furthermore, it can be difficult to have a successful insanity defense because of the extensive evidence required. After M'Naghten's case, there was the creation of a set of directions for leading these pleas: "According to M'Naghten rules, for the insanity defense plea to be successful, it must be proven that: (a) the party accused was laboring under such a defect of reason, from a disease of the mind, as not to know the nature and quality of the act being committed or (b) if the accused did know it, that he or she did not know that the act was wrong" (Adjorlolo 2019). To define insanity, different states will utilize either the M'Naghten rules or the later Durham and Model Penal Code Roles in establishing this defense.

The next set of rule developed for the insanity defense was the Durham Rule, which states a "a criminal defendant is not guilty by reason of insanity if the crime was the product of his mental illness (i.e., crime would

not have been committed but for the disease)" (Johnson 2014). While similar to the M'Naghten rules, Durham differs in the sense that the action was only committed because of the disease. Alternatively, the Model Penal Code Rule states that "a criminal defendant is not guilty by reason of insanity 'if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law'" (Johnson 2014). In other words, the Model Penal Code rule specifies how one would be declared not guilty because of insanity only if one did not have the capacity to understand the law. To declare insanity, one or more of these rules must be met and have evidence to defend their criteria. For the insanity defense, advancing neuroscience was productive in bridging the gap between brain injury and illness with the criminal justice system.

After examination of mental states, there is a continued adjustment to who is declared as morally and criminally responsible. The problem becomes how these types of responsibility may not always agree; someone may be held criminally responsible for an action that is not morally wrong. For example, stealing a loaf of bread to feed a hungry child may not make one morally responsible, but one can be held criminally responsible for committing a *crime.* Meanwhile, for the law and justice systems, many have viewed the insanity defense

as more negative for the reasons of excusing criminal behaviors. However, rather than excusing actions, this plea attempts to explain behavior and change our systems to be up to date with our advancing behavioral sciences.

**Cases of Insanity in the Law**

***1. John Hinckley Jr.***

First popularized in the 20th century, the insanity defense has been highlighted in several infamous criminal cases, such as that of John Hinckley Jr. The case of Hinckley Jr. was one of the most famous insanity pleas and attracted a lot of attention from the public, even changing the legal system afterward. Hinckley Jr. had a "strange infatuation" with Jodi Foster after watching the movie *Taxi Driver*, which led him to stalk her and make desperate attempts to gain her attention (Yoong 2012 & Hans & Slater 1983). After considering taking his own life in front of her to gain attention, he decided to attempt to assassinate President Reagan, shooting at him six times outside a Hilton Hotel. His defense team claimed that he committed his crimes due to neurological illness. In the end, he was declared not guilty of 13 charges of assault, murder, and weapon counts for the reason of insanity (Yoong 2012 & Hans & Slater 1983).

John Hinckley Jr.'s case displayed the problems of the criminal justice system's newly developed insanity

defense. The problem was that before the assassination attempt, the insanity defense was only used in 2% of felony cases and failed over 75% of the time (Yoong 2012). However, since it was the most famous insanity plea of the time, its high profile attracted a lot of attention and backlash. The reason for the outcry from people watching the case was that it seemed as if they were letting someone clearly guilty walk free. Despite obvious symptoms of neurological illness, people watching the case found it disheartening to not have justice. In their study, "John Hinckley, Jr. and the Insanity Defense: The Public's Verdict," Hans and Slater conducted a survey to determine how a portion of the American population felt about his case. They cite, "Our sample respondents thought the verdict was unfair, believed Hinckley was not insane, and had little faith in the psychiatric testimony presented at the trial, and asserted they would have reached a guilty verdict had they been jurors in the trial" (Hans & Slater 1983). However, this survey was only conducted in Delaware and could not be applied to the entire population in the U.S. What their study does give is insight into some of the strong opinions that many had at this time, due to the actions of Hinckley. This case brings into question whether the system caters to both the perpetrators and their victims. There is a necessary element of justice in the legal system that often does not account for the mental status of criminals. For this reason, Hinckley's

defense allowed another option of testimony for those who were not mentally capable of controlling their actions and could not utilize their mechanisms of "free won't."

However, there have still been problems with the insanity defense. In their article, "Mentally disordered offenders and the law: Research update on the insanity defense," Adjorlolo examines the case of Hinckley Jr. and the way the legal system had to change based on neuroscience advancements. Because of this case, "Consequently, the insanity defense standards have undergone several transformations with some states in the United States, for instance, adopting a second verdict choice: Guilty but Mentally Ill (GBMI), while others completely abolished the insanity defense" (Adjorlolo 2019). What Adjorlolo indicates is the complications of Hinckley's case resulting in the creation of GBMI, which was a compromise compared to the insanity defense. Overall, cases such as Hinckley Jr.'s shaped the way neuroscience was embedded into the law and referred to in future cases.

***2. Steven Steinberg***

Since more laws have been put into place to account for insanity pleas, there have also been problems with cases of temporary insanity, such as Steven Steinberg. In his 1981 case, Steinberg utilized the insanity defense for homicidal somnambulism or a

sleepwalking murder (Ramsland 2015). One night, Steinberg killed his wife by stabbing her 26 times while sleepwalking. However, once he woke up, he called the police, saying there was a burglary that had gone wrong, even though there were no signs of a break-in. The claim by Steinberg was that he was not in his normal state of consciousness and had committed these actions while sleepwalking. Even though he claimed he did not remember the crime, he also never denied that he murdered his wife, rather that he should not be held criminally responsible versus his moral responsibility (Ramsland 2015). Steinberg's case depends on the terms actus reus and mens rea once again, as they were not in agreement to determine guilt. In his case, he admitted to the actus reus, or actions committed, but he did not have the mens rea, or *guilty mind*, to deem him criminally responsible. Therefore, it was difficult in his case to link the two and legally establish guilt. By the end of the trial, he was found not guilty for reason of insanity and was a free man in the eyes of the law, even though the jury "knew they were releasing a killer" (Ramsland 2015). Steinberg was found not criminally responsible but had to live with his moral responsibility (Yoong 2012 & Ramsland 2015).

When looking at this case and others, temporary insanity adds another layer to the insanity defense that must be examined. For altered states of consciousness, there is a separation between the person and their other

state. Because he was not conscious at the time of the crime, Steinberg was found not guilty and could not consciously act on his "free won't" processes. Rather than utilizing the perspective of him being neurologically ill, he was without consciousness and therefore did not remember his murder. Although he was a killer, he was not criminally responsible for his actions.

Because of this case, there became questions of whether killers, even though they were not criminally responsible, should be released afterward. Adjorlolo writes, "In particular, the decision to release insanity acquittees could be influenced by the following: (1) protecting communities from future crimes, (2) decongesting forensic psychiatric institutions, and (3) protecting the fundamental human rights of the insanity acquittees" (2019). He accentuates three important components of releasing those declared not guilty for reason of insanity. For instance, the first and third points highlight the problems that many have with the insanity plea: the fear within the community that those released on the insanity defense will continue to commit future crimes. For this reason, there must be an analysis of the acquitted and how their legal *insanity* can potentially play a role in their future behavior. If there is possibility for them to commit more crimes, then they will not be released into the same environment they were in; rather, they would receive rehabilitation versus punishment for their actions. While point one emphasizes the necessary

rights and protection of community members, the third point underscores the necessity of protecting the rights of the acquitted. Because they too are human beings who are at a neurological disadvantage, they need protection for their rights, such as the ethical principles of beneficence, nonmaleficence, autonomy, and justice. These elements include protection for both parties involved in the crime and future victims, as well as potential overcrowding of mental institutions. There are several components of the insanity defense that need to be adjusted based on neuroscience advancements, while also maintaining justice in the legal system.

**Neurotechnology and Advancements for the Law**

When examining insanity cases for the future, neuroscience will have larger implications for criminality and responsibility. As demonstrated by infamous cases of the insanity defense, neuroscience is an evolving factor in the legal system, especially when it comes to defenses that require the use of neurodiagnostic skills. For example, brain injury and illness from a legal perspective can only be diagnosed using neurotechnology, psychiatric evaluation, and the advancements made by the sciences of the brain and behavior. Neuroscience can now function as a defense tool in the criminal justice system and allow for a greater understanding of criminal brains in the future. However, with the advancements in neuroscience, there are more

questions on whether the criminal justice system can keep up.

The insanity plea has just begun to be further developed in the last 30 years, making it difficult to adjust to new technology. Neurotech has documented the brain abnormalities of people who commit crimes and how they are neurologically different from those we deem *sane*. Scans, such as MRIs, PET scans, CTs, and more, have allowed us to investigate the brain further and understand the differences between a criminal and a moral person. However, there are elements that scans can and cannot show. Thus, Scott describes how "functional MRI studies in just the past few years have identified brain sites that correlate with expressions of empathy (vicariously feeling the sensations)...of revenge (preventing someone from reaping a reward he has cheated you to get)...and of affection (the gentle touch of a husband's hand on his wife's arm)..." (Scott 2012). Nonetheless, these examples are only correlational research and cannot determine causation in the process. Due to the inability of scans to establish causational relationships, they cannot link behaviors and the brain fully.

Thus, those who commit crimes can only utilize this technology in their defense to develop a more understood insanity plea in the legal system. In particular, the example of Spyder Cystkoph demonstrates how brain imaging can add to psychological and

neurological assessments but cannot be used on its own to establish cause and effect. Glannon details in their chapter, "What neuroscience can (and cannot) tell us about criminal responsibility," how Cystkoph attempted to suffocate his wife during an argument after she scratched his face (Glannon 2011). According to Glannon, "CT and MRI brain scans showed that he had a large arachnoid cyst between his left frontal and left temporal lobes. A PET scan showed reduced metabolism in these brain regions…But since he declined the surgery, there was no way of comparing his actions with and without the cyst and thus no way of establishing a causal connection between the cyst and the act of killing his wife" (Glannon 2011). In this way, while scans can be helpful in terms of understanding the brains of those who commit crimes, there are still many more advancements that need to be made to create causal relationships, if even possible.

Holding people responsible for their criminal actions is the most important element of the criminal justice system, while neuroscience attempts to explain these actions. For instance, Greely also discusses how neurotechnology can assist in the legal system. As he describes, "In some cases, neuroscience will reveal that someone does not now have, or did not at the relevant time have, the capabilities required to hold them legally, or morally, responsible" (Greely 2012). In other words, the advancement of neuroscience may be able to tell

whether a person can truly be held responsible for their actions based on the concepts of free will. However, it is important to also acknowledge how scans can only provide correlational results, not causative information about behaviors. For defenses, such as insanity, neuroscience can assist in their defenses, but also must be adjusted based on how science will continue to grow.

