

MAMMALIAN STORYTELLERS

Experimental Nonfiction at the Intersection of Religious Studies and Indigenous Studies

by

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B.A., Northwestern University 2010

A thesis submitted to the  
Faculty of the Graduate School of the  
University of Colorado in partial fulfillment  
Of the requirement for the degree of  
Master of Arts  
Department of Religious Studies

2016

This thesis entitled:  
Mammalian Storytelling:  
Experimental Nonfiction at the Intersection of Religious Studies and Indigenous Studies

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The final copy of this thesis has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

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Mammalian Storytelling: Experimental Nonfiction at the Intersection of Religious Studies and Indigenous Studies

Thesis directed by Professor Gregory Johnson

This thesis seeks to explore the power of stories, how they affect the way we move in the world and how we relate to the creatures we share it with. The separation between the sciences and the humanities in a Western context has obscured certain truths about the nature of our fleshy creaturely existences. Weaving these seemingly separate disciplinary narratives together is necessary for cultural reformation. The stories of neuroscientists, philosophers, religious studies scholars, theologians, cultural critics, botanists, physicists and novelists combine with the personal experiences of the author in this thesis to create a foundation for the kind of narrative reform and reflection that needs to occur.

For Tiberius

## ACKNOWLEDGEMENTS

I would like to thank Greg Johnson, Penelope Kelsey and Danika Medak-Saltzman for encouraging my creativity in this endeavor and supporting me as I try to find my voice. Their guidance and support has been invaluable. Writing this paper has helped me reclaim something I thought I had lost and I don't think I would have had the courage to finish this project if I did not know that they were standing behind me. I would also like to thank my friends and colleagues who shared my struggles and triumphs on this journey and a special thank you to Antoinette Saunders, Shanna Lee Gasperson, Sean O'hara and Johanne S. Minich for reading my words and offering their advice and encouragement. I have deep and abiding gratitude for the faculty and staff in the Religious Studies Department at the University of Colorado, especially Margaret Clarke and Adrienne O'Connell. And of course I would like to thank my family who has supported me throughout my education and taught me so much through their embodied actions and movements in the world. Thank you to my mother Johanne S. Minich, my father Dennis A. Minich for giving me so many gifts, experiences and opportunities to learn in my life. Thank you to my mother Karen Reisig Seely for giving me the lungs to breathe and the hands to write and the ability to understand through experience how love entangles us even across great distances.

I would also like to thank any person who has ever shared their story with me and every author I have ever read. Those words and thoughts have shaped me and I will forever be grateful.

And finally, and perhaps most importantly, I would like to thank the phytoplankton, the trees and rivers and oceans, the soil and rocks and sun, and all the creatures that share this space with me and my fellow humans. Without all of you, we would be nothing.

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## A Little Introduction

This is not your typical thesis for a Religious Studies master's degree. When I began my bachelor's degree at Northwestern University, I had intended to become a biologist so that I could work with animals. My ignorance of calculus deterred me, but that same semester I was enrolled in a religious studies seminar called "Reading the Tao." I found myself falling in love with a discipline I had not known existed. My thinking was that if folks from different religions could better understand each other, if we really listened to each other's stories, compassion would grow out of that understanding. I wanted to affect the world through teaching. I thought I wanted to be an academic.

That has changed. A professor once told me that if I wanted my contribution to be in academia, I needed to play by the rules of the game. I needed to keep my feelings in check. I needed to be cold and methodical, like a surgeon. But sometimes, surgery isn't the best course of action. Sometimes, you need to be a little more creative.

I stepped away from my degree program and thesis for several years to nurture my creative side and pursue other ambitions. Nonetheless, I still desired to finish my thesis. Returning to it last year, I attempted to write in a "traditional" academic voice, but that did not yield prose or ideas I was satisfied with. So I proposed a new vision more in line with my goals and intentions. With the support of my committee, I have used this thesis as an opportunity to be a little more creative, to develop my voice. I am not as interested in

interpreting stories that people tell as I am in telling stories that encourage people to interpret. I still believe that understanding can create compassion.



## A Beginning and an End

This is a story I'd like to tell you. Though I tell it with my own voice, it does not belong to me. The following string of words is in no way new, the only thing that makes this particular story any different from another is that it is accumulated and expressed through one single human creature. My voice is the only new thing I can offer to this intellectual institution. And since it is likely the first and last time I will speak in such a context, I speak to my intellectual peers and elders. But I also wish to tell this story to my AmerEuropean community both within and outside the walls of this institution. This is a call to embrace wild imagination and to change the stories we are telling. Literary and cultural critic Thomas King has said that "the truth about stories is that that's all we are."<sup>1</sup> I hope to elaborate on this truth, to show how humans are story in entangled and embodied ways. I speak from an AmerEuropean culture and ancestry. I was born on the land that bore the Neshnabé, Meskawaki, Asakiwaki, Illiniwek, Ho-Chunk, Kiwigapawa, and Shawnee. I am taking King's story as a way to frame my own, and I am conscious of the problematic nature embedded in the act of an AmerEuropean person taking a Native person's story to suit their own purpose. But in my defense, he did tell me to.<sup>2</sup>

If the truth about stories is that's all that we are, then my AmerEuropean existence is fragmented. We separate our stories into different categories with different narrative tools. In the gaps between stories we lose sight of the cultural tapestry, the narrative threads that we have woven together over generations.

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<sup>1</sup> Thomas King, *The Truth about Stories: A Native Narrative* (Minneapolis: University of Minnesota Press, 2005), 1.

<sup>2</sup> Multiple times, in fact: Ibid., 29, 60, 89, 119, 151, 167.

I have chosen to focus on the separation between the sciences and the humanities. By using knowledge found in both of these genres of intellectual thought, I hope to cast light onto assumptions and accepted beliefs that may lurk in the shadows, things that affect us and our relationship with the world and creatures around us.

## Storytelling and the Split Brain

About 50 years ago, a man named C.P. Snow remarked that in his community in England a gap had grown between the sciences and the humanities.<sup>3</sup> Snow came to these conclusions through his own lived experience. He worked with scientists, but was close with many “literary intellectuals” and his interactions with them prompted him to call the two groups of intellectuals he interacted with “two separate cultures.” Sometime later, in my own lived experience, despite works and events that blend science and the arts, I feel that this separation still exists, especially in a more quotidian sense. The academic and the everyday cannot really be separated.<sup>4</sup>

I can see myself at a dinner party with Snow and his colleagues, watching them talk around each other. The novelists congregate in one corner and the physicists in another. Lively conversation fills the room. But as they sit down to eat at the same table, silence echoes against the walls. After a failed attempt to discuss literature, the frost on the windows creeps across the glass, reaching out like the leaves of some great fern, the fading light bouncing off the spindling ice fractals. Some speak with thickly-veiled contempt in their voice only given away by their raised eyebrows and pursed lips.

“I cannot believe you’ve read nothing of Shakespeare,” says a smirking writer to a physicist. The physicist looks down at the steam rising from his cup of freshly poured tea. He

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<sup>3</sup> Charles P. Snow, *The Two Cultures* (Cambridge: Cambridge Univ. Press, 2012), 4.

“I believe the intellectual life of the whole of western society is increasingly being split into two polar groups. When I say the intellectual life, I mean to include also a large part of our practical life, because I should be the last person to suggest the two can at the deepest level be distinguished. Literary intellectuals at one pole -- at the other scientists, and as the most representative, the physical scientists. Between the two a gulf of mutual incomprehension -- sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding.”

<sup>4</sup> Ibid.

asks her if she would like to discuss thermodynamics. The novelist shifts in her chair, the heat from her cup of tea warming her own hand. “I know nothing of thermodynamics,” she says. The frost on the window continues to spiral and the physicist clears his throat.

“If we cannot discuss Shakespeare and we cannot discuss thermodynamics, what about acceleration? What do you know of acceleration?”

All movement seems to stop, except for the physicist looking back down at his cup of tea, the writer turning her face, and the progression of the frost. It cuts and covers most of the glass. The snow-burdened tree outside can no longer be seen, nor the birds, nor the buildings, and the tension hangs in the room like incense in a cathedral.

“Madame, I just asked you the equivalent of can you read?” The writer frowns and remains silent as the physicist leans back in his chair.

The glass window cracks and the wind whistles in. A cold gust fills the room and snow blows on the table and the paintings on the wall. But no one seems to notice.

This did not actually happen. Explore the footnotes if you want to know the truth.<sup>5</sup> Snow felt he had to articulate his observations, he had to describe this lack in understanding, this “mutual incomprehension” and at times “hostility” because he saw it as dangerous and affecting all aspects of human life in Western culture. Snow’s description, dividing Western intellectual life into two cultures, has inspired conversations and questions: Why divide the sciences and the

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<sup>5</sup> Snow, *The Two Cultures*, 16.

Here is the passage of Snow’s story that inspired the scene above: “Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is about the scientific equivalent of: Have you read a work of Shakespeare’s? I now believe that if I had asked an even simpler question - such as, what do you mean by mass, or acceleration, which is the scientific equivalent of saying, can you read? - not more than one in ten of the highly educated would have felt that I was speaking the same language. So the great edifice of modern physics goes up, and the majority of the cleverest people in the Western world have about as much insight into it as their Neolithic ancestors would have had.”

humanities into two?<sup>6</sup> Why are different forms of storytelling necessary in the Western intellectual context? Why would hostility arise over difference in narrative form? Why is this separation of intellectual genres something that Snow feared?

Let's address with Snow's fear. Why are separate stories within a single culture something worthy of that ancient level of concern?<sup>7</sup> Story is powerful. Stories affect our human perceptions at the deepest levels. And stories can warp those perceptions and cast illusions over the landscape like a fog. The fog can be so thick that we no longer differentiate between reality and illusion. Add to this a layer of frost covering the windows through which we view the world, and our vision can be so obscured that we fail to see the demons in our midst. And in the AmerEuropean context, both demons and gods lurk in the gaps between our fragmented stories. Referencing demons is not something I do lightly, and I am aware that in using that particular metaphorical construction I am opening all sorts of doors for meaning to pour through.

The way that we apply metaphorical constructs to phenomena in order to communicate our observations affect how those phenomena are observed by others. In other words, the stories we tell are created in reference to a matter, a thing, a process observed, and in the telling of those stories we recreate that matter and can affect the way it is perceived in the future. When I use the word 'demon,' you might think of Christian hell-dwelling creatures or their angelic counterparts. Perhaps you think of Mara and his daughters dancing around Siddhartha, or perhaps you think about magic or shadows or darkness or possession or desire. Perhaps you think about evil. And

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<sup>6</sup> Snow, *The Two Cultures*, 17.

Even in Snow's time, people argued that further separations were more appropriate. He agreed that any division of something into two must be considered with suspicion, but for his own storytelling purposes, he stood by his narrative decision.

<sup>7</sup> I call fear an ancient level of concern, because beings like us experience fear and have experienced fear for a very long time. One can therefore conclude that it is a deeply felt feeling, and holds a great deal of power in prompting action.

beyond these potential meanings there are meanings I cannot name, doors I do not know I am opening because I do not know they are there.

As far as we know, we are the only creatures to tell stories the way we do.<sup>8</sup> In recent years, cognitive neuroscience has developed an understanding of the way we tell stories through a part of the brain they call the ‘interpreter.’ This module synthesizes preconscious interpreted data and communicates that data into human speech. The interpreter was stumbled onto by doctors working with split-brain patients. Split brain occurs when there is a gap between the two hemispheres of the brain, when the corpus callosum is severed down the middle, surgically separating one side of the brain from the other. Both sides of the brain continue to do their work independently, but certain processes and modules seem to be localized in one hemisphere or the other, like the interpreter. In split-brain patients, no communication takes place between the two separate sides of the brain. Therefore, the interpreter has access to limited information, restricted to the processes that take place in the single hemisphere where it is located. This phenomenon was documented when doctors showed patients different images to the left and right visual fields. “A chicken claw was shown to his right visual field, so the left hemisphere only saw the chicken claw picture, and a snow scene was shown to the left visual field, so the right hemisphere only saw that.”<sup>9</sup> After observing these images, another series of pictures was shown to both visual fields and was therefore perceived by both sides of the patient’s brain. The patient was asked to choose two images to correspond with the chicken claw and the snow scene. The

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<sup>8</sup> Our nonhuman siblings may raise questions about that assertion or at least the implied superiority with which it may be interpreted, but for the moment, let’s just focus on the human animal.