**The Future of the Law and Neuroscience**

Based on these advances in neuroscience, the law must be examined in a new light and can change in several ways. Over time, there have been adjustments to the law through defenses, such as the insanity plea, to be consistent with findings from the changing scientific world. The M'Naghten rules, the addition of the GBMI, and later neurotechnology for understanding insanity acquittees are all ways in which the insanity plea has changed over time. These adjustments to the criminal justice system have been made based on neuroscience and the possibilities of neuroimaging. From a legal perspective, human behavior exists as "guilty and not guilty," while biological sciences examine the integrated roots of neural behavior (Batts 2009). The creation of the insanity plea allowed the combination of these two viewpoints and for them to become more cohesive in obtaining justice. However, many view the insanity plea as an excuse for the morally wrong behavior of criminals. Meanwhile, from the neuro-determinist

perspective, utilizing neurotechnology will explain or allow us to understand the potential causes of behavior. As Batts describes in their article, “To the neurosciences, it is the causality of behavior that is of the highest interest, considered to be the result of a combination of complex genetic and environmental factors, which affect brain development and function” (Batts 2009). In other words, it is the potential causes of behaviors that are examined in the process of determining whether someone can be held morally responsible.

Our current legal systems, unfortunately, are not fully conducive to these advancements and their implications for the morally and criminally insane. Some say that it is impossible to have a relationship between neuroscience and the law. These critiques include Greene and Cohen when they argue that “in modern criminal law, there has been a long, tense marriage of convenience between compatibilist legal principles and libertarian moral intuitions. New neuroscience, we argue, will probably render this marriage unworkable” (Green & Cohen 2011). To some, such as Greene and Cohen, the relationship between legal principles and advancing neuroscience is difficult and almost unfeasible. However, for this reason, the legal system must be adjusted to account for the new developments that help explain the potential causes of criminal behavior. Then, there will be justice for the victims and neurologically ill perpetrators

who lack the neural mechanisms that prevent them from conducting certain actions.

In our current justice system, victims may see the conviction of insanity as not satisfying the needed justice of their behavior. Many times, the victims have a different perspective on justice than the accused, causing a divide between them in these cases. However, this injustice is due to the system not allowing for some form of improvement towards keeping neurologically ill perpetrators from committing these actions again. Once we begin to look at the criminally insane for their neurological illnesses and injuries, we will be able to create a system that focuses on rehabilitation, rather than punishment for immoral and illegal actions.

**Conclusion**

Criminality is a social construct we have created to hold people morally responsible for their actions, even though this can be without their *healthy* minds. In terms of neuroethics within the law system, there is a necessary reexamination of the insanity defense, based on the changes to the behavioral sciences. The future research of neuroscience and its technology will allow the legal system to change and grow, accounting for our greater understanding of the human brain. If the criminal justice system remained the same in the sense of only recognizing certain cases of insanity, our society would not be able to advance. In the law, the perspectives of

guilt do not necessarily implement our understanding of neuroscience and will only further the gap between these fields. In our current and future society, our constructs in the legal system require neuroscience to defend those who are believed to be *insane*.

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# The Virgin Paradox: How Sex is a Method of Escape and Oppression for Men in Ishiguro's Novels

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## Abstract

In Kazuo Ishiguro's novels, specifically *The Remains of the Day*, *The Buried Giant*, and *Never Let Me Go*, there is a motif of male characters simultaneously desiring sex as a form of humanization yet who are either denied sexual gratification due to their social standing or how they do not adhere to heterosexual ideas of reproduction. From this systematic dehumanization, the male characters are encouraged to be complicit with genocide and other actions of dehumanization enacted upon marginalized people. An examination on how this behavior isn't a recent phenomenon but rather an extension of historical attitudes is included by comparing *The Buried Giant*'s Gawain and "Sir Gawain and the Green Knight's" Gawain as they both see human sexuality as something complicated and evil, refraining from sex to keep their simplistic worldviews. This fear of sexual development and engagement is ultimately transferred to the next generation as showcased by the

character of Edwin. While some Ishiguro characters like Axl and Tommy are able to have sex, the rigid heterosexual idea of reproduction prevents them from no longer being virgins. The loss of one's offspring and inability to have children keeps them confined to the status of virgin as they have no children to prove they've reproduced. Additionally, these rigid heteronormative standards dissuade and demonize women's sexuality and queerness from being expressed. Ultimately, the sexual standards Ishiguro's male characters encounter block them from sexual and personal maturity, enabling them to adhere to their social standings and roles and transferring this dehumanization onto others.

In Kazuo Ishiguro's novels, the shortcomings of men are consistent thematic preoccupations. The male protagonists constantly try to adhere to self-imposed ideologies that stem from their societal roles. Both these ideas and roles strip them of the freedom to explore and develop their sexuality, stunting their ability to have fulfilling personal relationships and their ability to reproduce. However, the men still have this paradoxical desire to seek out and enjoy sex. The idea of sex is an escape from their lives while the internal and external oppression against it enables men to continue living their lives in unfulfilling ways. This unfulfillment prompts some of these men to engage or be complicit in the dehumanization and genocide of marginalized groups, their own dehumanization spurring on their behavior. Additionally, even when the male characters can engage in sex, their failure to live up to the heterosexual ideals of reproduction prevent them from escaping the classification of virgin, hence the virgin paradox: they are virgins if they do not engage in sex but somehow revert back to being virgins if they do. This paradox is expressed in Ishiguro's *The Remains of the Day* (1989), *The Buried Giant* (2015), and *Never Let Me Go* (2005) with the male characters being emasculated and stunted in their personal growth due to them being deprived of healthy sexual development and their failure to live up to typical heterosexual ideals.

**Stevens**

In *The Remains of the Day,* the protagonist is a man named Stevens, an old English butler reflecting back on his life as he makes a trip across the English countryside. Stevens is someone who has deprived himself of a healthy sexual development due to his personal dogma halting him from doing so. He has dedicated himself to the craft of being a professional butler so much that all he can seem to think about are how to polish silver and how best to remedy his problem of being short staffed. Stevens does not have any malice towards the idea of having housekeepers and maids marry on the job, but rationalizes that those who actually enact this consummation "have no genuine commitment to their profession and [...] are essentially going from post to post looking for romance. This sort of person is a blight on good professionalism" (51). This disregard towards his natural biological functions, being social and having intimacy with another person, gives Stevens a sort of inhuman quality about him. It is almost as if he himself can not comprehend nor imagine himself as a sexual person due to how his standards for being a professional butler have almost completely replaced his own character and individuality.

Coupled with Stevens' personal disregard for his own sexuality is how this aversion to Stevens being a sexual person is apparent within the social hierarchy, nature being used as a lens to showcase Stevens' lack of

sexual autonomy. After Lord Darlington assigns Stevens the task of teaching Darlington's godson, Mr. Cardinal, about sex, Stevens tries to explain sexual reproduction through the use of nature, using geese, flowers, and shrubs as examples. Later, Mr. Cardinal uses this same lens to remark on how simple and easy the world would be if everyone was a plant, but makes an exception for Stevens and his perceived purpose: "'But we could still have chaps like you taking messages back and forth, bringing tea, that sort of thing. Otherwise, how would we ever get anything done? Can you imagine it, Stevens? All of us rooted in the soil? Just imagine it!'" (108). In the realm of the British aristocracy, Stevens' denial of being a sexual person is not only enforced by himself but by his superiors. His own autonomy is not even considered in this imagined, peaceful world, further removing him from any sort of individuality or sexual freedom. Unlike the other plants in this scenario, Stevens would not adhere to his biological nature, still being able to serve by moving freely around while the other plants are firmly rested in the soil, maintaining their inherent functions such as pollination. By denying himself any sexual freedom or gratification, Stevens further entraps himself in his butler persona by playing into the role society expects him to play.

Even during his first sexually charged encounter with Miss Kenton, Stevens struggles to identify what exactly he is feeling. When he and Miss Kenton are

alone in his room late at night, there is something in the air between them but Stevens can not identify it as sexual tension: “Then she was standing before me, and suddenly the atmosphere underwent a peculiar change - almost as though the two of us had been suddenly thrust on to some other plane of being altogether. I am afraid it is not easy to describe clearly what I mean here” (167). Stevens has abided by his personal code and societal role for so long that the prospect of anything sexual seems altogether foreign and alien to him. The chance of being sexual with Miss Kenton is described as being on “some other plane of being altogether,” suggesting that sex is something Stevens can not identify, comprehend, or act on because it is so far removed from his established world and role (167). He opts to diffuse the situation by suddenly escorting Miss Kenton out of the room as a result of his inexperience. However, he fondly thinks back on this moment and still harbors feelings for Miss Kenton throughout his life. Sexual pleasure and love cannot inhabit the sexless existence Stevens endures. He ultimately chooses to solely be a servant rather than try to find a way for his butler lifestyle and sexual exploration to co-exist. This becomes detrimental to Stevens as he misses his chance to be with Miss Kenton and ends up alone, the only reasonable thing left to do being to return to Darlington Hall and make the most of his companionship with Mr. Farraway. Marred by a rigid personal code and systematic dehumanization, Stevens

subliminally views sex as an escape from his existence, a way to finally humanize himself and have a genuine connection with someone.

Having Stevens be so inhuman, in the sense that he is excluded from desire due to his class, and his unwillingness and inability to comprehend desire lends itself to the reading of Stevens as a monstrous figure in *The Remains of the Day*. Stevens is so caught up in fulfilling his role that he ignores the withering humanity of Lord Darlington, who gives into Nazi ideology and enacts antisemitic actions against his staff, actions Stevens simply goes along with. The systematic dehumanization of Stevens, as illustrated by Mr. Cardinal's plant remark, prompts Stevens to be complicit in dehumanizing causes at the same time as he himself feels dehumanized, so removed from humanity that any attack against basic human rights fails to even register with him. Even Ishiguro himself admits that "'the butler doesn't look like a conventional monster, but I always thought that he was a kind of monster'" (Russell 301-302). This reading of *The Remains of the Day* has prompted scholars to try and equate the novel to Ishiguro's fantasy book *The Buried Giant*, viewing Stevens' role as a metaphorical monster inhabiting the English countryside coupled with the reasoning that revelation through remembrance is a theme in both works. Reading Ishiguro's novels as essentially the same story but with a different coat of fiction may not seem as

blasphemous as it first appears. Over his prolific career, "Ishiguro has been rightly critiqued for using genre as merely a guise for treading familiar intellectual territory," often using the same prose and style no matter the time period or genre (Vernon and Miller 68-69). Ishiguro himself said that he had "in effect written the same novel three times, getting closer and closer to what he wanted to say" upon *The Remains of the Day*'s publication (Sexton). However, Stevens should not be read as the narrative equivalent of the ogres that roam the medieval countryside in *The Buried Giant*, but rather as the foil to the legendary Sir Gawain due to both their issues around expressing their sexual nature stemming from their personal code and societal role dictating their being.

**Gawain**

Similar to Stevens, Gawain is devoted to a bygone lord, in this case King Arthur, and challenges any reading of history that presents his uncle in a negative or critical light, such as when he lashes out at the implication that Arthur was responsible for the mass slaughter of innocents: "'Did you stand beside the great Arthur? I'm proud to say I did, sir, and he was a commander as merciful as he was gallant…Your suggestions are unwarranted, sir! An insult to all who ever stood alongside the great Arthur! There are no beds of bones here!'" (169). Gawain's revisionist history

mimics the denial that Stevens often employs to retain the sterling memory of his lord, and both are men who believe they must uphold the standards and wishes of the past. Stevens and Gawain are also both sexually stunted individuals. Gawain has committed the rest of his life to ensuring that Querig remains alive so the mist over the land remains, preventing the Saxons from remembering the atrocities King Arthur committed against them. Despite his pride in his mission, Gawain himself admits that he is often lonely and dreams of female companionship: "I only glimpsed her once, when I was young, and did I even speak to her then? Yet she returns sometimes in my mind's eye, and I believe she has visited me in my sleep, for I often awake with a mysterious contentment even as my dreams fade from me" (203-204). Once again, an Ishiguro protagonist is thinking back upon their past and imagining the warmth and comfort of a sexual connection with a woman despite being unable to name this desire. Even the way Gawain speaks about these dreams he has of this woman evokes the idea of nocturnal emissions, orgasms during sleep that emerge during the initial stages of sexual development. By having Gawain be a virgin and alluding to him almost being in this stage of puberty despite his age and status as an elderly knight, Ishiguro reinforces the idea that healthy sexual development is averted through Gawain's inhibition towards the same

dehumanizing societal standards and self-inflected codes as seen with Stevens.

It is important to note that Gawain is a mythical figure whose notable tale deals with his adherence to chastity. In the poem "Sir Gawain and the Green Knight," Gawain travels across the land to see the Green Knight so that the two may complete their game of exchanging equal blows, Gawain now being to one to receive a hit. Towards the end of his quest, Gawain is a guest at Lord Bertilak's castle and must give Bertilak whatever he receives during the day. Bertilak's wife, Lady Bertilak, attempts to seduce Gawain, even offering up her body to him at one point, but Gawain never has sex with her, managing to only have to kiss her and receive a girdle that will make him invulnerable to death. Gawain gives Lord Bertilak the kiss but not the girdle, and it is this momentary fear of death that Gawain shames himself for despite it being a human instinct to want to avoid harm and death. Gawain avoids sexual intercourse in order to abide by the Christian morals that he and the Knights of the Round Table follow; the advances from Lady Bertilak's wife are revealed to be a test of Gawain's honor orchestrated by the dastardly Morgana. By framing women as instigators of sexual conduct that goes against Christianity, sexual development and, by extension, the fear of death are seen as akin to sin:

> The idea seems to be that almost flawless Christian knights ought to be able to maintain chivalry even in the face of women's evil nature. To wear the garter is to say that a momentary lapse is understandable in the face of the fear of death and the overwhelming power of the temptress. Thus the garter becomes something like a shared symptom: a split off and misrecognized aspect of the self is not understood but simply laughed off as a flaw shared by all (Freeman and Thormann 408).

The refusal to attempt to understand the fear of death and sexual desire leave the Knights unwilling to contemplate human nature. Natural urges are equated to insidious, secular trickery by Gawain and his kin which further removes them from nature. The necessity of being chaste is not a moral issue but rather a method of “avoiding the complications and frustrations which are unavoidable in adult sexuality" in the name of God (Freeman and Thormann 392). With the mythical Gawain already so avoidant of his own sexuality due to the culture of his creed, Ishiguro’s rendition of Gawain seems like the natural evolution of what Gawain would become after his uncle dies: an antiquated knight who still holds on to these Christian ideals so that he does not have to grapple with his adult, natural desires.

Conversely, Gawain is somewhat released back into nature while Stevens does not get this same relief. Throughout the novel, Gawain belittles his fellow warriors for wanting to die by the sea, Gawain considering the grass of the English countryside good enough for him. He eventually does get his wish after being slain in a battle with Wistan: "Then the tall figure of the knight fell slowly, twistingly, onto the dark grass. There he struggled a moment, like a man in his sleep trying to make himself more comfortable, and when his face was turned to the sky, even though his legs were still folded untidily beneath him, Gawain seemed content" (291). While Gawain's body writhes into an uncomfortable shape, his face expresses joy at receiving a knight's death. It reflects Gawain's satisfaction that he followed through on his orders and his pride and accomplishment in that. Wistan, a rival warrior, even promises to bury him, ensuring Gawain's body becomes rooted in the soil among the plants and reincorporating him into nature. By dying, Gawain is able to confront a part of human nature and return to the natural world. Death and sexual development are all natural stages of a human lifespan. Experiencing death allows Gawain to finally take back some of his humanity, experiencing something beyond just serving as a knight. Death and sex are connected as they are innate experiences that everyone must encounter at some point and it is only by

experiencing them that people remind others and themselves of their humanity.

However, what complicates this analysis is the fact that the English countryside is associated with the sins of the past, the soil rife with the bodies of warriors and innocent people. The knights who wanted to die by water illustrated how they wanted to change and be relinquished of their knightly duties in their final moments, water being a notorious symbol for change and rebirth. They wanted to see something different before their deaths while Gawain is satisfied with becoming a part of the bloodied history he and his fellow knights incited and perpetuated for years. Gawain dies as society expected him to, fulfilling his socially assigned role as a knight, unable to completely reclaim his humanity or individuality. Ultimately, even Gawain can not find a reprieve in nature as the flora of England is too burdened by atrocities, and thus Gawain cements himself as a part of these horrors when he returns to nature, unable to completely relinquish himself to his humanity and desires.

**Edwin**

In *The Buried Giant*, society also plays a role in the stunted sexual development of knights even in a post-King Arthur world. The qualities of a warrior are viewed as being inherent, not nurtured, with few people having the natural character to become a knight. Edwin,

a boy who trains to hone his character to achieve knighthood, shows this struggle to repress his emotional and sexual desires. Edwin often fears he is unable to live up to the expectations of being a knight and shames himself for his budding sexual interest in a girl he meets:

> But in the weeks that followed, a vivid image of her had often returned to him unbidden; sometimes at night, within his dreams; often in broad daylight, as he was digging the ground or helping to mend a roof, and then the devil's horn would grow between his legs. Eventually the horn would go away, leaving him with a feeling of shame, and then the girl's words would return to him: 'Why did you come to me? Why don't you help your mother instead?'" (191).

Edwin's erection upon remembering the girl he untied is not referred to as an erection, but rather something satanic in its purpose. This call towards a budding sexuality is framed as unjust and blasphemous in Edwin's mind. If Edwin wants to be a knight, he can not allow himself to be swayed by emotions like fear and sexual arousal as these emotions contradict the chaste and Christian way knights conduct themselves. Edwin reminds himself of his duty to his mother, a childish fantasy where he finds her and takes revenge on her

kidnappers, to further dissuade himself from indulging in sexual fantasies.

In a sense, Edwin fears the individuality that comes with a healthy sexual development and actively stunts it by adhering to a childish fantasy and rigid way of thinking. In medieval societies and stories, knights lack a certain autonomy to them as they are under the orders and jurisdiction of their lords. This role does not grant them individuality as they are subservient to other, more powerful men. In fantasy and medieval stories, the knight typically makes the princess fall in love with him by rescuing her. However, Edwin does not receive any affection from the rescued girl. This subversion further emphasizes how the knights in Ishiguro's world, young and old, are denied any sexual development or exploration within their societal structure. Without sex and love as a way to humanize them, they fall back into their ideologies that embolden their own dehumanization as a coping method. Edwin's erosion of his own passions is him preemptively molding himself into the faceless role a knight must inhabit. However, Edwin accepts his mother is gone by the end of the quest, coinciding with him starting to doubt the knightly creed Wistan preaches to him regarding hating all Saxons. These minute developments hint at Edwin's evolution away from unyielding dogma around his morals and views, possibly leading to a relatively healthier dynamic revolving

around his sexuality should he begin thinking for himself.

**Axl**

In contrast, Axl apparently has a more mature and experienced relationship with his own sexuality. Axl gave up his knighthood after partaking in King Arthur's genocide against the Saxons, allowing him to fulfill his sexual desires with Beatrice and conceive a son, accomplishments that adhere to heterosexual ideals of marriage. However, Axl feels emasculated after Beatrice is unfaithful to him and he considers it to stem from his own possible failing to live up to a masculine ideal and provide for his wife: "'For it's true there was a small moment she was unfaithful to me. It may be, boatman, I did something to drive her to the arms of another. Or was it what I failed to say or do?'" (312). It is important to note that Axl attributes the cause of this love affair to himself and his own failings. He does not concede that the affair happened because of anything outside of his control or something to do with Beatrice, painting her to be reactive rather than proactive in choosing to cheat. It strangely strips Beatrice of her own autonomy and turns her into something akin to a pet or possession.

It is noteworthy that this conflict is what ultimately pushes Axl and Beatrice's son away from home, resulting in their son's death. The unhelpful anger stemming from Axl's insecurities is ultimately what

causes the couple to lose their son, almost as if the world strips Axl of his reproductive legacy as a consequence for his controlling attitude. This thinking continues when Axl reveals that he forbade Beatrice from visiting her late son's grave out of anger towards her: "'There was nothing to gain, boatman. It was just foolishness and pride. And whatever else lurks in the depths of a man's heart. Perhaps it was a craving to punish, sir'" (312). While Axl has fulfilled the heterosexual ideal, this instance of infidelity pushes him into a rage that propels him to lose his achievement of reproduction and to punish Beatrice. While Axl may not be a virgin, he still loses his son and therefore loses his proof of not being a virgin. Additionally, sex still has this aspect of power and status to it. Now, it is in regards to feeling as though he has ownership over another person rather than it being an escape from rigid social dynamics. Sexuality has transformed from this method of internal escapism into outward oppression, both self-imposed and enforced upon others.