<sup>9</sup> Michael S. Gazzaniga, *Who’s in Charge?: Free Will and the Science of the Brain* (New York, NY: HarperCollins, 2011), 82.

patient's left hand pointed to a shovel to go with the snow scene and his right hand pointed to a chicken to go with the chicken claw. When asked why he made those choices

his left hemisphere speech center replied, "Oh, that's simple. The chicken claw goes with the chicken." Then looking down at his left hand pointing to the shovel, without missing a beat, he said, "And you need a shovel to clean out the chicken shed." The left brain, where the speech center is located, had no recollection of the snow scene that the right brain had observed, and without access to that information it interpreted the response in a context consistent with what it knew, and all it knew was: chicken claw.<sup>10</sup>

What doctors found most fascinating about this response was that patients attempted to explain, or interpret, the choice of the left hand rather than saying, "I don't know." Which would have been, by the doctor's evaluation, the most accurate and honest response since the shovel was chosen for the snow scene. Rather than be conscious of the gap in communication and express it, the interpreter seamlessly sews together a narrative based on the information that it did have access to, which was chicken, chicken claw and snow shovel.<sup>11</sup>

One of the conclusions drawn from these interactions with split-brain patients is that our brains are compelled to express every facet of what we perceive into a story that makes sense. Cognitive neuroscientist Michael Gazzaniga observes, "This is what our brain does all day long. It takes input from other areas of our brain and from the environment and synthesizes it into a story."<sup>12</sup> Usually brains have two hemispheres working together to create a story through the interpreter. The difference in split-brain patients is that when one hemisphere tries to talk to the other, there is no response. So the interpreter continues to do its job with the data it has been given through hemisphere specific processes and, in the case of the chicken claw experiment, then interprets additional data after perceiving the left hand pointing to the snow shovel. The

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<sup>10</sup> Ibid.

<sup>11</sup> Ibid., 82-83.

<sup>12</sup> Ibid., 88.

patient is not consciously deceptive in their declaration that the snow shovel is for chicken poop: the interpreter is merely making sense of the data it receives, and it didn't receive any information about the snow scene. This does not change the fact, however, that while the story about the snow shovel cleaning out the chicken shed may be logical given the received information, it is not the reason the right hemisphere chose that particular tool.

The sciences and the humanities use different tools, depending on the specific genre of intellectual work at hand. For example, I have no immediate need for a microscope. As in the case of split-brain patients, the lack of communication between the hemispheres<sup>13</sup> of the sciences and the humanities prevents us from understanding why we each choose the tools we do and this ignorance can prevent us from painting a more accurate portrait of reality. In the context of the sciences and the humanities, this separation is not a surgical one. We have not had our means of communication irrevocably sliced apart. There is nothing *physical* preventing us from communicating, from feeling our way into the gap and figuring out why each of us chooses the tools that we do. There is nothing preventing us from listening to the different stories we create in our different genres. Our interpreter module seems to make it clear that neurologically speaking, humans are storytellers. And regardless of what data we have and how it was collected, we seem driven to create a story that makes sense to us given what we know. Split brain serves as a clever metaphor to weave in with Snow's; the danger in the separation between the sciences and the humanities is in our potential failure to truly and clearly understand the nature of our existence.

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<sup>13</sup> Snow, *The Two Cultures*, 4.

In his writing, Snow also describes the sciences and the humanities as two hemispheres.



## Movements and Metaphors

Just as information is carried from one side of the brain to the other, metaphor carries meaning from one conceptual domain to another. Metaphor links two previously disconnected things and makes sense of them through the act of their combination.

The term metaphor is derived from the Greek *meta pherein* and means “to carry over,” thereby “suggesting that the meanings and ideas associated with one thing are carried over to another.” A more technical way of describing metaphor is to say that it involves complex neural brain functions that facilitate thinking of or understanding one conceptual domain in terms of ideas and inferences drawn from another conceptual domain.<sup>14</sup>

George Lakoff and Mark Johnson, a linguist and a philosopher, have observed that metaphor is the foundation of thought and action.<sup>15</sup> Looking at language, they sketch a map of metaphorical building blocks that construct conceptual systems. When we are speaking about an argument we had with a physicist around the dinner table and we describe how we defended our position and attacked the other view, demolished the point he was making, and shot down every criticism he put forward, we can identify the metaphorical conceptual system that: “ARGUMENT IS WAR.”<sup>16</sup>

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<sup>14</sup> Steven T. Newcomb, *Pagans in the Promised Land: Decoding the Doctrine of Christian Discovery* (Golden, CO: Fulcrum Pub., 2008), 3.

<sup>15</sup> George Lakoff and Mark Johnson, *Metaphors We Live by* (Chicago: University of Chicago Press, 1980), 3.

<sup>16</sup> Lakoff and Johnson, *Metaphors We Live by*, 4.

Is argument naturally, inescapably war? A culture may just as easily understand argument as dance. With these differing conceptual systems, members of the different cultures might have trouble recognizing the discourse of their counterparts as argument. In the AmerEuropean context, “The normal way for us to talk about attacking a position is to use the words ‘attack a position.’ Our conventional ways of talking about arguments presuppose a metaphor we are hardly ever conscious of. The metaphor is not merely in the words we use - it is in our very concept of an argument. The language of argument is not poetic, fanciful or rhetorical; it is literal. We talk about arguments that way because we conceive of them that way - and we act according to the way we conceive of things.”

The way we talk about things alters the way that we perceive and conceive of them. The words we use to describe something metaphorically, change how we understand the nature of that something. Our conceptual constructs change the way we behave and relate. Expanding on Lakoff and Johnson, if one person attacks another's viewpoint, a defensive response would be prompted. Argument would be an exercise in violent escalation rather than an attempt at reaching understanding between two disparate perspectives. Resolution would be understood in terms of winners and losers rather than coming to a mutual understanding. We may associate losing an argument with certain dire consequences. When we argue or think about arguing in a cultural context in which ARGUMENT IS WAR, then we are also thinking about war; the doors are open for meaning to pour through. Our metaphorical constructions flavor our particular individual and cultural interpretation of the world, and especially in the case of ARGUMENT IS WAR, affects how we communicate with each other when we disagree. With this particular conceptual construct, it seems that potential for equitable exchange and understanding is shut down before it can begin.

We are not normally aware of these conceptual systems. They implement themselves automatically, beyond the reach of consciousness. Consciousness is a very slow process, neurologically speaking. Human consciousness emerges out of a complex internal neurological, physiological, and physical relationship.<sup>17</sup> Our bodies have often already responded to stimuli or are in the process of doing so, before we become conscious of our own movements. We are

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<sup>17</sup> Gazzaniga, *Who's in Charge?* 102.

"It is becoming increasingly clear that consciousness involves a multitude of widely distributed specialized systems and disunited processes, the products of which are integrated in a dynamic manner by the interpreter module. Consciousness is an emergent property. ... Our conscious experience is assembled on the fly, as our brains respond to constantly changing inputs, calculate potential courses of action, and execute responses."

already jumping away before we are aware that there is a snake in our path.<sup>18</sup> In some of Johnson's work, he identifies movement as one of the places our most basic metaphorical constructs emerge. Building from the work of Lakoff and Johnson, people have mapped out image-schemas, tools of the human imagination that are based in our embodied experience of the world. One image-schema that is present in my own culture is the SOURCE-PATH-GOAL image-schema.<sup>19</sup> When we move as humans, we tend to move forward.<sup>20</sup> If we desire something, we move towards it, face first, perhaps reaching out to grasp it. This kind of moving in and on the world is interpreted with the image-schema SOURCE-PATH-GOAL. There is a source, the point where we begin and we move from that point along a path towards a goal, something we desire. Perhaps food, water, shelter. This image-schema is one of the conceptual building blocks that help to create metaphors like "Life is a purposeful journey." If we use this metaphor in our narratives, it may cause us to assume that progress along a path is inherently desirable. Perhaps this can lead us to the assumption that progress is inherently beneficial. Progress is good because progress is living. Without movement, animacy ceases; if we stop proceeding, we will die. And so people value progress, though they may not realize why they do. Their understanding is based in layers upon layers of metaphor, image-schemas like tectonic plates. Their movements are not

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<sup>18</sup> Ibid., 77.

<sup>19</sup> Newcomb, *Pagans in the Promised Land*, 4.

<sup>20</sup> We should not take the way we move and the way we understand those movements for granted. Naked-mole rats generally move backwards. And they live in the ground. Therefore, if they were to tell stories the way we do, they would probably not value up, or above, as predators and dangers lurk above them. They would probably not value forward linear movement the way some humans do either. If mole rats are moving forward they are generally digging their tunnels and creating their home. They would therefore value their hands in a particular way. They would probably value the act of digging in a different way, and they would probably value light in a different way than we do.

easily perceptible despite forming the foundation from which our narratives grow.<sup>21</sup> We value things a certain way because of the way we value movements. Movement influences image-schemas. Image-schemas affect metaphor, metaphor affects narrative, and narrative in turn affects the way we behave, and the way we move. The process is cyclical.

When writing or reading about the importance of story and the way that our brains seem to metaphorically grasp at the world around us, we can forget what is doing the grasping. Johnson points out that the body seems to hide from our consciousness in the way that it functions. For example, we are generally unaware of our own breath unless we choose to actively consider it. We therefore tend to live as bodied minds, since our body is generally beyond our active attention.<sup>22</sup> But, however we express ourselves, however we imprint ourselves on the world in story or in other ways, it is ultimately through the body. Religious Studies scholar Sam Gill observes, “Neurobiologists show that perception arises from movement and interaction with the world and thus movement is primal. Perception develops as active self-moving bodies physically encounter their environments.”<sup>23</sup> There is a primacy to movement.<sup>24</sup> Movement is the basis of all of our stories. It is the basis of animacy, life itself.<sup>25</sup> Moving is not something that we learn to do, moving is how we learn. We move into this existence; we are birthed in the acts of moving human bodies. And in turn our entire existence can be broken down

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<sup>21</sup> Tomoko Masuzawa, *The Invention of World Religions, Or, How European Universalism Was Preserved in the Language of Pluralism* (Chicago: University of Chicago Press, 2005). Thank you for the geologic metaphor.

<sup>22</sup> Sam Gill, "The Meaning of the Body," Sam Gill (audio blog), March 12, 2010, Brain, Body, Movement, accessed October 5, 2015, <http://sam-gill.com/2010/03/12/bbm-vol-2-the-meaning-of-the-body/>.

<sup>23</sup> Sam D. Gill, *Dancing Culture Religion* (Lanham: Lexington Books, 2012), 22.

<sup>24</sup> Gill, "The Meaning of the Body".

<sup>25</sup> Gill, *Dancing Culture Religion*, 14.

into the interactions between different forces, different movements at a cellular and macroscopic level, especially if you see the world like a physicist. Movement is a unifying idea in many ways because despite vast and various bodies that live on this planet, we all move.

A focus on movement is not necessarily inclusive, especially when if one assumes that there is one singular normative way of moving as human creatures. Yet movement is how we live whether we walk or not, or whether we walk on two legs or not, or whether we have legs at all. By way of the mechanism of our embodied existences, we must move to live. We breathe, our heart beats. We might breathe differently or with more difficulty depending on our lungs or nose or mouth. Our heart might beat differently or with more difficulty, or with some nonhuman assistance, but it is still moving. Some creatures move without hearts at all, at least without mammalian hearts. There is no normative, singular, universal way of moving.<sup>26</sup>

Movement is a personal thing because it is embodied. But it is also deeply interactive. Therefore, recognizing the importance of movement reminds us of our embodied subjectivities and the interdependent processes that birth those subjectivities. Gestural patterns involve a neurobiological readiness for interaction with the environment, a sense of touch or a preparedness for touching. Speaking of dance, Sam Gill says “Touching evokes of gesture a condition of being multiple, that is, the touching aspect of tango gesturing (and gesturing itself) is an interaction, a reaching toward an other, a connection and identity with an other yet with the simultaneous assurance that the other is different and never fully touchable or reachable.”<sup>27</sup>

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<sup>26</sup> A narrative focus on movement can easily become ableist. For information on ableism see Pat Griffin, Madeline L. Peters, and Robin M. Smith, "Ableism Curriculum Design," in *Teaching for Diversity and Social Justice: A Sourcebook*, by Maurianne Adams, Lee Anne Bell, and Pat Griffin (New York, NY: Routledge, 1997), and Fiona Kumari Campbell, "Refusing Able(ness): A Preliminary Conversation about Ableism," *M/C Journal: A Journal of Media and Culture* 11, no. 3 (2008): accessed July 28, 2016, <http://journal.media-culture.org.au/index.php/mcjournal/article/viewArticle/46/0>.

<sup>27</sup> Gill, *Dancing Culture Religion*, 87.

Movement as a concept is also never fully reachable. For as soon as we begin to define movement, to trace its positions, it stops moving. As Gill says, “Movement is, in its becoming, absorbed in occupying its field of potential. Movement cannot be determinately indexed to anything outside itself. A proper understanding of movement emphasizes process before signification or coding. To do otherwise stops the movement, back-forms it into a grid.”<sup>28</sup> And thus, movement exists in space without dimension.<sup>29</sup>

As we reach out and touch the world around us, we connect and simultaneously feel the gap between our own body and the bodies of other beings. It is through this movement, this act of feeling, that self-awareness and any other kind of awareness is made possible.