**Tommy**

In Ishiguro's novels, even when someone has faithful partners and has a mature mindset towards sexual relationships, sex and sexuality is still used as a method of oppression when these two criteria fail to comply with the heterosexual ideal. In *Never Let Me Go*, the world has been thrusted into a prosperous age where

medical conditions like cancer have effectively been cured thanks to harvesting organs from human clones. A curious byproduct is that these clones, while appearing to have the same sex organs as humans, cannot seem to reproduce. Despite this, there is still this caution around sex due to the overwhelming pressure of heterosexual ideas from the guardians: "That's why they were so odd about it; for them, sex was for when you wanted babies, and even though they knew, intellectually, that *we* couldn't have babies, they still felt uneasy about us doing it because deep down they couldn't quite believe we wouldn't end up with babies" (96-97). Sex does not have any consequences for the clones. In a way, this benefits their sexual development. The clones can freely engage in sex and explore their development without being concerned about pregnancy scares. This also allows them to have many sexual partners throughout their lives and to simply indulge in sex with whoever they please as long as neither party is in a committed relationship already. Tommy, the male main character, is not bound by all the limitations towards sex like Stevens, Gawain, and Edwin are. Moreover, Tommy never enforces a power imbalance onto his heterosexual relationships. While he harbors feelings for Kathy, he does not shame her or control her for wanting to sleep with other people. He even has nonjudgmental conversations with Kathy regarding sex, assuring her

that her high sex drive does not indicate anything wrong with her.

However, the society that Tommy inhabits still greatly enforces typical heterosexual ideals, specifically instilling aversion to being queer and focusing on reproduction as proof of love. While the heterosexual clones have the opportunities and abilities to practice and perform sex, queer clones face typical gay prejudice: “I don’t know how it was where you were, but at Hailsham we definitely weren’t at all kind towards any signs of gay stuff” (96). It is interesting to note that the aversion to gay sex does not come from lesbians, but rather men exploring their own sexuality. The only reason why Hailsham is a hostile environment is because the boys “had done things with each other when they’d been younger, before they’d realized what they were doing” (96). Before the introduction of unyielding heterosexual ideals, the boys were comfortable exploring and expressing their sexuality with one another and only disparage any sort of queerness once they are taught that only heteronormativity is the standard. Thus begins the focus among the clones on conforming to heterosexuality and all of its metrics, such as emulating straight TV couples and not discussing or engaging in any queerness.

While Tommy has a healthy enough perspective on sex that allows him to engage in it freely, he is ultimately defeated by the fact that he cannot, in

whatever he does, live up to heterosexual, reproductive ideals. The clones' inability to reproduce denotes them as different, failing to live up to the standards of heterosexuality and reproduction:

> Reprosexuality involves more than reproducing, more even than compulsory heterosexuality: it involves a relation to self that finds its proper temporality and fulfillment in generational transmission. Outside of the generational narrative – without legitimate origin or reproductive legacy – the clone is expendable (Carroll 139).

While Tommy can create art and form genuine connections unlike his male protagonist counterparts, he cannot create life. It adds a layer of tragedy when both Tommy and Kathy try and fail to get a "deferral" so that they may live out their lives for a few more years. Even if the possibility of a deferral existed, there would be no proof of Kathy and Tommy loving each other as they are unable to conceive. It further reduces Tommy's purpose down to being just mere body parts for others. Tommy may be able to have typical sexual development and freedom, but his failure to uphold reproductive ideals ensures he will always be seen as different.

**Conclusion**

Across Ishiguro's fiction, sex is an elusive idea that exerts considerable power over the male characters. When they cannot have it, the men often view it as an escape from their roles and pressures despite not always being able to comprehend or accept it due to their arrested development and social standing. When they do have it, it becomes a metric of their worth, illustrating how it is not actually the escape the men see it to be and how it actually causes them to have to live up to different expectations personally and socially. Rigid personal and societal creeds merely impede the sexual development of men, even causing them to be complicit or involved with dehumanizing beliefs and ideologies due to how dehumanized they themselves feel. As a result, there is a danger in them feeling so dehumanized that they transfer these elements of dehumanization onto others, content to be involved with or complicit in horrible actions such as genocide. Heterosexual ideals omit any other expression of sexuality aside from ones that focus on reproduction and heteronormativity, meaning that men can be sexual but still essentially be seen as virgins if they do not conceive or be seen as abnormal if they indulge in queerness. No matter the ideals, the overwhelming pressures against sexual freedom in regards to men worsen their personal lives, sabotaging their relationships and always making them feel as though they lead unfulfilling lives even when trying to live up to sexual standards.

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# Association and Impact of Neanderthal DNA in Modern *Homo sapiens*

*Brenna Hezel*

## Abstract

Neanderthal DNA is a component of the modern human genome. The current fossil record suggests that *Homo neanderthalensis* diverged from the primate line that led to present-day humans around half a million years ago. The evolution of modern humans has been accompanied by a number of genetic variants, including a variety of single-nucleotide polymorphism (SNPs) that have been found to be involved in the development of various diseases including diabetes, liver cancer, and lupus. In this paper, we will discuss the genetic basis of these SNPs in modern humans and their impact on human health. We will then propose future solutions to these diseases using these studies and recent technology such as CRISPR-Cas.

## Introduction

The current fossil record suggests that Neanderthals—*Homo neanderthalensis*—diverged from the primate line that led to present-day humans—*Homo sapiens*—around half a million years ago.[3] This common ancestor left the modern lineage, resulting in the separation of Neanderthals from early humans. During this period of time, the Neanderthal population separated into large isolated groups and migrated north into Eurasia. Humans, on the other hand, dispersed into small pioneering groups and migrated out of Africa. These humans eventually reencountered Neanderthals living in the Fertile Crescent of the Middle East between 60,000 and 70,000 years ago. As the two communities interacted, they began to interbreed, and Neanderthal DNA was transferred into the human genome through the process of introgression.[11]

Recent research has revealed that 2-4% of the genomes of present-day humans are derived from Neanderthals,[14] and at least 40% of the Neanderthal genome can be reconstructed from the Neanderthal ancestry in people today.[11] These discoveries can be attributed to Svante Paabo, who was the recipient of the Nobel Prize of Medicine in 2022. Paabo was recognized for sequencing the genome of the Neanderthal lineage, identifying another ancient lineage referred to as Denisovans, and discovering that gene transfer had

occurred in *Homo sapiens* following the migration out of Africa. The circulation and familiarization of information pertaining to Neanderthals can also be attributed to current news outlets. For example, CNN both credited COVID-19 survival rates[5] to Neanderthals and also blamed the ancient lineage for severe COVID-19 cases.[3]

Advancements in both technology and the field of molecular genetics are responsible for discoveries regarding Neanderthal DNA in modern *Homo sapiens*. A prime example of this is an analysis of 40 diseases in a genome-wide association study (GWAS) of about 212,000 individuals derived from the Biobank Japan Project.[4] GWAS allows scientists to identify genes associated with a particular disease or trait by studying the entire set of DNA of a large group of people. This method specifically searches for a single nucleotide polymorphism (SNP)—a DNA sequence variation present in at least 1% of the population that occurs when a single nucleotide in a specific gene is altered.[9] These permanent changes within the DNA are referred to as mutations and vary in effects. For example, a silent mutation does not change the amino acid product, but a missense (either conservative or relative) will change the base and produce a related or unrelated amino acid. A more recognizable type is referred to as a nonsense mutation because regardless of the nucleotide status, a stop codon will be created during translation. It is also

important to note that the mutation can occur in various locations, including the non-coding region. In order to discover these various SNPs, GWAS has to be relatively straightforward. A target group is initially located, data including DNA and phenotypic information is collected, low frequency alleles (which can be referred to as "random chance") are removed, any alleles not accounted for are imputed, and statistical analysis is performed to discover variants.[9]

To understand the relationship between Neanderthal DNA and modern humans, numerous studies that utilized GWAS and database mining (using computers to search large data sets for patterns and trends) will be examined in order to establish a connection between a specific SNP and its impact. It is essential that an experimental question is created in order to address the true story of *Homo neanderthalensis* and their lasting effect within contemporary society and in human health. Due to introgression and interbreeding, modern *Homo sapiens* now contain a certain percentage of Neanderthal DNA and thus have a greater risk for diseases such as type 2 diabetes, liver cancer, and lupus**.**

**Type 2 Diabetes (T2D)**

In a large genome-wide association study of more than 8,000 Mexicans and other Latin Americans, it was discovered that people who carry the higher-risk version of the gene SLC16A11 are 25% more likely to have

diabetes than those who do not and 50% more likely if they inherited copies from both parents.[13] This specific disease—type 2 diabetes—is a metabolic disorder characterized by high blood sugar levels because of the body's inability to both use and produce insulin, a hormone produced by the pancreas that helps regulate blood sugar levels. The SLC16A11 gene, in particular, is a member of the monocarboxylic acid transporter family. This group of proteins plays a crucial role in the transportation of various organic acids across the body and is involved in maintaining cellular homeostasis, metabolism, and pH regulation. The study attributed 20% of the populations' increased prevalence of type 2 diabetes to the elevated frequency of this variant.