Therefore, despite my initial emphasis on story, I am not saying that discourse is all that there is. We cannot step outside our own skin, and our skin and embodied existence is certainly not dependent on language. We can touch the world without having to speak about it. We can feel it. It presses itself up against our small mammalian bodies. And as Johnson says, “the idea that only words have meaning ignores vast stretches on the landscape of human meaning-making.”<sup>30</sup> Touch is interactive, movement is interactive, and both can create meanings for humans without any words at all.

There is a general denial of the body in Western intellectual thought and a privileging of certain senses over others.<sup>31</sup> I’ve encountered many stories about “lenses” and “gazes” used as,

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<sup>28</sup> Ibid., 33.

Gill continues, “Thus, position is no longer the first concern with movement, but a problematic second. Position is retro-movement or movement residue. Positionality is an emergent quality of movement. Passage is primary in relation to position. Passage precedes construction. Grids happen. This movement is ontogenetic, that is, always a coming into being.”

<sup>29</sup> Ibid.

<sup>30</sup> Gill, “The Meaning of the Body.”

<sup>31</sup> Ibid.

admittedly, very effective metaphorical constructs to discuss human perception and positions. It is a strong metaphor. I like it because it implies a limit. We do not have the ability to see 360 degrees because of the ways our eyes are placed on our heads. We tend to be able to only see one direction at a time. Our bodies, however, are not limited in this way, but are feeling in every direction all at once. So why this focus on the visual? Gill observes,

In both quotidian and academic perspectives, we continue to hold to an understanding of perception in terms of the model of the simple camera obscura. Cognitive scientists refer to parallel understanding of cognition as “representational” or “computational.” We analogize our perceptive selves as being like the camera obscura, that is, we are like a box with a pin-hole punched into it. Light reflecting off the object outside of our bodies (the box) passes through the hole (our eyes) and creates an image on some surface within the box (our minds, our memories, our brains). The image in the box, in our minds, is a replica or representation of the objectively given world outside the box, the observer.<sup>32</sup>

We are not cameras. We are embodied fleshy creatures that wiggle and wobble around the world in a very singular way. A focus on movement, on our embodied existences, offers significant challenge to Western understandings of perception. The primacy of movement, of our self-movement, demands that we consider more experientialist approaches to understanding our existence.<sup>33</sup> Some may be concerned that embracing our subjectivity will lead to purely subjective studies. And when subjectivity and embodied experience tend to be devalued or seen as irrational, that concern is understandable, though baseless. Understanding the fundamental importance of our embodied subjective existence and the primacy of movement does not exclude the importance of what we may consider to be more quantitative, spoken, mind-based narratives. These things are not excluded if we embrace subjectivity because these ways of knowing are interrelated. They loop back upon each other. Languages and narratives and stories are a part of

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<sup>32</sup> Gill, *Dancing Culture Religion*, 22.

<sup>33</sup> Lakoff and Johnson, *Metaphors We Live by*, x.

our subjective existence. Working within our subjective moving experiences requires self-reflection and an acknowledgment that words spoken or written are not written in a vacuum.

Unless you consider the idea that our planet exists in the vacuum of space.



## Origins and Stories

Neil DeGrasse Tyson has said that the more we feel the universe, the better off we will be. He said this while reflecting on the work of Vincent van Gogh and his painting, “Starry Night.” Tyson remarked how this was the first time that the background was the subject of the painting.<sup>34</sup> By casting subjectivity onto the night sky, van Gogh opens the door for our consideration. Our imagination is cast out into the sky with each of his paint strokes. Vincent van Gogh reaches out to us through movements and marks he made in creating an image of the night sky, and the Starry Night beckons through the expression of his imagination. Tyson makes the connection between deeming something a subject and our ability to feel. When we humans deem something a subject, it becomes easier for us to connect to that thing, to feel our way out to it, groping towards it. Humans cannot physically touch a star, but stars certainly reach towards us, and one particular star does touch us with its sustaining light. We cannot know what it is like to be a star, but, to me, it seems silly to deem something so important as a mere object. And it can be dangerous in the context of a culture which tends to view objects as something deserving less consideration than a subject, despite the intellectual value we place on objectivity. In the context of a consumerist hierarchal culture, objects are something to be consumed and discarded. Objects can be exploited. Objects can’t feel. Objectivity is a lack of feeling. I agree with Tyson that “the more that we feel our way into the universe, the better off we will be” because a Universe devoid of feeling is infinitely exploitable.

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<sup>34</sup> The Great Debate: The Storytelling of Science, dir. Lawrence Krauss, perf. Neil deGrasse Tyson, Tracy Day, Brian Green, Bill Nye, Richard Dawkins, Ira Flatow, Neal Stephenson, The Origins Project, April 6, 2013, accessed November 16, 2015, [https://www.youtube.com/watch?v=\\_J4QPz52Sfo](https://www.youtube.com/watch?v=_J4QPz52Sfo).

Feeling our way into the Universe in my Western culture is going to require mixing narratives like paint and using that paint to create a depiction of the Universe that reflects our feeling, embodied, storytelling, creaturely natures.

Descartes' ghost lingers, and there is still a notion in both intellectual and quotidian circles that other animals are essentially unfeeling, unthinking creatures. By imagining animals in this way, we deny them subjectivity. Derrida points out that not all philosophers agree on exactly what constitutes the boundary that separates humans from animals, but "philosophers have always judged and all philosophers have judged that limit to be single and indivisible,"<sup>35</sup> and in this general agreement, that separation presents itself as common sense. Yet "this agreement concerning philosophical sense and common sense that allows one to speak blithely of the Animals in the general singular is perhaps one of the greatest and most symptomatic *assinanities* of those who call themselves humans,"<sup>36</sup> at least some who call themselves human. Animals are imagined in different ways. But in the Western context, what does it mean that we refer to the entire Kingdom Animalia, with the exception of ourselves, in the general singular? On one side of the narrative boundary, over a million distinct species. On the other side, one singular mammal. What does it mean that in Derrida's native language and my ancestral tongue of French, the word *bête* carries the meaning of both "beast" and "stupid"?

Building that "indivisible" boundary in our speech and accepting it as "common sense" means that we do not only need to feel our way out into the Starry Night, but we need to feel, or perhaps refeel, our own planet and the creatures with which we share space. And in that effort to refeel perhaps we will reveal that what Derrida's philosophers accepted as common sense is

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<sup>35</sup> Jacques Derrida and Marie-Louise Mallet, *The Animal That Therefore I Am* (New York: Fordham University Press, 2008), 41.

<sup>36</sup> *Ibid.*

really only a common belief in hierarchy. In the Western context, almost from the moment we discern difference, we begin the process of categorization. We figure out where this “other” fits in our believed hierarchy and then we act accordingly based on our own perceived position. This hierarchy is not simply tinted eyeglasses, “it is a veritable contact lens” on our preferred visual metaphors.<sup>37</sup> But an acknowledgement of difference does not necessitate judgment, casting all creation into a hierarchal structure. Given Mark Johnson’s point that focusing only on narrative ignores vast stretches of human meaning-making, does it not follow that by ignoring and dismissing differently bodied creatures, we ignore an even vaster territory of potential meaning-making? Does it not mean that we ignore the perceptions of millions and millions and millions of differently bodied-minds? After all, why do our brains working in a particular way give us any kind of superior intelligence? Just because we developed our form in a particular way does not mean we are superior.

Perhaps we see this hierarchy and boundary as “common sense” because it is embedded in our origin story. Botanist Robin Wall Kimmerer observes that origin stories “are a source of identity and orientation to the world. They tell us who we are. We are inevitably shaped by them no matter how distant they may be from our consciousness.”<sup>38</sup> The religiously based AmerEuropean creation story features an omniscient God that creates every aspect of the world as we know it, every thing, through his breath and words. God gives Adam the task of naming all the other animals.<sup>39</sup> God names Adam, Adam names the animal. In those narrative choices, we

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<sup>37</sup> Elizabeth Dodson Gray, *Green Paradise Lost* (Wellesley, MA: Roundtable Press, 1981), 19.

<sup>38</sup> Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Minneapolis: Milkweed Editions, 2013), 7.

<sup>39</sup> At least in the second Genesis story.

see hierarchy. Naming denotes relationship, but it can also denote a certain power over the something or someone you are naming. After all, anyone who has been given a name or had a name taken away knows how it affects identity. A name is like a word you drape your body around; it becomes a part of you. The act of naming someone shapes them.

In the Genesis story, the identity of “the animal” is defined by man in the way that the identity of man is defined by God. And while one might be tempted to say that our inherited hierarchy from the Genesis story has no connection to Western science, it is evident in the fact that “Man the thinker or Man the scientific researcher is not deterred even by the possibility of nuclear destruction or by the awesome hazards of DNA viral research. Man’s ‘right’ to do these things is spoken of in terms reminiscent of earlier kings’ defense of the divine right of kings.”<sup>40</sup> Just because Western science does not directly reference the Genesis story does not mean that Genesis does not directly affect Western scientists. Regardless of whether a Western person chooses to actively embrace Genesis or actively embrace the origin stories that emerge from the culture of science, “each of these cosmic visions has been viewed as a sanctified order, the one of them legitimated by religious authority and the other legitimated by a newer priesthood whose authority is scientific and academic and thus perceived today as qualified to tell us about ‘what is.’”<sup>41</sup> In this hierarchy, this holy order<sup>42</sup>, an omniscient creature holds the role of sole creator, a single creature whose will and words shape the world. In Western science where this creature called God is absent, man fills that role.

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<sup>40</sup> Gray, *Green Paradise Lost*, 8.

<sup>41</sup> *Ibid.*, 7.

<sup>42</sup> *Ibid.*

Dobson Gray points out that the etymological roots of hierarchy can be traced back to Greek and Latin words meaning “holy order.”

Though observations made in the context of Western scientific research challenge this narrative assumption of hierarchy. Awareness of the natural world contradicts the notion of creation being anything other than an interdependent process. For example, we are deeply dependent on plants and phytoplankton. The photosynthetic process is what all life as we know it depends upon, yet phytoplankton could get along just fine without us.<sup>43</sup> If we imagine the world as a hierarchy, with humans as the most intelligent, the best equipped, the “darlings of Creation,”<sup>44</sup> we fail to imagine and therefore recognize that just because a creature does not think, communicate or feel the way we do, does not mean that they do not think, communicate or feel. Robin Wall Kimmerer points out that for quite some time scientists in the West failed to recognize plant communication because scientists conceived of communication based on one particular mammalian form of communication, our own.<sup>45</sup> With an inherited notion of hierarchy,

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<sup>43</sup> Gray, “Green Paradise Lost,” 9.

“We always choose some attribute in which we humans happen to excel, and we then make that the basis for our conclusion that we as humans are not only different from other animals but also superior to them...Why is any one particular attribute to be singled out as evidence of superiority as a species -- except that we as humans always single out what we do best, just as men have done in asserting their superiority to women? Why for example, do we not recognize the dependence of all life upon the action of chlorophyll in green plants? All life - human, animal, plant - is ultimately dependent for its food-energy upon the photosynthetic process by which chlorophyll converts the sun’s energy into food-energy usable by plants and by humans and other animals. Why do we not regard this as the most fantastic accomplishment ever, for all life in all its forms is derived from this? Or again, we are deeply dependent upon the phytoplankton in the ocean; we need the oxygen they put into the atmosphere. It is clear that we are deeply dependent upon them, while they can get along very well without any help from humans. How is it, we must ask once again, that we humans have come to think that our species is so extra special?”

<sup>44</sup> Kimmerer, *Braiding Sweetgrass*, 9.

<sup>45</sup> *Ibid.*, 20.

“In the old times, our elders say, the trees talked to each other. They’d stand in their own council and craft a plan. But scientists decided long ago that plants were deaf and mute, locked in isolation without communication. The possibility of conversation was summarily dismissed. Science pretends to be purely rational, completely neutral, a system of knowledge-making in which the observation is independent of the observer. And yet the conclusion was drawn that plants cannot communicate because they lack the mechanisms that animals use to speak. The potentials for plants were seen purely through the lens of animal capacity. [just as the potential for nonhuman animals is seen purely through the lens of human capacity] Until quite recently no one seriously explored the possibility that plants might “speak” to one another. But pollen has been carried reliably on the wind for eons, communicated by males to receptive females to make those very nuts. If the wind can be trusted with that fecund responsibility, why not with messages? There is now compelling evidence that our elders were right -- the trees are talking to one another. They communicate via pheromones, hormone-like compounds that are wafted on the breeze, laden with meaning. Scientists have identified specific compounds that one tree will release when it is under the stress of insect attack --

we forget that our perceptions are surely not the only perceptions. And I would guess that many of those perceptions are not dependent on story. Octopi seem just fine without stories as we tell them. They don't need to paint on cave walls the way we do. They live, they exist, they experience, they communicate, they birth and die in their own way.

Cetaceans can literally feel each other's bodies in a greeting, in a simple hello they can discern the physical and emotional well-being of another individual. Echolocation is three-dimensional communication. When they scan each other, they feel the inside of the other individual. As John Stuphen says, "To Cetaceans, then, there would be another magnitude of visualizable information, and another sort of cultural experience to bring to bear on their meanings. What sort of candor might exist between individuals where feelings are instantly and constantly bared? It would be irrelevant to hide, to lie, or to deny one's feelings."<sup>46</sup> Mary Dobson Gray adds that "that sort of mammal communication would involve a depth and sensitivity far beyond our human capacities. So extreme is the hearing-sensitivity of dolphins that they can hear a researcher drop a teaspoonful of water into a large oceanarium pool --and then echolocate the spot."<sup>47</sup> Elephants can feel deep vibrations in the earth through their feet, they can hear deep rumbling infrasound.<sup>48</sup> They can feel earthquakes from miles away and hear

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gypsy moths gorging on its leaves or bark beetles under its skin. The tree sends out a distress call: "Hey, you guys over there? I'm under attack here. You might want to raise the drawbridge and arm yourselves for what is coming your way.' The downwind trees catch the drift, sensing those few molecules of alarm, the whiff of danger. This gives them time to manufacture defensive chemicals. Forewarned is forearmed. The trees warn each other and the invaders are repelled. The individual benefits, and so does the entire grove. Trees appear to be talking about mutual defense."

<sup>46</sup> Gray, *Green Paradise Lost*, 13-14.

<sup>47</sup> Ibid., 14.

<sup>48</sup> Infrasound simply means sound below the range of human hearing.

the cries of another herd being attacked by poachers from a similar distance.<sup>49</sup> Can you imagine how you would experience and interpret the world differently given the awesomeness of these animals' senses? How would we move differently if we could feel into the earth like an elephant? What kind of relationship would develop with the land? How much closer would we feel to the earth if we were that sensitive to its movements?

Our knowing is limited. I will never know the mind of an elephant no matter how long we look into each other's eyes. I will never know what it is like. I can imagine with all the energy I can muster, but her perceptions are ultimately inaccessible to my deepest forms of knowing because of the form of my body. When we gaze into an animal's eyes and they gaze into ours, the limits of the human imagination become clear. Derrida speaks of the animal gaze,

a gaze behind which there remains a bottomlessness, at the same time innocent and cruel perhaps, perhaps sensitive and impassive, good and bad, uninterpretable, unreadable, undecidable, abyssal and secret. Wholly other, like the every other that is every (bit) other found in such intolerable proximity that I do not as yet feel I am justified or qualified to call it my fellow, even less my brother. ... What does this bottomless gaze offer to my sight [donne a voir]? ... As with every bottomless gaze, as with the eyes of the other, the gaze called "animal" offers to my sight the abyssal limit of the human: the inhuman or the ahuman, the ends of man, that is to say, the bordercrossing[sic] from which vantage man dares to announce himself to himself, thereby calling himself by the name that he believes he gives himself.<sup>50</sup>

In the bottomlessness of the animal's gaze we can choose to imagine nothingness, delude ourselves into thinking that the subject that I am observing is just a something, an object, and I can make this assertion because of my position as a someone. This is one of the consequences of the hierarchal stories we tell: they trick us into thinking that our movements, our thoughts, our achievements, creations and communications are the only ones of import. When in fact "species

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<sup>49</sup> Dale Peterson, *The Moral Lives of Animals* (New York: Bloomsbury Press, 2011), 5.

<sup>50</sup> Derrida, *The Animal That Therefore I Am*, 12.

done away with, never thinking they'd be missed, it now appears 'do' some things we did not know they did, which life needs done."<sup>51</sup> An imaginative and narrative violation of the relationship we have with the other creatures on our planet is often coupled with embodied movements that enact those violations.

There is a scene in the 1967 film *Dr. Dolittle* where Rex Harrison, playing the good Doctor, is on trial for murder. Through the course of the proceedings the judge discovers that the murder victim was a seal in women's clothing. Dolittle rescued her from the circus and threw her over a cliff into the sea so that she could be reunited with her mate. The Doctor's sanity is questioned and he is eventually sent to an insane asylum. Before he is led away, there is, of course, a musical number. The Doctor sings,

I do not understand the human race.  
It has so little love for creatures with a different face.  
Treating animals like people is no madness or disgrace.  
I do not understand the human race.  
I wonder —  
Why do we treat animals like animals?  
Animals treat us so very well.  
The devoted ways they serve us  
And protect us when we're nervous,  
Oh, they really don't deserve us,  
All we give them is hell!<sup>52</sup>

There are a few more Dr. Dolittles in the Western world than there once were and though their sanity may still be questioned by some, their documentation of the cognitive abilities of other creatures, their ability to communicate amongst themselves and with humans presents such

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<sup>51</sup> Gray, *Green Paradise Lost*, 8.

<sup>52</sup> *Dr. Dolittle and His Friends*, dir. Richard Fleischer, perf. Rex Harrison (Hollywood, CA: 20th Century Fox, 1967), DVD.



significant evidence<sup>53</sup> that it would be unlikely a judge would rule the same way today.<sup>54</sup> And through the work of these modern day Doctor Dolittles, it is quite clear, even through the lens of human observation, that communities and individual animals seem to adhere to generally accepted moral codes. For example, empathy seems to be a common mammalian trait.<sup>55</sup> Some writers and biologists have used this mammalian empathy to examine human empathy. But this can become complicated very quickly because, as Religious Studies scholar Robert Orsi points out, “there is no distinct moment of moral inquiry that comes before and exists separately from the communication of one’s moral reflections to others. Discernment does not precede discussions; talking does not represent the outcome of moral analysis but serves as its necessary vehicle.”<sup>56</sup> If one has not studied moral narratives, it can be easy to take our own culturally-based moral narratives as the sole tool through which to measure morality in other forms.

Dale Peterson, who wrote *The Moral Lives of Animals*, explores and categorizes animal morality with chapter headings like violence, sex, cooperation, communication, kindness, possession and authority. He even has a chapter dedicated to duality. He claims there is a universality to morality, that when you strip away the excess elements of any religion, essentially our moral perspectives are the same. At this point, religious studies scholars may notice that their

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<sup>53</sup> Alex the Grey Parrot had an extensive vocabulary, could perform basic math, identify and name differences and similarities in size, shape, and matter (the material the object was made out of like wood or metal). See the research of Irene Pepperberg for more details. Koko the gorilla is well known for her ability to communicate with humans in sign language. For more information, see the research of Penny Patterson.

<sup>54</sup> dir. Richard Fleischer *Dr. Dolittle and His Friends*.  
Unless you anger him by getting his dog to testify that he ate six pieces of pie.

<sup>55</sup> F. B. M. De Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society* (New York: Harmony Books, 2009). Peterson, *The Moral Lives of Animals*, 216-233.

<sup>56</sup> Robert A. Orsi, *Between Heaven and Earth: The Religious Worlds People Make and the Scholars Who Study Them* (Princeton, NJ: Princeton University Press, 2005), 204.

hackles are up, for while Peterson makes this claim to universality in terms of human moral behaviors,<sup>57</sup> he inordinately uses examples of religions and moral rules that developed from one origin story. He references the Ten Commandments and the Bible many times when explaining the categories he chose to describe animal morality, and in doing so, fails to sufficiently engage other moral systems.<sup>58</sup> In certain cases, when he does mention other moral systems that grew out of different creation stories, he represents them in a way that is potentially problematic.<sup>59</sup> His focus on Abrahamic religions means that his interpretive tools for analyzing mammalian moral behaviors are based in one story. Yet, mammalian morality has given birth to vast and varied human moralities and is woven into numerous origin stories in different ways. Peterson's focus on Abrahamic religions, knowingly or unknowingly, reinforces the theologically based idea that the Abrahamic forms of religion are the default and the idea that those religious stories constitute the universal story.

One cannot develop a scientifically sound study about anything pertaining to religion if one has not thoroughly explored what religions are and how they function in various ways. Failing to apply more than one religious tradition to one's study in order to construct universal claims about morality, would be like making claims about all birds based on the behavior of the

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<sup>57</sup> Peterson, *The Moral Lives of Animals*, 48.

And to a certain extent this is true, some moral rules are fairly consistent, for example murder isn't generally something that's favored in terms of human behavior.

<sup>58</sup> To be fair to Peterson, the audience that he is appealing to is likely more familiar with Christianity, and perhaps he chose to focus on Abrahamic religions to make his arguments and categories more accessible to that particular audience.

<sup>59</sup> Ibid., 33. Ibid., 106.

For example, Peterson references Buddha being worshipped in a temple. And while some people certainly do worship Buddha in a temple, some do not. Some see the Buddha as a man, a teacher and not a divine figure to be worshipped. He references the Tao (Dao) in the context of his chapter on authority, yet the Dao is the Dao because it is unnamed. It is like unhewn rock. I think referencing it in the context of authority may misrepresent it a bit, especially given the way a Western audience may conceptualize authority.

Kiwi. Genesis and the other stories and religions that grow out of it are a very limited example of how our mammalian moral tendencies take shape in the human form.

One of the creation stories of the land I was born on illustrates how a different kind of story can create a different kind of world. I heard the story from King and Kimmerer and it goes something like this: Skywoman reaches for a tree, and she tumbles and falls through a hole in the sky. At this point our world is entirely water. The geese and other waterfowl fly up to break her fall. A turtle offers its back for her to rest on and in an effort to make her and her unborn child more comfortable, many of the animals attempt to swim down to the bottom of the ocean and bring up mud for her to spread out on the turtle's back. In some versions the creature that is successful is the muskrat, and it sacrifices its life to give Skywoman the gift of that mud. She spreads the dirt; she dances the continent of North America into existence. She is the source of humanity and the plant life that sustains human existence. The act of creation in the Skywoman story is one of interdependence and interaction between different beings.<sup>60</sup> The world is created through creatures motivated by compassion, concern and curiosity. In the Genesis creation story, the world is created through the desire of one creature who forms the world out of nothing, sets the rules and punishes those who would disobey in their curiosity, banishing them into a fear-filled world outside of paradise.

These creation stories not only inform our relationship to other beings and our environment, but how we are involved in the act of creation itself. One is about the interactive embodied process of many forms working to creating the world, the other is about a world being spoken into existence by one form. Skywoman's footprints formed the earth beneath our feet.

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<sup>60</sup> King, *The Truth about Stories*, 10-21, Kimmerer, *Braiding Sweetgrass*, 3-5.

Eve's footprints only mark the path away from the garden, made deeper by the weight of her unborn children which, according to the story, she would now give birth to in pain. Footprints that Eve's offspring, the people who carry her stories, continued to Turtle Island a place they named America continuing in the footsteps of Adam. Eve and Skywoman met, "and the land around us bears the scars of that meeting, the echoes of our stories. They say that hell hath no fury like a woman scorned, and I can only imagine the conversation between Eve and Skywoman: 'Sister, you got the short end of the stick...'"<sup>61</sup>

Kimmerer says that in Native ways of knowing, human people are often referred to as "the younger brothers of Creation."

We say that humans have the least experience with how to live and thus the most to learn -- we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example. They've been on the earth far longer than we have been, and have had time to figure things out. They live both above and below ground, joining Skyworld to the earth. Plants know how to make food and medicine from light and water, and then they give it away. I like to imagine that when Skywoman scattered her handful of seeds across Turtle Island, she was sowing sustenance for the body and also the mind, emotion and spirit: she was leaving us teachers. The plants can tell us her story; we need to learn to listen.<sup>62</sup>

This is certainly not the dominant view in AmerEuropean or Western culture, animals and other creatures serve no use as teachers in our narratives with the important exception of children's literature. King jokingly points out that the talking animals in his version of the Skywoman story are a problem.<sup>63</sup> But I suppose that depends on what you mean by talking.

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<sup>61</sup> Kimmerer, *Braiding Sweetgrass*, 7.

<sup>62</sup> *Ibid.*, 9-10.

<sup>63</sup> King, *The Truth about Stories*, 23.

## Entangled Justice

At the beginning of every chapter in *The Truth About Stories*, Thomas King starts with the story about how the world is on the back of a turtle. When someone in the audience follows up with the question, but what is underneath the turtle? King's response is that it's another turtle and another turtle and another turtle, bottomless turtles, turtles all the way down.<sup>64</sup> We've talked about bottomless concepts already, in terms of the bottomlessness of our own minds, the stories we carry with us that we may not be conscious of, the bottomless process of movement existing in space without dimension, the bottomlessness in the elephant's gaze, so since I have already thrown you off the cliff like a seal in women's clothing, let's add another layer of bottomlessness to our discussion. If turtles aren't your thing, just think about entangled subatomic quantum particles in a state of superposition.