This study was specifically designed by the SIGMA (Slim Initiative in Genomic Medicine for the Americas) Type 2 Diabetes Consortium, which analyzed 9.2 million SNPs in each of 8,214 Mexicans and Latin Americans.[13] Due to the overwhelming amount of data, researchers analyzed previous studies to establish a basis for their research regarding the origins of type 2 diabetes. Two variants were recognized: TCF7L2 and KCNQ1. TCF7L2 is a transcription factor (TF) in the Wnt-signaling pathway that is expressed in many tissues including fat, liver, and pancreatic islets. A transcription factor is a protein that plays a critical role in regulating gene expression by binding specific DNA sequences (known as transcription factor binding sites) in the

promoter region of genes. By binding to these sites, transcription factors can either enhance or inhibit the transcription of the associated gene. TCF7L2 is involved in the Wnt-signaling pathway; the signaling pathway plays an important role in various processes such as embryonic development, tissue homeostasis, and cell proliferation. When the Wnt-signaling pathway is activated, it leads to the stabilization and accumulation of β-catenin (a protein that acts as a co-activator for TCF7L2). The interaction between β-catenin and TCF7L2 then allows TCF7L2 to bind to specific DNA sequences known as Wnt response elements (WREs) in the promoter regions of target genes. By binding to these WREs, TCF7L2 can either activate or repress the transcription of the target genes and thus interrupt these biological processes. KCNQ1 has a simpler role in that it provides instructions for making potassium channels. These channels play a vital role in regulating the electrical activity of nerve cells and muscle cells by maintaining the resting membrane potential of cells (the charge difference across the cell membrane when the cell is at rest). The resting membrane potential establishes and regulates the action potential. Similar to the resting membrane potential, the action potential produces a brief electrical impulse that allows nerve cells to transmit signals and muscle cells to contract.

Through the foundational research on these two genes, scientists were able to recognize an even stronger

association between type 2 diabetes and SLC16A11's silent and missense mutations. First and foremost, these researchers identified the SLC16A11 haplotypes and their effects. Haplotypes are a specific combination of alleles that are inherited together on the same chromosome from a single parent. It is important to point out the unexpected genetic length of the SLC16A11 haplotype. The long genetic length of the 5 SNP haplotype was similar to the Neanderthal sequence and, as a result, was likely introduced into modern humans relatively recently through archaic admixture. The identification of these haplotypes allowed researchers to understand the secondary structure of the protein—the localized structures that form based on interactions within the protein backbone and the location of those SNPs. By understanding these structures, new research can be conducted to understand the various components and role of the gene.

A follow-up clinical trial was conducted and discovered that individuals carrying the SLC16A11 risk haplotype exhibited significantly higher fasting plasma glucose, total cholesterol, and low-density lipoprotein cholesterol. Thus, it can be concluded that the SLC16A11 genotype affected the values of blood lipids,[1] which are a group of substances that are essential for various physiological functions such as providing energy and insulation, and serving as building blocks for cell membranes and hormones. This trial referenced two

studies that had contradicting opinions on whether or not this was a gain of function or loss of function. Gain of function refers to when a gene or protein's activity and effectiveness has been enhanced compared to its wild-type state. This phenomenon can lead to increased protein activity, altered signaling pathways, or enhanced cellular processes. Conversely, a loss of function refers to a decrease of activity and effectiveness of a gene or protein. Loss of function mutations can result in reduced or absent protein expression, impaired protein function, or disrupted cellular processes. In a mouse knockout trial,[16] researchers generated SLC16A11 knockout mice and then reintroduced the wild type and the mutant type. While the knockout and wildtype had no metabolic effects, the mutant caused significant lipid accumulation and insulin resistance by upregulating the expression of lipin 1 (an enzyme responsible for lipid synthesis). Therefore, this suggests that the genetic variants in the SLC16A11 locus translate to a gain of function protein. However, a study critiquing this experiment proposed three counter-arguments: SLC16A6 may have compensated for loss of SLC16A11, an increase in a downstream phenotype does not indicate the nature of a mutation, and the trial did not assess the molecular or biochemical activity of their mutant SLC16A11 transporter.[6] Without this information, it is impossible to confirm gain of function or a loss of function. It is important that these three studies are recognized because

of SCL16A11's role in type 2 diabetes as a Neanderthal-derived gene.

**Liver Cancer**

The liver plays an essential role in metabolism as the primary organ for metabolizing carbohydrates, fats, and proteins. Moreover, it plays an important immunological function by clearing pathogens that enter the blood while also maintaining immunotolerance.[14] In liver cancer, normal immune and metabolic functions such as amino-acid or lipid metabolism are altered. Data has indicated that Neanderthal introgressed haplotypes are found in genes related to these processes and thus, a study was designed in order to discover this relationship.

Conducted by BMC Medical Genomics,[14] this study utilized a variety of data from different sources: tumor RNA from liver cancer patients from The Cancer Genome Atlas, ancestry-match germline DNA from unaffected individuals from the 1000 Genomes Resource, and allele-specific expression data from normal liver tissue from The Genotype-Tissue Expression project. The process was straightforward: using a generated set of Neanderthal alleles, researchers identified Neanderthal introgressed haplotypes and somatic mutations. Finally, the effects of these mutations were analyzed, and an overall pattern was identified.

The results of the study indicated differences in the expression of Neanderthal alleles between liver

cancer patients (TCGA, blue) and unaffected individuals (GTEx, red).[14] The experiment focused on four genes expressed in the two types of individuals. While the AKR1C4 and HAL alleles exhibited a bias away from the Neanderthal allele in tumors, OAS1 and PXMP2 alleles indicated a bias toward the Neanderthal allele in tumors. Ultimately, this study concludes that the four genes (OAS1, AKR1C4, PXMP2, and HAL) had a correlation with various cancers.

ARK1C4 and OAS1, in particular, were determined to be responsible for regulating expression in tumors from liver cancer patients. OAS1 (oligoadenylate synthetase 1) encodes a protein that promotes degradation of viral RNA while also prohibiting viral replication[12]. AKR1C4 (aldo-keto reductase family 1 member C4) is involved in NADPH-dependent reduction and plays an important role in metabolism of steroid hormones[13]. NADPH (nicotinamide adenine dinucleotide phosphate) is a coenzyme that serves as a carrier of high-energy electrons in many metabolic reactions. NADPH-dependent reduction refers to the transfer of electrons from NADPH to a substrate and results in the reduction of the substrate. AKR1C4's role in liver cancer is still unclear as expression level differences between tumor and normal tissue were found to be inconsistent, but it is still important to recognize the correlation between Neanderthal introgression, expression of AKR1C4, and the contribution to liver cancer etiology.

The third allele, PXMP2 (peroxisomal membrane protein 2), is a channel-forming protein in mammalian peroxisomes and is often associated with esophageal squamous cell cancer progression.[14] The frequency of the Neanderthal PXMP2 allele was significantly higher compared to the modern human allele in liver cancer patients. The fourth allele, HAL (histidine ammonia-lyase), encodes an enzyme that plays a role in histidine catabolism (the metabolic breakdown of the amino acid histidine in the body).[14] Overall, the expression of these genes provide evidence that Neanderthal introgression increases the risk of liver cancer and the influence on gene regulation in tumors.

**Lupus**

Numerous studies have brought attention to the long stretches of Neanderthal DNA scattered within the modern human genome; moreover, one of these stretches contains a gene called IRF5 (Interferon Regulatory Factor 5).[7] IRF5 plays a role in the expression of various genes in the immune system and its responses. A GWAS revealed that people carrying the Neanderthal version of the IRF5 gene have an increased risk of developing Systemic Lupus Erythematosus (SLE).[7] SLE is a systemic autoimmune disease characterized by immune dysregulation, which results in production of autoantibodies, generation of immune complexes, and increased apoptosis and defective clearance.[16]

A study from the University of Athens genotyped 322 SLE patients and 247 healthy controls from Crete for 5 SNPs of the IRF5 gene by using Taqman primer-probe sets to amplify and detect alleles in genomic DNA.[16] This method specifically utilizes specific primers and a fluorescently labeled probe to amplify and detect target alleles in genomic DNA through real-time PCR. The cleavage of the probe by DNA polymerase during amplification leads to an increase in fluorescence, allowing for allele detection and quantification. Through this analysis, the 5 SNPs (TATA, TCTA, GCTA, GCTG, and TACA) formed 5 major haplotypes and the Neanderthal-derived TACA risk haplotype was enriched in the SLE cases.

Scientists were able to identify the Neanderthal derived TAC as a risk mainly due to the p-value and the OR (odd ratio). The larger the p-value, the higher the probability that one might observe an association as a result of chance alone and that the exposure is probably not related to the disease (in this case it was very low). Likewise, the OR is a measure of the odds of an event happening in one group compared to the odds of the same event happening in another group. Due to both of these numbers (a low p-value and a high OR), scientists have deduced an increased probability of TACA resulting in an increased risk in SLE.

**Discussion**

As a result of introgression and interbreeding with Neanderthals, 2-4% of modern *Homo sapien* genomes consists of Neanderthal DNA, giving *Homo sapiens* a greater risk for diseases including type 2 diabetes, liver cancer, and lupus. This health concern is due to various SNPs and the negative effects of inherited Neanderthal haplotypes such as SLC16A11 being associated with type 2 diabetes, four alleles (OAS1, AKR1C4, PXMP2, and HAL) being associated with liver cancer, and TACA being associated with SLE. Due to the advancements in technology and the field of molecular genetics, scientists are able to identify these deviants through GWAS and database mining in order to explain the origins of these diseases.

It is necessary to understand why these SNPs have persisted in modern humans regardless of how detrimental they are. One explanation is that the genes and SNPs discovered by various scientists that affect *Homo sapiens* later in life may not have been deleterious to Neanderthals or early humans with shorter lifespans. If the gene caused an issue at 70 years old, then it would not be a problem due to these species' life spans being short. Neanderthals, and other ancient lineages, often survived until their 30s and would not have survived to even notice the distinguishable trait. Due to modern technology and an overall improvement of lifestyle, modern *Homo sapiens* are living longer. Likewise, these genes are now being recognized within humans later in

life. It is important to note that because these SNPs did not present until later in life, the affected would have already produced offspring, and their genes would not have been affected by selective pressures. Another explanation for why we are observing the expression of these SNPs could be due to possible diet differences. Neanderthals and early humans consumed seafood, meat, and pine nuts (as seen through their canines and molars). These ancient lineages adapted their diet to the resources that were most readily available and easily accessible, while modern humans seemed to have invested more effort in accessing food resources. Thus, genes affecting insulin or sugars are more recognized with modern humans.

As a result of scientists having gained a greater understanding of exactly how Neanderthal DNA contributes to the modern human genome, they can now explore the genetic basis of said concerns in hopes of paving the way for new diagnostic and therapeutic strategies. Current research methods include identifying SNPs and then comparing them to Neanderthal DNA through GWAS, database mining, and statistical analysis. Through this methodology, a gene or mutation can be connected to a certain disease or trait. This idea is applicable to medicine: SNPs can help predict an individual's response to certain drugs, susceptibility to environmental factors such as toxins, and risk of developing diseases. SNPs can also be used to track the

inheritance of disease-associated genetic variants within families.