Did you just feel the cold air rush into the room? I can feel the gap between the sciences and the humanities when I hear words like that. It's like they are spoken in a different language. The words wash over me, and when I consult a resource for terms or ideas I don't understand, I find myself bouncing from article to article, explanation to explanation. Since I, like the novelist in the beginning of our story, cannot confidently explain acceleration without consulting a source outside myself, it is a deep rabbit hole of science to fall into. I am grateful for those scientists who take it upon themselves to explain things in more simplistic terms. The ones who try not to

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<sup>64</sup> King, *The Truth about Stories*, 1, 31, 63, 91, 121.

lean back in their chair around the dinner table, sip their tea in smugness and let silence stifle the room.

The physicists debating in their corner have puzzled over the movements of quantum particles and the state they exist in before observation, a state they call superposition. Quantum particles seem to behave as both a particle and a wave. They can exist in different states, positions, energies and speeds all in the same moment.

Quantum mechanics is weird, instead of thinking about a particle being in one state or changing between a variety of states, particles are thought of as existing across all the possible states at the same time. It's a bit like lots of waves overlapping each other. ... it means a particle can be in two places at once. This doesn't make intuitive sense but it's one of the weird realities of quantum particle physics.<sup>65</sup>

One might ask, intuitive to whom?<sup>66</sup> Wegner McNelly has said that most of reality exists in this state of superposition, affecting the course of events but remaining unobservable.<sup>67</sup> Superposition is unobservable, because the moment we observe it, the moment we cast our preferred Western quantitative, ideally and impossibly objective, visual lens onto those subatomic, tiny tiny tiny all pervasive moving little things, they “snap to attention.”<sup>68</sup>

When I consulted with some friends who study science the way that I've studied religions, they also used the term weird to describe quantum mechanics. It's an interesting word choice. The English word weird has etymological roots traced back to a Germanic noun *wyrd*, meaning fate or destiny. We could reach back to a line in Beowulf: *Gæð a wyrd swa hio scel*,

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<sup>65</sup> "What Is Superposition?," Physics.org, accessed April 28, 2016, <http://www.physics.org/article-questions.asp?id=124>.

<sup>66</sup> Catherine Keller, "The Entangled Cosmos: An Experiment in Physical Theopoetics," *Journal of Cosmology*, September 2012, 8. I am echoing her here.

<sup>67</sup> *Ibid.*, 5.

<sup>68</sup> *Ibid.*, 6.

Fate goes ever as fate must.<sup>69</sup> In the 1989 edition of the Oxford English Dictionary the word *wyrd* is described as “the principal, power, or agency by which events are predetermined.” The weirdness of quantum particles is not in its predeterminacy, but in its indeterminacy, in its ambiguous entangled wavy unknowable existence before it snaps to attention when a human observes it or, as theologian Catherine Keller points out, “at least when a physicist observes; not necessarily when contemplated by a shaman or a poet or a newborn or a William Turner painting his late nonfigurative works.”<sup>70</sup>

For some time, the word *weird* was only used as an adjective to describe witches; “a weird sister.” Sometimes it was used to describe the mythological fates. The “weird sisters” that visit Macbeth in Shakespeare’s play may have broadened the use of the term and opened the door for *weird* to be used to describe the movement of quantum particles. Perhaps this will give the physicists and the novelists something to talk about around the dinner table.

It takes two to converse. I am also grateful for those intellectuals in other disciplines who would risk moving into territory beyond their areas of expertise and lean across the table towards the physicists. Those who, with the help of scientist storytellers, translate those stories further, try to reach out and connect them. Catherine Keller draws physics and theology closer together in her analysis of quantum particles. While she is a bit uneasy taking on this task, she points out that risk can add to enjoyment: “if we all share the assumption at least that science and religion are historically entangled at a depth that belies their clean disciplinary separation; and that, if theology is worth doing in this new millennium, it will embrace that entanglement with fresh

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<sup>69</sup> Dave Wilton, “Weird,” Wordorigins.org, February 17, 2007, accessed March 12, 2016, <http://www.wordorigins.org/index.php/site/comments/weird/>.

<sup>70</sup> Keller, “The Entangled Cosmos,” 6.

curiosity. I suspect the reverse is also true, but would not dream of making such a claim.”<sup>71</sup> I would. In light of all the *weirdness*, I certainly would.

Superposition is not the only *weird* thing about quantum particles - they can be entangled. Entanglement means that the movement of one quantum particle has an immediate, faster-than-light effect on another quantum particle, regardless of distance. The particles spin in opposite directions, matching each other in untraceable movement. As Keller says, “This instantaneous interactivity was mucking up scientific certainty.”<sup>72</sup> Brazilian physicist Marcelo Gleiser wrote, “The object I am trying to observe refuses to behave as an object; it won’t stay still.”<sup>73</sup> Our common sense divisions between subject and object are unraveling right before our eyes, and that’s alright because that story wasn’t properly woven together in the first place. It just puts a snag in our understanding.<sup>74</sup> The thread of that particular story has been pulled up and away from the cloth it emerges from and the gap it weaves across. Perhaps we ought to call on the fates to come assist us with their sewing implements.

In Gleiser’s statement, movement seems to contradict something’s identity as an object. If that is the case, then perhaps we ought to reconsider our categorization of rocks. Rocks move. Granted they move very slowly, so we cannot perceive that they are moving very easily. We would have to sit very, very, very, still for a very, very, very long time. Tectonic plates move, planets move. Why can’t a rock be a subject? Why not cast subjectivity out into the Starry Night? I think our lifestyles would be quite different if we thought of this planet as a subject, not

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<sup>71</sup> Ibid., 1.

<sup>72</sup> Ibid., 5.

<sup>73</sup> Ibid., 4.

<sup>74</sup> Ibid., 5.



an object, nor a person either, but its own self that is defined by its own self-moving existence. After all, how can one judge a differently-bodied creation's self-awareness? Heisenberg said "the transition from the 'possible' to the 'actual' takes place during the act of observation"<sup>75</sup>. But why does our observation dictate the actual? It seems to me to be the opposite. That superposition is the actual, and the snappy leaps of quantum particles when they are observed is one manifestation of what is possible given the limitations of the human mind and our precious golden tools. But I must stop myself before I reinforce the boundary between the actual and the possible. It's not really there. They blend into each other.

When you think about it, it's like our own movement. We exist in a field of potentialities and under the power of our own observation, we pick a way to turn. Superposition is like a synonym for space without dimension. Like movement, when you observe subatomic particles, you are back-forming them into a grid, under the scrutiny of measurement they cease to be as they are. They stay as still as they can, which is not very still. Perhaps we should think of them as wild rabbits who perk their ears and look above the grass to see if you are a threat or not, breathing quickly, powerful back legs poised, filled with potential energy that could immediately give way to a leap, propelling them away from danger.

The rabbit and the human, in that moment of recognition, shift their movements and engage each other, sense each other, for a moment they become entangled. Perhaps that is another way of thinking about the movement of quantum particles, snapping to attention and spinning. In the act of our inherently limited quantitative gaze, we entangle ourselves in them. Scientists were astonished their experiments revealed the "earth shattering result" that "an object

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<sup>75</sup> Ibid., 8.

over there does care about what you do to another object over here.”<sup>76</sup> They expected to see the opposite result. But this result does not shatter the earth, it is the nature of it. If this result shatters anything, it is the stage we have built upon it. Keller asks, “I hear a voice whispering: ‘Whatever affects one directly, affects all indirectly.’ Oh but that is Martin Luther King Jr., speaking of justice. Irrelevant?”<sup>77</sup> Certainly not.

So what of justice in this place, this fleshy, moving, subjective, interconnected entangled place? If we see such interactivity, all-pervasive relationships as counterintuitive, what does that say about our understanding of justice? And if hierarchy is embedded in our justice, which it is, where do we begin to edit our understanding? Perhaps we ought to start by removing Justitia’s blindfold. After all, Justitia is only blindfolded to represent our human objectivity.<sup>78</sup> Or could it be for another reason? In light of our limited mammalian existence, perhaps the foresight of a goddess would be helpful. Or are we afraid of what she will see?

John Michaels has said that justice has failed in America because of our inability to imagine, specifically to imagine the position of an other. This inability to imagine someone else’s position is directly connected to our ability to imagine our own. There is no objectivity,

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<sup>76</sup> Ibid., 7.  
Keller is quoting Brian Green here.

<sup>77</sup> Ibid., 8.

<sup>78</sup> Gill, *Dance Culture Religion*, 34.

“In the simplicity of this analogy it seems actually rather silly to hold this view, but we need only remember how strongly attached we are to the truth of the “eyewitness” and to objectivity in education, law, and many other areas in society. I am endlessly badgered by my students when I ask them to write creative and engaging academic essays. Most hold to some identity of the academic with the objective with no room for creativity or subjectivity. The great majority of educational testing from the earliest levels through graduate school is based on the unquestionability of the objective measure even though philosophy and science, as is an implication of the examples I have just given, have shown for a century and more that such a position is untenable. I find it interesting that the examination of the Supreme Court nominees always centers on the degree to which the nominee is deemed objective. Yet every nominee is easily labeled as having a certain leaning, and sitting justices each have a very consistent record of how they interpret the law. In light of some obsession with objectivity in this context, it is difficult I think for us to even understand what might be understood to be the meaning of the words ‘judge’ and ‘judgment.’”

only positionality will not be enough for Justicia. She cannot wield her sword if she is trapped as a statue. Justice based on interdependence would require acknowledgement of relationship, of the bonds that exist between all of us. Relationship based on ancient imperceptible bonds - perhaps the relationship between ourselves and phytoplankton, perhaps the relationship between humans and humans, perhaps the relationship between humans and the Earth herself. Judgment would be passed based on how we have violated or affected those relationships and how we can restore them. Imagination is inherently connective tissue; a failure to imagine is a failure to relate. What happens if we shut down that imagination? What does it mean that Robin Wall Kimmerer's botany students have difficulty imagining "what beneficial relations between their species and others might look like"? Kimmerer continues, "How can we begin to move toward ecological and cultural sustainability if we cannot even imagine what the path feels like? If we can't imagine the generosity of geese? These students were not raised on the story of Skywoman."<sup>79</sup> These students, trained in the sciences, majoring in the sciences, could not imagine a positive interaction between nature and human beings. How will that affect their research and how they interpret their observations? What will they fail to see completely? What potentials will be left unexplored in that failure to imagine, a failure to listen to different kinds of stories? If you cannot imagine a relationship, you will never see that it is there. And if you do not see that it is there, you probably wouldn't think about it at all, and in your actions and movements, based on your imagined or unimagined relationships, you could wind up harming something unintentionally. Intention affects the cycle of cause and effect, but a lack of intention also affects that cycle. Sometimes the road to hell is paved with good intentions.

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<sup>79</sup> Kimmerer, *Braiding Sweetgrass*, 6.

Perhaps we can learn something from the behavior of quantum particles. Perhaps they can remind us that nothing is set in stone until we, as in our definition of movement, back-form it into a grid, force it to choose which way it will spin. Perhaps quantum particles can remind us that just because we move a particular way, just because we have developed particular narratives about those movements, just because we say that life is a purposeful journey, does not mean that we are set in a cycle of forward colonial progression that cannot be stopped. Our business as usual, desire for economic growth, our mindless momentum forward to some unknown mark is not predestined. Like quantum particles, we exist in a state of superposition. We do not have to continue on this path, even if it is the one we inherited.

*State of Vermont vs. Raleigh Elliot, et al.* was a case brought before the U.S. courts in the 1980s by the Abenaki Nation to ensure their ancestral fishing rights. The tribe clearly exists but is not recognized by the U.S. government. Native American studies scholar Lisa Brooks worked in the tribal offices at the time when the case was ongoing. She recalls,

Consider what it means to understand yourselves internally as a Native nation while those governmental mechanisms that directly affect your lives literally do not see that you exist... I remember the day the decision came in to the tribal office. I remember seeing those little words typed on paper: the judges of the Vermont Supreme Court decided that Abenaki aboriginal title had been 'extinguished...by the increasing weight of history.'<sup>80</sup>

There is nothing that resembles objectivity or logic here, nothing that resembles an acknowledgment of relationship or responsibility. If we were to look at the evidence, for example, the Abenaki exist, they have a tribal office, they have lived on this continent for millennia, their relationship to the land has been established for millennia in their stories and movements, they petitioned the courts on behalf of their relationship to their environment, their

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<sup>80</sup> Lisa Brooks, "At the Gathering Place," afterword to *American Indian Literary Nationalism*, by Jace Weaver, Craig S. Womack, and Robert Allen. Warrior (Albuquerque: University of New Mexico Press, 2006), 227.

ability to fish. That relationship is inviolable. This failure of justice is not merely a failure of imagination. This is a failure to acknowledge lived reality. There is a reason that Justitia is blindfolded - this ruling can only be supported by the most blinded Justice. History has no weight. Time has no mass. It can crush nothing. Only the judges could do that, with their metaphor and gavels. If scientists were presiding over the case, perhaps they would have ruled differently. Or perhaps not. The evidence of relationship is there, and in denial of that evidence, relationship is betrayed, Justice is betrayed. Shall we call on the Weird Sisters to rip the seams of Justicia's gilded blindfold? Keller wonders,

[Could] the startling edge of physics be revealing to us the depth of our relationality and the width of our entanglement now, in this ecologically catastrophic century, for good reason? It won't solve our problems. Nor will a deity, if she comes entangled in the web of creaturely intra-actions. We do not need a transcendent solution; we need the resolution with which to unfold responsibly, to materialize mindfully, the churning potentiality of our complicit histories and our shared complexities. The possibility of a creaturely con-vivality—of living together-- does not cease its calling.<sup>81</sup>

Somewhere, in some unknown place, things began to bind themselves together. Some particles decided to tango, movement starting a cascade of movement. Each form blending, colliding, birthing and dying, moving and gliding and swirling and waving along. Like Aphrodite, like the mud brought by muskrat, like murky primordial water in Genesis, we came out of the superpositional waves. We got entangled up in bodies. We are an amalgamation of an amalgamation of those movements in space without dimension, those most ancient bonds. We and every other perceptible thing share those bonds in some form or another. If anything makes us exceptional from other living forms, it is that some of us break bonds. We break them in a way no other living thing that resembles us in any remote way does. In breaking atomic bonds,

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<sup>81</sup> Keller, "The Entangled Cosmos," 14.

we have the ability to destroy entire places. With the press of a few buttons, death to everything that bomb touches. And we have stories that allow us to imagine that we have a right to behave that way. In Leslie Marmon Silko's book, *Ceremony*, a witch-person lets evil loose in the world by telling a story.<sup>82</sup> I think there's a lot of truth in that, stories can let evil loose in the world. If I were to retell that truth in my AmerEuropean context though, I'm not sure the Weird Sisters would have had anything to do with it.

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<sup>82</sup> King, *The Truth about Stories*, 9-10.

## Marks and Stilled Lives

I once took an introductory painting course with a professor named Molly. One of the things that was made clear in the syllabus was that we would be asked to wipe out our paintings in the process of creating them. It was the first time I had worked with oils and I quickly learned to love the way that you could wipe out the marks. Acrylic dries very quickly, and you can certainly scrape it away with a pallet knife, but with oils, all it takes is a rag with a bit of oil mineral spirits. If you haven't waited too long after putting marks on a fresh canvas, you can remove everything but the shadows of the paint. One day, I had painted something I actually liked and I wiped it away just as Molly walked up to look at my canvas. I told her what I had done. And she looked me in the eye and she said, "Good. Now you can watch someone you love die." She had no way of knowing that I had already watched someone I love die by their own hands. But at one point during critique, she looked at me and remarked that the paint I carried over to the canvas was heavy, sad. Our experiences affect our work, whether they be paintings or writings or mathematics or ethnographies.<sup>83</sup>

Maybe wiping out that painting did make it easier for me when fate wiped out my grandmother. You can never repaint the painting with exactly the same marks once it's been wiped away. That's what death is, I think. But there's a bit of incompleteness in that irreversibility. Even though my grandmother is gone, I am not. We loved each other. We gave each other gifts and in that exchange, became a part of each other. We left marks on each other.

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<sup>83</sup> Renato Rosaldo, *Culture & Truth: The Remaking of Social Analysis* (Boston: Beacon Press, 1989).

She held me in her arms, laughed and sang me songs in French, and placed happiness in the space of my mind that I cannot reach with my consciousness. She gave me her stories too. Stories about war. Sometimes she told me stories about my great-grandfather and how he learned German when he was a prisoner of war. She told me how he left Poland to find work in France and in the next war, when the Germans came to Courances, he stepped out and spoke to them in their own language. He tried to build a bridge in understanding.

She told me stories about how she watched between the cracks in the shutters, as the Germans marched into town. She told me about the way they moved and the sound their boots made when they hit the ground. She told me stories about how creative expression was how she managed to live surrounded by death. She survived her teenage years and the occupation by singing and dancing and sewing and acting and playing the organ at church. She told me stories about how she met my grandfather, the American soldier, how they connected through the Polish language because they both came from immigrant Polish families who left their homes because of war. And sometimes she told me stories about me, especially as she was dying. Things that I did or said, the stories I gave her in our shared existence. There was one she told me almost every time I saw her near the end, her memory degrading from age and pain.

We were all in a Cathedral in Chicago to witness my mother's cousin, Carol, becoming a nun. I was about three years old. The Bishop gave a sermon from the pulpit raised high above the rest of us, gesturing towards the ceiling and looking upwards, talking about God. Apparently, I was trying to follow his gaze. I was trying to see what he was pointing at. I looked around at the ceiling of the church, perhaps out the window, and finding nothing resembling what I imagined to find I turned to my father and asked, "Where is this God he is talking about?"



She would always smile and chuckle, as I imagine the people who heard me that day smiled and chuckled. She gave me that memory over and over. I'm not sure why. She must have felt it was important for me to be able to recall it through her story, since I cannot remember it myself. It's in that bottomless part of my mind, with the marks and movements that laid the foundation of my self, the place my interpreter cannot reach.

Have you ever had the experience of reading something and feeling the words differently than you felt the words that followed before and after? When a few sentences reach into you and blast through any boundaries between the two hemispheres of your human brain and light your whole body up with meaning? When a story weaves with yours at just the right moment? A story that allows you to speak what was previously known but remained unspoken, uninterpretable? I had an experience like that when reading the foreward of Gerald Taiaiake Alfred's *Wasáse*.

Leroy Little Bear's words reached into my bones,

They [Europeans] are a people, we have come to discover, with no collective ethos. In other words, they have no common spirit and beliefs that hold them together. What is common to them is a very strong belief in individuality and the pursuit of individual material gain. The British people who were the main colonizers of this continent are acultural in an indigenous sense because the history of Britain is one of successive takeovers by foreigners. The effect of these successive takeovers is to erase any semblance of indigeneity to the land from which they came.<sup>84</sup>

When I read those words I felt a deep sadness. Before I became conscious of it, I was already weeping. For a moment, I felt broken apart by violence. Layers and layers and layers of violence. Leroy Little Bear's words unlocked a door and meaning came pouring in through my body, from that place that exists beyond words. Without a sense of indigeneity, without a sense of the place from which we came, we lose track of our most fundamental relationships. I inherited that loss.

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<sup>84</sup> Leroy Little Bear, "Foreword:," in *Wasáse: Indigenous Pathways of Action and Freedom* (Peterborough, Ont.: Broadview Press, 2005), 11.

I went to Germany once against my mother's explicit instructions. It was while I was studying the French language in Paris. I knew that my birthmother was of German ancestry and I figured that if I was never going to meet her, I needed to see the place we were from. I *had* to go there. And when I saw the mountains, smelled the air, I felt the strangest familiarity. I had the distinct sense that somehow, a part of me knew this place already. I was astonished that I could feel so connected to a place that I had never been. Later, when I met my birthmother, I learned first-hand how entangled we really are and how love knows no distance. Like movement, love exists in space without dimension.

As I write this sentence, there is blood splattered on the closet door. A teaspoon puddle of thick bright red goo is on the carpet. I cover it with a piece of gauze to be cleaned up later. Tiberius the rabbit is sitting nearby, breathing slowly. His eyes half closed and dull. I just got him to eat a syringe full of spinach juice. When I try to feed him more he turns his head away. In a matter of hours yesterday, he had grown an abscess in his cheek. We took him to the vet. I told her that I thought it was a tooth abscess, because of its location on his body and the fact that he was part Dutch Dwarf.<sup>85</sup> She thought it was an infection from a wound. I remember looking at her framed degree and reminding myself that she knew better than I did. She was the expert. And I pushed my feelings aside and trusted her while they lanced his face open in the other room. Apparently the smell was so bad that when a vet tech walked in she asked, "Who pooped?"

We took him back home and he really did smell terrible, like dirty diapers and airplanes. And though these descriptions may seem lighthearted, let me tell you, there is nothing more

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<sup>85</sup> Apparently those particular rabbits have a tendency to get tooth abscesses due to some unforeseen genetic interaction due to my European ancestors' interference.

depressing than a bunny covered in blood.<sup>86</sup> When I am in his space, he wants to be near me, even though I have just poked a syringe into his open pulsing wound and pumped antibiotics into his body that ravage his incredibly sensitive digestive tract,<sup>87</sup> even though he hurts when I clean the blood off his face, when I put the syringe and gauze down, when we are just there together he wants to be near me, to be touched and comforted. I can feel Death in this house, but I will not let Tiberius go. We are entangled. As he hurts, I am hurting faster than the speed of light.

Franz De Waal is a biologist who has written about mammalian empathy and in light of all the scientific research, he argues that humans ought to understand themselves and act as more empathetic creatures. He writes,

If biology is to inform government and society, the least we should do is get the full picture, drop the cardboard version that is Social Darwinism, and look at what evolution has actually put into place. What kind of animals are we? The traits produced by natural selection are rich and varied and include social tendencies far more conducive to optimism than generally assumed. In fact, I'd argue that biology constitutes our greatest hope. One can only shudder at the thought that the humaneness of our societies would depend on the whims of politics, culture or religion.<sup>88</sup>

The thing about stories is that they bleed into everything. You can no more draw a line between the brain and the body than you can between all the stories you hold within yourself. And your stories bleed over into others. We must be careful that in the meetings of the sciences and the humanities we are not privileging one over the other. Not in the sense that we must have an equal intellectual command of both cultures, but that we do not secretly think one way of thinking is

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<sup>86</sup> *Monty Python and the Holy Grail*, dir. Terry Gilliam and Terry Jones, perf. Graham Chapman, John Cleese, Terry Gilliam, Terry Jones, Michael Palin, Eric Idle (London: Python (Monty) Pictures, 1975). The ravenous rabbit in this movie is the only exception to this statement that I can think of.

<sup>87</sup> Rabbits' gastrointestinal systems are incredibly sensitive. Rabbits can't vomit or pass gas, if something is making them sick, not being able to fart can literally kill them. They are also capable of kicking hard enough that they can break their own spines with the force of their back legs.

<sup>88</sup> De Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society*, 45.

better than another, is of higher value. The exchange must be equitable, non-hierarchical. And generally speaking, in the history of the West, when two cultures meet, exchange has not been equal.

Science provides us with great hope. But it has also provided us with great peril when we break the bonds that we discover. Science can never be devoid of culture or religion or politics. That is why de Waal asks the question “What kind of animals are we?” and that is why it is so vitally important that he asks it. Such a question demands our self-awareness, an acceptance of our subjectivities and the complexities enfolding and unfolding within them. We are human animals. As human animals, we have many different stories. And biologists are affected by and created within these stories just as any other human creature is. Indeed, I do shudder at the thought that “humaneness” of our plural and complex societies would be determined by a singular culture or religion. Which leads me to wonder which particular culture or religion, what kind of politics is de Waal decrying here? De Waal seems to be arguing that politics, culture and religion have morally failed. But in these instances, structures fail because people fail. In an American-European context, I do think that biology can be helpful for reexamining the question of human nature, but I cannot reject the potential energy storied up in our culture or religion. No good can come of dismissing entire systems of story.

Tiberius came to me on January 8, 2012. I was rushing off to culinary school, trudging through the snow with my giant leather clogs. I was running late. I saw a rabbit hopping in the dog run outside my building. I was delighted to see him and I kept walking. But this rabbit wouldn't let me walk away. He jumped out between the fence posts of the dog run, hopped towards me and nudged my left foot twice. When rabbits nudge someone, it can have various meanings. It is often a request of some sort. If the nudge is more forceful, it generally means that

you're in their path and they would like you to move. It could be because they are curious, and feeling their way around a new environment. It can be a gentle hello. But if the nudge comes out of nowhere when your attention is focused on something else, it generally means the rabbit is asking for your undivided attention.<sup>89</sup> Amazed, I scooped him up, brought him inside, and was late for class that day.

I said I felt Death in the house. I was right. I will tell you that I am broken-hearted. I will tell you that I am weeping again, my body is shaking with sorrow and anger, and even though Tiberius died last night right before sundown, the sun has risen again and I can still feel his last warmth in the palm of my right hand. I wish I could tear my interpreter from my brain to stop the barrage of imagined alternative outcomes. There is a good chance that Tiberius didn't have to die.<sup>90</sup> If I had trusted my gut and taken him to a different vet, there's a chance they would have treated the abscess differently and he would still be alive. I felt Death in the house but I kept on the same path because I decided to trust a piece of paper instead of my feeling, in the midst of writing about how humans who share my origin stories need to give credit to their feelings. Here I am, saying that we need to trust our feelings more, to embrace that kind of knowing, and my failure to do so in my own life may have led to the death of one of the creatures I love dearly. I am a hypocrite. But I will never make the same mistake again.