The biggest scientific achievement of the century—CRISPR—may also be a viable option. If these SNPs were to start harming the larger population (rather than only 1%), CRISPR technology could be used. CRISPR specifically edits genes by precisely cutting DNA and then letting natural DNA repair processes to take over. This system consists of two parts: the Cas9 enzyme and a guide RNA—rapidly translating a revolutionary technology into transformative therapies. Researchers have already created experiments connecting both CRISPR and Neanderthals. One study in particular utilized CRISPR genome editing to change the modern NOVA1 gene in human stem cells to mimic the Neanderthal and Denisovan version. Scientists prompted the cells to develop into a Neanderthal or Denisovan-like brain organoid.[10] Although this study focused on brain evolution across primates, the application of CRISPR technology on Neanderthals could be mimicked. It would be interesting to see a Neanderthal gene replaced with another human gene through editing. Ultimately, the presence of Neanderthal genes creates an increased risk of disease in modern *Homo sapiens* and must be addressed for the overall well-being and health of modern humans.

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# Evaluating the Use and Ethics of Neuroimaging in Diagnostic Psychiatry

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## Abstract

Diagnostic psychiatry is a continuously evolving field, both in terms of how mental illness is being diagnosed and conceptualized, and also in how it is being treated. In its development, the field is facing a current diagnostic crisis that involves the combination of an over standardization and reliance on diagnostic manuals and a misunderstanding of symptomatology. This has created both an increase in misdiagnoses and a treatment gap. Neuroimaging tools such as structural magnetic resonance imaging (MRI), functional MRI (fMRI), diffusion tensor imaging (DTI), and measures of brain activity like positron emission tomography (PET) scanning, and electroencephalography (EEG) may prove to be valuable tools in the face of the present diagnostic crisis by refining the understanding of mental illness and providing clarify on the effects of mental illnesses and efficacy of different treatment options. Neuroimaging tools are able to accomplish this by providing more comprehensive information on the brain. As its use continues, biomarkers may be more reliably called on in

diagnosing a patient. Presently, neuroimaging is still useful in the field for its ability to rule out and clarify information, for instance ruling out causes like brain tumors and certain brain abnormalities. If implicated with prioritization of neuroethical principals and with emphasis on high-need areas, there is a great ability for neuroimaging to better the patient experience, lessen the diagnostic crisis, and align the field of diagnostic psychiatry with a more ethical approach.

Diagnostic psychiatry is a frequently changing field that looks at the symptoms of an individual to understand and articulate any mental illnesses or other conditions affecting the person's mental health (Brinkmann, 2023). Many of the changes in diagnostic psychiatry come as a result of changing diagnostic criteria, which is always in discussion within the field and open to updates. In addition to diagnostic criteria, treatment options are also subject to improvement as new procedures, technologies, and medicines become available, and as the information pool of existing tools expands. This means psychiatrists and other healthcare professionals carry a responsibility of remaining up-to-date on the most current information and being open to evolving their practice. The field of diagnostic psychiatry interacts closely with other disciplines, particularly neuroscience, to gain a more comprehensive understanding of how mental illnesses arise, especially in relation to occurrences in the brain that are either causing mental health disturbances or are the result of such. Some tools that are useful in this are neuroimaging techniques such as structural magnetic resonance imaging (MRI), functional MRI (fMRI), diffusion tensor imaging (DTI), and measures of brain activity like positron emission tomography (PET) scanning, and electroencephalography (EEG) (American Psychological Association, 2014).

Current psychiatry has encountered several problems within the practice, particularly in the accuracy and use of diagnoses. There are different psychiatric approaches and debate over which of these serves the best interest of patients and prevents the diagnostic problems common in today's society. Coupled with these problems are the ethical principles of nonmaleficence, the obligation of a healthcare professional to do no harm to their patient, and beneficence, the obligation of a healthcare professional to act in the benefit of their patient, prioritizing patient welfare and supporting moral rules that protect and defend the rights of patients (Varkey, 2019). Both of these principles are infringed upon if a patient's diagnosis is either inaccurate or misused, as that directly affects the quality of care and access to treatment a patient will face. Greater collaboration between psychiatry and neuroscience, especially within the use of neuroimaging, may help address many of the present psychiatric shortcomings by refining the understanding of mental illnesses and providing clarity on the effects of mental illnesses and efficacy of different treatment options. This betters the patient experience and aligns diagnostic psychiatry with a more ethical approach. In this collaboration it is important to prioritize the ethical considerations of both neuroimaging and psychiatric practice. In order to fully understand the potential of this collaboration, it is important to examine the present diagnostic crisis in

context. Doing so will provide insights about the ways that neuroimaging would supplement existing efforts and offer something new to the field. It is also then critical to relate this information back to ethical principles and to gain an objective feel for the benefits and limitations of neuroimaging.

Around 1980, psychiatry switched from an etiological model of mental illness to a symptom model, as described by Brinkman (2023). The etiological model looked at causes of mental disorders: it examined a person's background such as personality, past experiences, and actions to draw a diagnosis. The practice was fairly unreliable which led to the present diagnostic approach and wave of diagnostic psychiatry, in which a diagnosis can be formed based on the symptoms of a patient and duration they have been experiencing them. The symptoms model relies on symptom lists and categorizations in diagnostic manuals, like the Diagnostic and Statistical Manual of Mental Disorders (DSM) and International Classification of Diseases (ICD), which are regularly updated (Brinkmann, 2023, p. 3). A criticism of the present model is that diagnostic psychiatry depends greatly on manuals that create standardization and manualization in health care, minimizing the experience and judgment of professionals (Cooper, 2014 as cited in Brinkmann, 2023, p. 4). Trends tying into this criticism are a rise in the number of people receiving diagnoses, a rise in the

number of available diagnoses, and almost counterintuitively, a rise in people who need psychiatric diagnosis but are not currently diagnosed, referred to as the treatment gap:

> This is the problem of under-diagnosis, which allegedly co-exists with claims about over-diagnosis. And strictly speaking, these two tendencies can logically occur simultaneously if it is the case that ill people are not diagnosed and well people are diagnosed. The difference between the number of people who are in fact diagnosed, and the number of people who ought to be diagnosed, is called the treatment gap, because a psychiatric diagnosis is in many societal contexts the obligatory passage point to treatment…The diagnoses play a key role in this, because they define what mental illness is and how it should be found (Brinkmann, 2023, p. 4).

Another contributing factor to the diagnostic crisis is referred to as Viewing Symptoms as Disorders (VSAD), a common practice in diagnostic psychiatry that counters the previous etiological model or models of traditional somatic medicine, where symptoms are viewed as the body's effort to protect itself. Those who endorse VSAD argue that symptoms are not always interpreted in context and contribute to diagnostic

inflation (Nesse, 2020 as cited in Brinkmann, 2023). Some concerns of the diagnostic crisis argue that the practice as a whole relies too heavily on diagnoses carrying the burden of explanation in psychiatry. The concept of causal heterogeneity is used to describe the possibility that many psychiatric disorders may display high degrees of variation and complexity that can not be explained by a single diagnosis. Ultimately, this suggests that current psychology may fall short in the role given to a diagnosis, where it serves as the cause of a patient's symptoms (Muang, 2016). These two components interact to illuminate how certain elements of the diagnostic crisis came to be, explaining how current psychiatry views symptoms strictly in accordance to how they may be incorporated into a diagnosis.

Thus, many of the present issues in diagnostic psychiatry can be attributed to an overreliance on diagnostic manuals and a misunderstanding of symptomatology, creating both an increase in misdiagnoses and a treatment gap. Many have presented potential solutions to this crisis. One potential solution involves moving beyond symptom based diagnoses and instead looking to find causes of mental illnesses, refining diagnostic criteria and treatment options. Specifically, some scientists such as Thomas Insel, former head of the National Institute of Mental Health, propose leaning towards a more objective neuroscientific solution, referred to as the Research Domain Criteria

(RDoC). The RDoC proposes categorizing mental illnesses as brain disorders, focusing on brains and genes to provide a more objective basis for psychiatry (Insel et al., 2010, p. 748 as cited in Brinkmann, 2023, p. 6).

The RDoC encourages supplementing the defined gap in psychiatry with neuroscientific methods, including neuroimaging. Still, an overreliance on neuroscientific measures may present the problem in which the word of psychiatrists is muted by brain scans or neuroscientists, similar to how it is currently argued to be muted by diagnostic manuals and a rigid dependence on symptoms. Also similar to the present psychiatric issues, an overreliance on neuroscientific measures may oversimplify the diagnoses process as diagnostic manuals have, and contribute equally to the treatment gap. With this in mind, one may conclude that RDoC or other neuroscientific solutions do not have the capacity to reverse the many problems in psychiatry. An alternative view allows for the combination of the two, where neuroscience supplements and validates the findings of diagnostic psychiatry. The combination of neuroscience and diagnostic psychiatry would prevent either from assuming too much weight over a diagnosis and could provide clarity and information otherwise not available to a psychiatrist. Particularly useful in this would be neuroimaging resources, which contribute an element of patient care in their ability to monitor

changes and progression, in addition to offering objectivity in the visibility of mental illness.

Neuroimaging in the assessment and treatment of mental disorders has had clinical applications for several years. A recent review covered how the use of structural brain imaging has applications towards the diagnosis and treatment of bipolar I disorder, major depressive disorder (MDD), and schizophrenia (Falkai et al., 2018). There are many instances in which brain imaging techniques provided useful information on brain disorders and mental health disorders. In regards to bipolar I disorder, the use of structural MRI reveals a pattern of increased volume in the left temporal lobe, right putamen, and right lateral ventricle among a group of people diagnosed with bipolar I. Another study found that those being treated with lithium had a larger mean total, left, and right hippocampal volume and total, left, and right amygdala volumes than those not treated with lithium, though a limitation of the data comes from the timing of the study, as only one time point was considered and there were no before and after images. All bipolar patients, including those not treated with lithium, were still found to have larger temporal lobe volumes than healthy individuals (Falkai et al., 2018, p. 181). This information lays a foundation for the future use of biomarkers in diagnosis and contributes to the biological understanding of bipolar I. There is still a lot unknown, for example why the temporal lobe is affected or the

relation between the temporal lobe and symptoms, but the information draws scientists and healthcare professionals alike closer to asking relevant questions and learning more about the nature of disease. It is critical that psychiatrists remain vigilant towards how a medication may be impacting the composition of an individual's brain, which is why the information on lithium is practically relevant.

Individuals with major depressive disorder, specifically those with late-life depression (LLD) were found to have a common pathophysiology of increased cerebrovascular load, as revealed by structural MRI. Increased research into this pathophysiology, especially into the vascular mechanisms responsible for LLD, would further the basis for a biological understanding of LLD, strengthening the use of biomarkers and the ability to curate treatment options (Falkai et al., 2018, p. 181). Similarly patients with schizophrenia showed patterns of distinctive brain features, but structural MRI was not able to be used as a diagnostic or prognostic tool for schizophrenia due to limitations in the study, like small sample sizes and lack of replication. Still, another study was able to use MRI machine-learning paradigms to distinguish patients of bipolar I and schizophrenia using gray matter density images (Falkai et al., 2018, pp. 180-183). This supports the idea of brain imaging as a tool for eliminating options and confirming a diagnosis. Machine learning as a whole represents a new direction

for neuroimaging, with promising results related to the use of biomarkers and predictive neuroimaging. It marks a shift in the use of neuroimaging being able to identify similar brain patterns or anatomy in patients with the same disease or symptomatology to being able to predict if patients with specific characteristics may be likely to have certain disorders.

Another benefit of neuroimaging within psychiatry, similar to the study that observed patients of bipolar I taking lithium, is a more comprehensive understanding of treatment. Deep brain stimulation (DBS) treatment has been used to treat obsessive compulsive disorder (OCD) and depression in several clinical trials. It is typically performed bilaterally by placing electrodes  using imaging such as MRIs and other methods. Electrodes are inserted through burr holes into specific brain areas (Pascual-Leone et al., 2011). DBS, though a complicated treatment option that is not without risk, represents an entire realm in which neuroimaging is not only observed but actively aids in and contributes to psychiatric treatment. This strengthens the potential benefits of a melding between the two, as there is potential for neuroimaging to aid in treatment and then also assist in tracking the effects of treatment.

These findings and benefits are not without limitations. As with the studies just examined, many studies involving brain imaging use a subject pool of already diagnosed individuals for the purpose of the

research design. Though there are observable patterns and biological distinctions, there is no true element of causality. For example, in the case of the bipolar I patients, it is not possible to conclude whether hippocampal volume is causing the disease or if the disease is causing differences in hippocampal volume. Not knowing this crucial component limits the future application of neuroimaging. The previous studies used structural MRI, but this is hardly a phenomenon exclusive to one type of brain imaging. The most commonly used and researched example of neuroimaging is the functional MRI or fMRI. Functional MRI's are understood through statistical analysis of brain signals that represent "a range of neurons and their activity in a given time." As a result of this method, fMRI results are subject to variability in analysis yielding different results (Sahakian & Gottwald, 2017, pp. 8-9). Other forms of neuroimaging are susceptible to the same variability and lack of causality as those seen in MRI and fMRI, which also brings into question if the future of machine learning will encounter the same limitations. A major benefit of neuroimaging is its proximity to objectivity and causality, but this ultimately may not be the case.

These limitations are further seen in the instance of false negatives, false positives, and comorbidities. Comorbidity in psychiatry is defined as "the relative risk of a person with one disorder, to receive the diagnosis of

another disorder" (Desai, 2006). Comorbidities exist in the presence of two disorders and present a challenge in psychiatry as they may shift the treatment plan and understanding of a patient's condition. Neuroimaging may contribute to comorbidities in several ways. If neuroimaging advances to a point where it is reliably depended on to identify biomarkers and other patterns of brain structure for diagnosis, then it is possible for this practice to not accommodate the existence of comorbidities, leading to misdiagnosis and contributing to an already confusing diagnostic process. This would be the case if the existence of comorbidities was not factored into any sort of diagnostic guidelines that incorporate neuroimaging. Similarly, some have already observed that current "symptom-based DSM and ICD diagnostic criteria for mental disorders are prone to yielding false positives because they ignore the context of symptoms" (Wakefield, 2010). Neuroimaging has the capacity to further this problem since it may observe brain features without context, similar to the existing practice of taking symptoms without context. It is unlikely that different diagnoses will each have distinctive neuroimaging signatures, and developing the practice to seek these increases potential rates of both false positives and false negatives.

The limitations of neuroimaging further reiterate the point that neuroimaging alone or a strictly neuroscientific solution to the diagnostic crisis in

psychiatry is not possible or ideal, but rather that neuroimaging can play a role in the restructuring of psychiatry. Even with the limitations of neuroimaging, the provided information has immense value as both predictive and protective information for a patient. It adds a new element to symptoms as both those described by patients and those observed in brain scans could be taken into consideration, refining the practice and lessening the realm of diagnostic expansion. As was the case with schizophrenia and bipolar I, neuroimaging is able to distinguish between disorders and is likely to only grow in reliability to do this. It also is able to help identify organic disorders like tumors or inflammatory processes that are contributing to the experienced symptoms among those with mental disorders (Falkai et al., 2018, p. 183). In this way the value of neuroimaging as objective and able to discern potential causes remains intact. As opposed to depending on neuroimaging to conclusively say what is happening in an individual's brain, it can conclusively tell psychiatrists what is not happening, which is immensely helpful in validating a diagnosis and establishing an appropriate treatment plan. This is also based on current, available technology, meaning the impact of increased neuroimaging could be implemented without waiting for elaborate new technology to be developed.

The use of neuroimaging in diagnoses directly impacts the use and accessibility of diagnoses in society.

Often diagnoses serve as stepping stones to seeking treatment and accommodations in school or work  If not applied in accordance to neuroethical principles, neuroimaging carries potential to further the difficulty of obtaining accurate diagnosis. An immediate concern would be that it adds another step to an already complicated process that is often slowed down by referrals and insurance policies. Most considerably, neuroimaging is a costly practice. If neuroimaging is used as proposed, to validate and confirm diagnoses or to narrow down potential causes for specific symptoms, there is also a risk that people will pay for a service that they could have received the same outcome without. One study looked at the cost analysis of six different neuroimaging technologies. It found that in the use of psychiatric disorders, "no single strategy was characterized by both low cost and high accuracy." While sMRI was found to be the most cost-effective option, which is promising considering the previously discussed studies on bipolar I, schizophrenia, and MDD, there is still a concern that neuroimaging would contribute to a systemic issue of cost and accessibility in the healthcare system (Najafpour et al., 2021).

Accessibility ties in directly with the ethics of using neuroimaging in diagnostic psychiatry, as neuroimaging could become an additional contributor to healthcare inequity in the U.S. This concept must be taken into consideration when planning for the

implementation of neuroimaging in psychiatry. There is potential that as neuroimaging becomes more widely used it would as a result become more widely available, but this is paired with the understanding that though neuroimaging is sparsely used in psychiatry, it is still a common tool among other health fields, and still faces accessibility limitations. Another potential approach would be for the CDC or an alternative government body to place neuroimaging tools in areas that would be less likely to get them by other means, specifically rural and lower-income communities. Alternatively, grants could be established to set aside funds specifically for the inclusion of neuroimaging tools in different mental healthcare settings.

The current diagnostic crisis represents many gaps in the psychiatric field. Psychiatrists are struggling to understand patient symptomatology and to translate an understanding of symptomatology to an accurate diagnosis and useful treatment plan. In the face of this, neuroimaging serves as a means for collecting substantial amounts of information on patients. At a minimum, this would be useful for deepening the understanding of different neurological aspects that contribute to how mental health disorders are felt and diagnosed. This knowledge can be applied to individuals, but can also be used more broadly to redefine and clarify the understanding of many mental health issues and to assess the outcomes and impacts of

different medicinal treatments on the brain. In this way neuroimaging has potential for both micro and macro impacts, making it distinctive and valuable in the field. Though it contains many limitations, including cost and diagnostic implications, if administered carefully and in accordance with neuroethical and clinical ethical principles, neuroimaging carries significant potential to transform the field of psychiatry to one that is more accurate, comprehensive, and fair to patients.

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# Climate Change, Legitimacy, and Migration: A Comparative Analysis of Kiribati and Afghanistan

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## Abstract

Examining the diverse nature of climate-induced displacement, ranging from immediate disasters to gradual environmental degradation, this paper presents a comparative analysis of Kiribati, a recently self-determined state, and Afghanistan, which is grappling with climate-related challenges. The research delves into the complexities surrounding the acceptance and acknowledgment of individuals forced to leave their homes due to environmental factors, including the definition of refugees and the challenges faced by non-sovereign states. It explores issues like the absence of global legislation, the disproportionate impact on vulnerable populations, and the question of whether climate change undermines state legitimacy and fuels migration. In addition, the paper critiques the narrative of climate-induced displacement as an unavoidable consequence, highlighting potential adaptation strategies and challenging harmful colonial perspectives.

While the concept of migration driven by hardship is generally acknowledged, a fundamental question remains unanswered: how do we define a refugee with precision? In the context of climate-induced migration, this issue is amplified by the lack of global legislation, rendering it an invisible crisis. Within the realm of climate-induced migration, an unseen challenge emerges, struggling to secure acknowledgment in nations that demand validation in citizenship. Does climate change undermine the legitimacy of non-sovereign states and act as an unwelcome catalyst for migration? How does the diverse nature of climate-induced displacement, ranging from immediate disaster impacts to slow-onset disruptions, impact the acceptance and acknowledgment of displaced individuals? Climate change poses a significant threat to the legitimacy and viability of non-sovereign states, acting as a potent catalyst for large-scale migration. The diverse nature of climate-induced displacement, encompassing both immediate disaster impacts and gradual environmental degradation, complicates the acceptance and acknowledgment of displaced individuals within the existing international framework. This paper delves into this complex issue with a focus on two contrasting cases: Kiribati, a recently self-determined state, and Afghanistan, one of the largest victims of climate disaster and migration. Drawing upon a comprehensive examination of individual refugees, global political

dynamics, and the livelihoods of states, this research aims to unravel the complexities surrounding the acceptance and acknowledgment of those forced to leave their homes due to environmental factors.