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<sup>89</sup> There is not one source or guide I can point to for this information. Through interactions with rabbits and through reading various websites, forums and articles written by bunny caretakers over the year, these are things I have learned.

<sup>90</sup> I consulted with a woman who works with the rabbits at Red Door Animal Shelter and a vet at Chicago Exotics Animal Hospital that works with them (yes, bunnies are considered "exotic"). While they cannot be sure, and while I cannot be sure, it was probably a tooth abscess and if he had gone to them and he had been taken into surgery, he would probably still be alive. Tooth abscesses are usually treatable. Chicago Exotics works with Red Door and lets them pay off their bill when they can. If you would like to donate, call them at 847-329-8709 or donate directly to Red Door Animal Shelter through their website: <http://www.reddoorshelter.org/>.

Renato Resaldo has talked about how our experience affects our understanding of other's experiences. He did not understand the extreme anger in grief until he experienced it himself.<sup>91</sup> Grief isn't dismissed easily. Maybe that is why we are all so angry now, even those of us who don't have stories that would allow us to interpret and understand the anger. We never lost our ability to feel the earth, to feel the subjectivities in the differently bodied beings that swirl around us. We only gained the ability to ignore that relationship, to devalue it, to dismiss it, to drug it. We can turn our gaze in a different direction, but we will always be capable of feeling the world around us regardless of our inherited interpretations. If we continue on with our "business as usual,"<sup>92</sup> 1 in 6 species on this planet will be endangered, at risk for extinction, wiped off the canvas, completely.<sup>93</sup> But our ability to predict is not complete. And when one considers the interdependent nature of the biosphere, how, as Dobson-Gray has said, species actually do something that life needs doing, what will this mean for the survivors of extinction? There are roughly 8.7 million species on Earth, give or take a million. That means that 1.5 million species will become endangered or go extinct. Not just 1.5 million distinct embodied beings, individuals like Tiberius, but 1.5 million categories of entirely different beings. What number would that be? Would it be in the billions? Trillions? Does it even matter if we cannot allow ourselves to imagine what that kind of death would mean? What it would feel like? Hundreds upon thousands

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<sup>91</sup> Renato Rosaldo, *Culture & Truth: The Remaking of Social Analysis* (Boston: Beacon Press, 1989).

<sup>92</sup> "Baseline Scenario Concepts," Intergovernmental Panel on Climate Change, accessed September 04, 2015, <http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=286>. Business-as-usual describes current policies and practices continuing similarly to how they have in the past. It is a term used to describe a baseline scenario in the context of climate change.

<sup>93</sup> M. C. Urban, "Accelerating Extinction Risk from Climate Change," *Science* 348, no. 6234 (2015): doi:10.1126/science.aaa4984.

of distinct individual creatures eliminated. How is this not an event?<sup>94</sup> How are we each individually fighting to keep death out of our collective house, the Earth?

Referring to animals and other creatures as kin communicates an evolutionary and cosmic relationship clearly and concisely and it implies the responsibility that comes with that relationship. Derrida may not have been comfortable using terms of kinship, but I am. I've been aware of the animals that surrounded me all of my life, I felt that relationship. And in my own limited way, I have chosen to build on that relationship. Perhaps he had a different experience. Perhaps he was afraid of that responsibility. Reflecting on kinship in an Indigenous context, author Daniel Heath Justice observes,

The recognition of some sort of relationship between and among peoples--the ever contextual contours of kinship--returns us to the physical realm of the participatory. At their best, these relationships extend beyond the human to encompass degrees of kinship with other peoples, from the plants and animals to the sun, moon, thunder, and other elemental forces.<sup>95</sup>

If we feel our way into the Universe, if we feel those connections and relationships, we need to actively imagine them, feel them, speak them into our stories. And then behave in a way that reflects those relationship, that familial care. Remember, we would not exist without phytoplankton. I dare you to imagine it. I dare you to recognize that relationship. I dare you to remember where you come from. I'll stomp on the ground if I have to.

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<sup>94</sup> Aaron S. Gross, "The Question of the Creature," in *Creaturely Theology: On God, Humans and Other Animals*, ed. Celia Deane-Drummond and David Clough (London: SCM Press, 2009), 128.

I am echoing Aaron Gross here. He says, "What does it mean, for example, that today 50 billion (!) chickens live their entire lives confined and drugged in the stinking filthy buildings of factory farms -- rows upon rows of the special sorrow of birds? Is this a matter only for animal ethicists? Of course there is an injustice here, but only injustice? Is there not also something more disturbing? Are the groans of 50 billion not an event?"

<sup>95</sup> Daniel Heath Justice, "Go Away, Water!" Kinship Criticism and the Decolonization Imperative., in *Reasoning Together: The Native Critics Collective*, by Janice Acoose, Craig S. Womack, Daniel Heath. Justice, and Christopher B. Teuton (Norman: University of Oklahoma Press, 2008), 154.

Rabbits stomp to indicate fear or danger. Sometimes Opal stomps at thunderstorms or if I try to pick her up, or if I pull too hard on a hair when brushing her. Gizzy, a lion headed rabbit and the newest and oldest animal in the house, stomped at the cat the first two times she walked near his space, though he doesn't seem to be bothered by the 150-pound<sup>96</sup> dog. Tiberius only stomped when I tried to stop him from exploring, or when he was exploring a place he generally was not allowed to be and he wanted me to know about it. He was one of the most curious creatures I've met. He was fearless and bold. That's why we named him for Star Trek's James Tiberius Kirk, because he boldly went where no bunny has gone before.<sup>97</sup>

One of my favorite Starfleet captains from the Science Fiction television series Star Trek is Captain Kathryn Janeway, played by Kate Mulgrew. She starred on the series *Voyager*, a story about two warring ships pulled into uncharted territories and having to work together to survive. Despite a history of betrayal and violence between Starfleet and the Maquis, the two crews come together and reach a mutual understanding. As they travel through the Delta Quadrant, trying to find their way back home, they become a family. The power of that story and the fact that the three main officers are a woman, a Native man and a Black Vulcan makes it my favorite story in all the Star Trek series.

At one point, Janeway has an option to steal technology from a planet that has welcomed them. She decides not to. But she struggles with the decision and Tuvok, as always, helps her through it. Vulcans have a strong sense of morality, they generally do not lie (though some certainly have) and their narratives and movements are informed by logic. Vulcans practice

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<sup>96</sup> To be particularly precise, he weighs 66.632719 kilograms.

<sup>97</sup> My husband and I are big Star Trek fans.



keeping their emotions under control.<sup>98</sup> And using his logic, Tuvok reasons that if Janeway's priority is to get the crew home, moral code should be violated in this instance. He decides to steal the information and technology that they need and go against the Captain's orders, even though it violates his own sense of morality. Tuvok and other members of the crew are eventually caught in their attempt to take the technology. Janeway is furious, and after reprimanding the rest of the group, she holds Tuvok back to talk to him.

You are one of my most valued officers. And you are my friend. It is vital that you understand me here. I need you. But I also need to know that I can count on you. You are my counsel - the one I turn to when I need my moral compass checked. We have forged this relationship for years, and I depend on it! I realize you made a sacrifice for me. But it's not one I would have allowed you to make. You can use logic to justify almost anything. That's its power - and its flaw.<sup>99</sup>

Janeway was not afraid to feel. She was also the only Star Trek captain who was lost and trying to find her way home. She was not seeking out new life and new civilizations or helping the

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<sup>98</sup> Robert Sabaroff, writer, "The Immunity Syndrome," in *Star Trek*, dir. Joseph Pevney, NBC, January 19, 1968. This is a source of struggle for the character Spock in the first Star Trek series. His mother was human and his father was Vulcan. He struggles with his emotions and the human side of his identity. As a character, he embodies the tension and harmony between feelings and logical detachment. He is a powerful character in his Western sci-fi storytelling context. Vulcans are telepathic and in *The Immunity Syndrome*, Spock senses the destruction of a Vulcan starship:

Dr. McCoy: Spock, how can you be so sure the *Intrepid* was destroyed?

Mr. Spock: I sensed it die.

Dr. McCoy: But I thought you had to be in physical contact with a subject before...

Mr. Spock: Doctor, even I, a half-Vulcan, could hear the death scream of four hundred Vulcan minds crying out over the distance between us.

Dr. McCoy: Not even a Vulcan could feel a starship die.

Mr. Spock: Call it a deep understanding of the way things happen to Vulcans, but I know that not a person, not even the computers on board the *Intrepid*, knew what was killing them or would have understood it had they known.

Dr. McCoy: But, 400 Vulcans?

Mr. Spock: I've noticed that about your people, Doctor. You find it easier to understand the death of one than the death of a million. You speak about the objective hardness of the Vulcan heart; yet how little room there seems to be in yours.

Dr. McCoy: Suffer the death of thy neighbor, eh, Spock? Now, you wouldn't wish that on us, would you?

Mr. Spock: It might have rendered your history a bit less bloody."

<sup>99</sup> Michael Perricone and Greg Elliott, writers, "Prime Factors," in *Star Trek: Voyager*, UPN, March 20, 1995.

process of colonization. She just wanted to get her people home. She wanted them to see Earth again. But more than see it, because they could see the earth from the holodeck. But to feel it. To breathe its air, to drink its water again, eat its food, feel the rays of our nourishing sun. Like Janeway, I just want us to feel the earth again.

John W. Campbell, one of the early supporters of Western science fiction as a genre characterized it as “a way of considering the past, present and future from a different viewpoint, and taking a look at how else we might do things ... a convenient analog system for thinking about new scientific social, and economic ideas -- and for re-examining old ideas.”<sup>100</sup> The imagination involved in the writing, reading, telling, listening and sharing of stories is mind-altering. Stories change everything. Engaging in the movements that allow us to write, read, speak, sing or listen, all the senses we use to share story, they change us. Imagination is a birthing place.

Thomas King said that the truth about stories is that that’s all we are. At the end of his book, when speaking about ethics and the moral choices we make in every moment and every movement, he says:

Perhaps we shouldn’t be displeased with the ‘environmental ethics’ we have or the ‘business ethics’ or the ‘political ethics’ or any of the myriad of other codes of conduct suggested by our actions. After all, we’ve created them. We’ve created the stories that allow them to exist and flourish. They didn’t come out of nowhere. They didn’t arrive from another planet. Want a different ethic? Tell a different story.

I want a different kind of ethic, so I am following King’s advice and I am trying to tell a different story.<sup>101</sup> This is an end, but it is also a beginning. These words are not trapped on these

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<sup>100</sup> Gary Westfahl and George Edgar. Slusser, *Science Fiction and the Two Cultures: Essays on Bridging the Gap between the Sciences and the Humanities* (Jefferson, NC: McFarland &, 2009), 5.

<sup>101</sup> King, *The Truth about Stories*, 164.

pages. I intend to go back and wipe them out and weave them together again in the hopes that these word may help someone feel the entanglement, relationship and support in that murky, moving, unseen bottomlessness. If we begin to feel the subjectivity, the familiarity in the bottomless gaze of the elephant, I think we will come to experience that support. But if you don't have a chance to meet the eyes of an elephant, just think about phytoplankton. Think about breathing. And while you're thinking about breathing, don't forget the phytoplankton.

My essential remark is this: in the context of cosmic kinship, there is no hierarchy, there is only connection. There is no superiority, no superior vantage point from which humankind stands. There is no hierarchy amongst humans that humans have not put in place for themselves. The "holy order" is one of interdependence. The way we understand ourselves in relation to others, the stories we tell are deeply important to us as humans. We need to act in a multifaceted, superpositional wave in order to change the tide that we've forced upon the warming waters. I can only plead with my AmerEuropean colleagues and cultural companions: we need to edit the stories we tell.

Stories can open doors for people to feel their way into the Universe, perhaps not as concisely as gazing at van Gogh's *Starry Night*, but they can be equally as powerful. And in moving through intellectual spaces or quotidian spaces, our human-bodied minds are storytellers. I have argued for an awareness of interdependence, for blending disparate ideas to spark new creative possibilities to revise the AmerEuropean Western story. But my argument is dance, not war. I think we have had enough of war. If I could paint the thoughts, I would. Preferably on a wall somewhere, maybe in a cave in France. But the movements of my arm and hand making marks with a pen are more comfortable to me than those I make with a brush. So this will have to do.

The two hemispheres of the sciences and the humanities are, indeed, blending. This paper is merely a continuation of efforts already being made to remember that the two sides of our metaphorically Western split brain are not physical. There is no separation. Conversations are already in process. There is a movement to change the categorization STEM (sciences, technology, engineering and math, to STEAM (science, technology, engineering, art and design and math), incorporating and acknowledging in name that these different forms of narrative and knowing benefit each other, and by blending them creatively we open up more possibilities.<sup>102</sup> There are debates between physicists and biologists and philosophers and novelists. There are festivals like the World Science Festival which embrace wild imagination and combine the sciences and the arts. We see Snow's two cultures coming together in science fiction and television shows like Star Trek. We see theologians referencing Franz de Waal. We see Neil DeGrasse Tyson cite van Gogh.

The West, as I've been observing through this winding narrative and my own experience, is a cultural tradition of separations. But the nature of existence, from a variety of perspectives based in empirical evidence from Western knowledges as well as from many other stories being acted out in different theatres, is one of interdependence. If the extinction of species causes the rest of the community to struggle, then habitats, our homes, must have an observable balance. If movement is the basis of all other forms of interpretation, including human interpretations, then we must honor the space we move within and honor the gifts that it gives us. The more complexity we embrace, the more we feel the Universe and the Earth, the better off we will be. We will be better for it. We will be better to it. We will be better with it.

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<sup>102</sup> An initiative developed by Rhode Island School of Design. For more information, see "STEM to STEAM," STEM to STEAM, 2016, What is STEAM?, accessed July 26, 2016, <http://stemtosteam.org/>.

As I write this, Tiberius sits on a shelf in what could be described as a small black coffee tin. He is sitting in front of a relief statue of Avalokiteśvara, the thousand-armed Buddha of compassion. He is a pile of ashes. I am outside. I can feel the sun on my back and hear the baby birds testing their voices. They've just taken their first steps out of the nest. A small lime green insect is crawling up my leg. He is distracting me from this project. I tried to remove him a few times, but he seems intent on using my leg hairs as an obstacle course. So I've stopped what I'm doing and am watching him move. He zig-zags around, I can feel his six little feet as he moves on my skin. I can see him a little more clearly now. The first thing I notice beyond his tear-shaped lime green body are his tiny black eyes. They are on either side of his head and he reminds me of a googly-eyed goldfish I once loved. He gets closer, and I see reddish brown iridescent marks on his wings. I lift my leg so I can see him more clearly. He's moving straight into my gaze. And then he stops. And for a while we just look at each other. And I wonder what he knows of me, this strange fleshy form he is wandering on. Does he recognize my thinking mind? Does he see my eyes as eyes for vision? What am I to this creature and what is he to me? What kind of creature am I, after all? What would his answer be?

Maybe for a moment he reflects that it's just weird creatures all the way down before he decides to fly away. I can't know for sure. But being a human I can offer some kind of informed speculation. Experience is our greatest teacher. She teaches and moves and makes meaning without words. Leonardo Da Vinci called her "the one true mistress" when defending himself against those who would say he couldn't speak about certain things because he did not have the proper degrees or training. He responds by saying that, "they do not know that my subjects are to be dealt with by experience rather than by words; and [experience] has been the mistress of those

who wrote well.”<sup>103</sup> Whether he was writing or painting, Da Vinci was a storyteller. That’s what we are. That’s what we all are. We’re just *weird* mammalian storytellers.

To understand oneself as a storyteller is to draw oneself closer to the force of creativity, to acknowledge one’s subjective experience as well as the connection and responsibility to the world around us. It is a position that all humans hold. This understanding eliminates any false hierarchies we may have in terms of disciplinary preferences. Biologists, quantum physicists, historians, anthropologists, theologians and mathematicians are all storytellers, we simply work in different genres. Every human interpretation of reality can be considered story, every narrative in the sciences and the humanities, regardless of the form of their construction, or whether they employ numbers or words. Sometimes these stories are inherited, others we strive to learn. We actively read or listen or feel them with intention so that they become a part of our being. Others are forced upon us. Every story we meet with affects who we are and how we perceive the world because story is how we make sense of chicken claws, snow shovels, thermodynamics and, obviously, Shakespeare.

Should we leave Snow’s two cultures sitting silent around a frosty dinner table, the food growing cold, the ice crawling into the room through the cracked and broken window?

Don’t you think they would feel the chill and in order to stop their shivering and warm their bodies, they would start to move? Don’t you think they would perhaps, notice the broken window? And don’t you think maybe, fueled by their curiosity, they might look outside? Perhaps they realize that the frost on the glass was growing on the inside.

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<sup>103</sup> Leonardo Da Vinci, *The Notebooks of Leonardo da Vinci*, trans. Jean Paul Richter (New York: Dover Publications, 1970), 3.

Suddenly, the physicist looks at the novelist. He throws his teacup at the window and the steam and heat melts the ice on the frozen lock.

“That’s your first lesson in thermodynamics.”

The novelist rushes to the window,

“I’ll give thee a wind,” she says and pushes it open. They all duck as the glass shatters from the force of her movement. Maybe the gust of air that rushes in from the outside isn’t as cold as it seems it should be. They all stand back up, slowly. The physicist raises an eyebrow at the novelist. “It’s a line spoken by one of the Weird Sisters in *Macbeth*. That’s your first lesson in Shakespeare.” Maybe they decide to sweep the glass aside and crawl out the open window. Maybe then they will see the snow burdened tree and the birds, and feel the sun’s heat as it melts the snow. Maybe they build a fire and share stories. Maybe they wander over to Chauvet cave and start painting on the walls.<sup>104</sup> Maybe while walking on the PATH from their SOURCE to their GOAL, they become a family. Maybe that was *really* the goal all along. Maybe, just to top it off, there’s a rainbow. And some unicorns. What would Snow think of that ending? It sounds like a good time to me.

This story I am telling is very much a work in process. Though it is finished for it’s current purpose, I do not think this is its final form. Despite being a storyteller at a neurological and embodied level, it is not easy for me to use my voice. Sometimes I am afraid of it, because with every word we write or speak or weave we leave a part of ourselves. And once we tell a story, we can’t call it back. Once you’ve heard a story, you can’t unhear it. Once you’ve read a book, you can’t unread it. Given my AmerEuropean stories and experience, I feel I cannot trust

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<sup>104</sup> *Cave of Forgotten Dreams*. Directed by Werner Herzog. By Werner Herzog. Performed by Werner Herzog, Jean Clottes, Julien Monney. Zurich: Ascot Elite Entertainment Group, 2010. DVD.  
If you want to go to Chauvet cave, Werner Herzog can take you there.

myself yet. I can wipe my canvas but the marks have been made. I just hope that in this story, I am making a different kind of mark, that I am telling a different kind of story.



## Bibliography

"Baseline Scenario Concepts." Intergovernmental Panel on Climate Change. Accessed September 04, 2015. <http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=286>.

Brooks, Lisa. "At the Gathering Place." Afterword to *American Indian Literary Nationalism*, by Jace Weaver, Craig S. Womack, and Robert Allen. Warrior. Albuquerque: University of New Mexico Press, 2006.

Campbell, Fiona Kumari. "Refusing Able(ness): A Preliminary Conversation about Ableism." *M/C Journal: A Journal of Media and Culture* 11, no. 3 (2008). Accessed July 28, 2016. <http://journal.media-culture.org.au/index.php/mcjournal/article/viewArticle/46/0>.

*Cave of Forgotten Dreams*. Directed by Werner Herzog. By Werner Herzog. Performed by Werner Herzog, Jean Clottes, Julien Monney. Zurich: Ascot Elite Entertainment Group, 2010. DVD.

Da Vinci, Leonardo. *The Notebooks of Leonardo Da Vinci*. Translated by Jean Paul Richter. New York: Dover Publications, 1970.

Derrida, Jacques, and Marie-Louise Mallet. *The Animal That Therefore I Am*. New York: Fordham University Press, 2008.

*Dr. Dolittle and His Friends*. Directed by Richard Fleischer. Performed by Rex Harrison. Hollywood, CA: 20th Century Fox, 1967. DVD.

Gazzaniga, Michael S. *Who's in Charge?: Free Will and the Science of the Brain*. New York, NY: HarperCollins, 2011.

Gill, Sam D. *Dancing Culture Religion*. Lanham: Lexington Books, 2012.

Gill, Sam. "The Meaning of the Body." *Sam Gill* (audio blog), March 12, 2010. Accessed October 5, 2015. <http://sam-gill.com/2010/03/12/bbm-vol-2-the-meaning-of-the-body/>.

Gray, Elizabeth Dodson. *Green Paradise Lost*. Wellesley, MA: Roundtable Press, 1981.

*The Great Debate: The Storytelling of Science*. Directed by Lawrence Krauss. Performed by Neil DeGrasse Tyson, Tracy Day, Brian Green, Bill Nye, Richard Dawkins, Ira Flatow, Neal Stephenson. The Origins Project. April 6, 2013. Accessed November 16, 2015. [https://www.youtube.com/watch?v=\\_J4QPz52Sfo](https://www.youtube.com/watch?v=_J4QPz52Sfo).

Griffin, Pat, Madeline L. Peters, and Robin M. Smith. "Ableism Curriculum Design." In *Teaching for Diversity and Social Justice: A Sourcebook*, by Maurianne Adams, Lee Anne Bell, and Pat Griffin. New York, NY: Routledge, 1997.

Gross, Aaron S. "The Question of the Creature." In *Creaturely Theology: On God, Humans and Other Animals*, edited by Celia Deane-Drummond and David Clough, 121-37. London: SCM Press, 2009.

Justice, Daniel Heath. "Go Away, Water!" Kinship Criticism and the Decolonization Imperative." In *Reasoning Together: The Native Critics Collective*, by Janice Acoose, Craig S. Womack, Daniel Heath. Justice, and Christopher B. Teuton. Norman: University of Oklahoma Press, 2008.

Keller, Catherine. "The Entangled Cosmos: An Experiment in Physical Theopoetics." *Journal of Cosmology*, September 2012, 1-16.

Kimmerer, Robin Wall. *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed Editions, 2013.

King, Thomas. *The Truth about Stories: A Native Narrative*. Minneapolis: University of Minnesota Press, 2005.

Lakoff, George, and Mark Johnson. *Metaphors We Live by*. Chicago: University of Chicago Press, 1980.

Little Bear, Leroy. "Foreword:." In *Wasáse: Indigenous Pathways of Action and Freedom*. Peterborough, Ont.: Broadview Press, 2005.

Masuzawa, Tomoko. *The Invention of World Religions, Or, How European Universalism Was Preserved in the Language of Pluralism*. Chicago: University of Chicago Press, 2005.

Michael, John. *Identity and the Failure of America: From Thomas Jefferson to the War on Terror*. Minneapolis: University of Minnesota Press, 2008.

*Monty Python and the Holy Grail*. Directed by Terry Gilliam and Terry Jones. Performed by Graham Chapman, John Cleese, Terry Gilliam, Terry Jones, Michael Palin, Eric Idle. London: Python (Monty) Pictures, 1975.

Newcomb, Steven T. *Pagans in the Promised Land: Decoding the Doctrine of Christian Discovery*. Golden, CO: Fulcrum Pub., 2008.

Orsi, Robert A. *Between Heaven and Earth: The Religious Worlds People Make and the Scholars Who Study Them*. Princeton, NJ: Princeton University Press, 2005.

Perricone, Michael, and Greg Elliott, writers. "Prime Factors." In *Star Trek: Voyager*. UPN. March 20, 1995.

- Peterson, Dale. *The Moral Lives of Animals*. New York: Bloomsbury Press, 2011.
- Rosaldo, Renato. *Culture & Truth: The Remaking of Social Analysis*. Boston: Beacon Press, 1989.
- Sabaroff, Robert, writer. "The Immunity Syndrome." In *Star Trek*, directed by Joseph Pevney. NBC. January 19, 1968.
- Snow, Charles P., and Stefan Collini. *The Two Cultures*. Cambridge: Cambridge Univ. Press, 2012.
- "STEM to STEAM." STEM to STEAM. 2016. Accessed July 26, 2016.  
<http://stemtosteam.org/>.
- Urban, M. C. "Accelerating Extinction Risk from Climate Change." *Science* 348, no. 6234 (2015): 571-73. doi:10.1126/science.aaa4984.
- Waal, F. B. M. De. *The Age of Empathy: Nature's Lessons for a Kinder Society*. New York: Harmony Books, 2009.
- Westfahl, Gary, and George Edgar. Slusser. *Science Fiction and the Two Cultures: Essays on Bridging the Gap between the Sciences and the Humanities*. Jefferson, NC: McFarland &, 2009.
- "What Is Superposition?" Physics.org. Accessed April 28, 2016.  
<http://www.physics.org/article-questions.asp?id=124>.
- Wilton, Dave. "Weird." Wordorigins.org. February 17, 2007. Accessed March 12, 2016.  
<http://www.wordorigins.org/index.php/site/comments/weird/>.