Climate-induced displacement takes many forms, ranging from the immediate impacts of natural disasters to subtler, ongoing disruptions that erode the quality of life. Human mobility, as a generic term encompassing various forms of movement, includes climate change-induced movement, as defined by the Cancun Agreement. This movement involves displacement, migration, and planned relocation, providing a comprehensive understanding of the diverse ways individuals respond to environmental challenges (Migration Data Portal, UNHCR). In the United States, homes are destroyed by record floods and rising seas, while wildfires rage out of control, leaving behind charred landscapes. This grim reality is mirrored across the globe, yet victims of climate change are denied a critical legal status: "climate refugee." Consequently, they are left without the fundamental right to asylum. This gaping hole in legal protection grows ever wider as the climate crisis intensifies. The international legal framework for refugees, as defined by the 1951 Refugee Convention, primarily addresses individuals fleeing persecution based on factors such as race, religion, nationality, membership in a particular social group, or political opinion (UNHCR). Climate-induced migration

does not fit into this criteria. This may discourage countries from accepting migrants who are feeling the impending effects of climate issues, yet who do not have an internationally accepted refugee status. Regardless of this, environmental migration is defined as the movement of individuals or groups predominantly compelled by sudden or progressive changes in the environment. These changes adversely affect their lives, prompting them to leave their habitual residences either temporarily or permanently, within or outside their country of origin. Following World War II, the U.N. Charter enshrined the fundamental principle of "respect for the equal rights and self-determination of peoples" (Frere et al. 4). Recognizing the crucial link between these rights and international cooperation, Article 55 emphasizes that "conditions of stability and well-being" are essential prerequisites for the full exercise of self-determination (Frere et al. 4). This can be interpreted as an indirect link to the challenges posed by diverse forms of climate-induced displacement. The instability caused by climate-related factors could hinder the exercise of self-determination for affected populations.

In instances where these challenges become pervasive, migration due to climate-related factors can emerge as a reason for seeking refuge in sovereign states, although the barriers to doing so may be insurmountable. While much discussion focuses on

climate migration, a critical issue often remains in the shadows: climate-related immobility. As Richard Black and colleagues noted in the 2011 Foresight report on migration and global environmental change, there is an inverse relationship between vulnerability to climate threats and the ability to escape them Migration requires significant resources, including money, networks, and information (Black 16).

The most vulnerable groups, often with low income and education levels, lack the means to relocate, leaving them trapped in increasingly hazardous environments. The synthesis reveals a stark reality: staying put will not be a sustainable option in the face of future environmental change. Migration is inevitable, and the choice we face is whether to manage it proactively and ensure its orderliness or allow it to become chaotic and uncontrolled. The stakes are high: three scenarios project trapped populations, two scenarios warn of significant environmentally induced displacement, and one scenario with high population growth and fragmented governance presents a dire risk of unplanned, unmanaged migration and accompanying geopolitical challenges (Black 17). Individuals trapped in vulnerable locations are disproportionately affected by the impacts of climate change, facing risks such as food insecurity, water scarcity, and displacement due to natural disasters. For many people, the decision to migrate involves leaving behind their ancestral lands,

cultural heritage, and social networks. This can be an emotionally challenging and difficult choice, even in the face of climate threats.

The push-pull theory of migration has been widely used to explain migration patterns, including those driven by environmental factors. It is often grouped with the broader neoclassical migration theory, which emphasizes the role of economic rationality in migration decisions (Sherbinin et al. 6). While the push-pull framework can provide a useful overview of the factors influencing climate-induced migration, it also has limitations that need to be considered. Although framed as a voluntary choice, environmentally induced migration is arguably a preordained consequence of the limited viability of resource-based livelihoods. In essence, it becomes a forced strategy for survival when environmental pressure exceeds the coping capacity of a household.

Self-determination, enshrined as a fundamental right specifically for colonized peoples to address the legacies of colonialism, continues to hold immense significance for decolonizing nations like those in Oceania. However, climate-induced displacement threatens to irrevocably extinguish this right for Oceanic states, perpetuating and amplifying past injustices unless persistent colonial structures are dismantled. In the case of Kiribati, a Pacific island nation formerly colonized by the British that is facing the imminent threat of rising sea

levels, climate change has become a direct assailant on the state's social, political, and economic foundations. The average elevation of Kiribati is only a few meters above sea level. As global temperatures rise, polar ice melts, and ocean water expands, sea levels are increasing, posing a direct threat to the habitability of low-lying islands (World Bank 2). These environmental changes pose significant challenges to the habitability of the islands and the well-being of the population. The physical consequences of climate change are well-documented in Kiribati, where the government has recognized that entire islands will be submerged and nations will vanish. To address these threats, Kiribati has implemented comprehensive national adaptation policies. The erosion of coastlines, saltwater intrusion, and the increased frequency of extreme weather events have not only disrupted the daily lives of its people but have also compromised their ability to exercise self-determination in Kiribati (Frere et al. 2). The people of Kiribati find themselves at the forefront of a climate crisis, where the very land they inhabit is under threat, not due to any fault of their own. As a consequence, the societal fabric of Kiribati is unraveling, impacting the political cohesion and economic stability of the nation, regardless of 20-year plans and incoming legislation. The residents are left with a harsh reality: either face the consequences of a deteriorating environment or seek new homes, often in sovereign states that may not fully

understand the unique challenges posed by climate-induced migration. This narrative fails to acknowledge the agency of Oceanic peoples, many of whom actively resist the idea of climate-induced migration and dedicate themselves to the survival of their culture and self-determination. This unquestioning acceptance of island loss perpetuates harmful colonial narratives that portray islanders as powerless victims and their lands as marginal and dispensable, ultimately sacrificing them for the convenience of others. Notably, powerful nations facing similar climate challenges do not readily accept migration as a necessary solution. In her article "Climate Migration & Self-Determination" in the *Columbia Human Rights Law Review* journal, Autumn Skye Bordner states:

> Due to its colonial history, the Marshall Islands lacks the resources to independently implement the type of extensive adaptation measures currently underway at the metropole. Instead, the Marshall Islands is dependent on aid from outside funders to implement even modest climate adaptation projects. Because funders wholly control the resources, they also have ultimate power to set the climate adaptation agenda. (Bordner 219)

This portrayal overlooks the potential of technically feasible adaptation strategies that could enable the long-term survival of even the most vulnerable regions. The colonial administration of the Pacific Islands was marked by a pattern of external powers assuming control while dismissing the agency of native islanders. This dynamic continues to manifest in the climate adaptation process today. Local adaptation plans are often disregarded by external actors under the mistaken assumption that funders possess greater technical expertise and sophistication than islanders. This attitude perpetuates false imperial narratives that portray islands and islanders as primitive and insignificant, ignoring the reality that they have been adapting to environmental changes under challenging conditions for centuries. The prevailing narrative portrays the loss of islands to rising seas and the resulting climate migration as an unavoidable consequence, effectively shutting down any discussion of potential adaptation strategies. This resignation to the demise of entire nations echoes colonial narratives that viewed islands and their inhabitants as marginal and dispensable.

Contrastingly, the case of Afghanistan, while not facing the same environmental threats as Kiribati, contends with its own set of challenges exacerbated by a changing climate. According to UNOCHA, "Afghanistan is now the world's largest and most severe

humanitarian crisis. A record 29.2 million people – more than two-thirds of the population – require humanitarian assistance to survive" (UNOCHA). The crisis has also forced over 1.6 million Afghans to flee the country since 2021, contributing to the world's largest protracted refugee situation (UNHCR). Over four decades of relentless conflict, coupled with natural disasters, chronic poverty, food insecurity, the COVID-19 pandemic, and a recent change in government, has inflicted immense suffering and displacement upon the Afghan people. The escalation of instability and violence leading up to the Taliban takeover of Kabul in August 2021 further compounded these hardships (UNHCR). This vulnerability can be seen as undermining the state's legitimacy, particularly if it relies on external aid to address the consequences of climate change. What was once a simple matter of providing direct government funding has now become an insurmountable obstacle due to the sanctions imposed on the Taliban last year (Spink et al. 30). Although they have taken some steps, like providing emergency assistance for recent disasters and coordinating with NGOs, their efforts are severely hampered by the scarcity of cash, a consequence of both frozen Afghan assets and ongoing sanctions (Spink et al. 6). As climatic conditions worsen in Afghanistan, the country's socio-economic development will face significant setbacks. This will lead to increased poverty, leaving more people vulnerable to climate hazards and

raising the risk of conflict over scarce resources. Predictions anticipate a rise in temperature, which will impact agricultural production, water availability, and food security (Spink et al. 22). While migration in Afghanistan often appears driven by economic factors, such as people seeking better employment opportunities in urban areas, this classification overlooks the underlying "push factors" that make rural livelihoods unsustainable and cause political displacement. These factors, often linked to climate change, include land rendered unproductive by repeated floods and recurrent crop failures due to drought. Understanding these push factors is crucial to accurately assess the link between climate change and migration. The increasing rate of climate-induced migration within Afghanistan and potentially across borders further challenges the state's control over its own territory and population. This can raise questions about the state's ability to govern effectively and maintain order. Current institutional arrangements for climate-induced migration primarily focus on immediate disaster response, lacking a long-term vision for addressing the consequences of climate change. The emphasis remains on responding to immediate losses and damages, neglecting mitigation and adaptation strategies. Afghanistan requires a well-resourced and comprehensive national development program to address the existing and future challenges posed by climate change. Here, the lens shifts to the

political implications of climate change, especially in terms of displacement and the struggle for representation. These environmental stressors exacerbate existing vulnerabilities and contribute to the displacement of populations, often resulting in conflict over scarce resources. The focus on immediate disaster response rather than long-term mitigation and adaptation strategies suggests a lack of foresight and planning by the unstable Afghan government. This can be seen as undermining the state's ability to effectively address complex challenges and secure a sustainable future for its citizens, one that bears questionable legitimacy.

Climate change not only hinders the self-determination of non-sovereign states and challenges the legitimacy of sovereign states but also serves as a complex interplay between environmental changes, political structures, and patterns of human migration. The cases of Kiribati and Afghanistan illustrate that climate change does more than disrupt ecosystems—it challenges the very essence of self-determination and legitimacy for communities facing its adverse effects. Understanding the multifaceted impact of climate change on non-sovereign states is crucial for developing effective strategies that address both environmental and political dimensions. Globally defining climate refugees is also vital, as it counters the phenomenon of displacement and asylum without a cause just because a country has not defined

climate migration as such. The varied forms of climate-induced displacement, spanning immediate disasters and gradual environmental deterioration, add complexity to the recognition and acknowledgment of displaced individuals within the current international framework. This is not an issue that can be resolved through a lack of collective action and individual states making adaptations. As global efforts intensify to mitigate the effects of climate change, acknowledging its role in shaping the destiny of vulnerable communities becomes imperative for maintaining resilience, protecting self-determination, and creating sustainable solutions for the future.

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