

Wielding the Force: The Science of Social Justice

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PREFACE: A NEW HOPE

Have you ever been involved in one of those discussions where someone challenges whether compassion is an appropriate response to human suffering? They may allege that compassion is a contrived emotion that you call up because of the social payback you get from people who recognize you as a caring person. Or worse, they may claim that people “choose” situations that cause them suffering, that it’s part of their growth process, and, therefore, although you may feel sorry for them, the best help you can give is to allow people in pain find their own way out of self-created suffering.

I’ve had such depressing discussions. Compassion is one component of the socially just world I’m struggling to co-create. Cooperation is another keystone in my vision and I’ve also had several arguments over the years, sometimes with people in my own family, who believe that competition is what drives social and economic development. In their way of thinking, competition is a healthy and natural part of being human while cooperation, especially in the realm of economics, just doesn’t work. Cooperatives and collectives are unfair in their very design because people who work hard are rewarded in the same way as people who work less, they argue.

If you’re an activist for social justice you’ve probably had such conversations too. Like me, you might struggle with the underlying feeling that there may be a shred of truth to these arguments and that the vision you want to create, a world full of compassionate, cooperative people contributing to each other’s wellbeing, is an impossible dream.

Well, what if hard science was on your side? What if there were biologists, geneticists and neuroscientists who say that cooperation and compassion are not only healthy for us but that

they are wired into our biology? That cooperation and compassion are integral to our survival as well as our social and physical evolution?

New and emerging science seems to be making a strong argument in favour of social justice. Social science, sometimes referred to as “soft” science, has always told us that how we choose to structure our communities and allocate resources not only impacts social and economic progress but also our individual health. Now, the so-called “hard” sciences are saying the same thing. Furthermore, this new information suggests that much of what we believe about how the world functions is not entirely accurate and a paradigm shift is in order.

In this book I’d like to review some recent scientific discoveries and see what the implications are for building healthy, sustainable communities. This includes activist communities because this new information has implications for how social change advocates can be more effective in their work, including role modeling the alternatives we aspire to create. For example, have you ever wanted to join an activist group but the unhealthy interpersonal dynamics stopped you? Have you ever participated in an action where someone (or many someones) worked themselves into such a state of rage that they violated group agreements around how the action was to be conducted? In doing so, they may have endangered people’s safety and yet continued despite the risk they imposed on others. Have you ever worked in a community organization where colleagues who are theoretically as concerned for the welfare of the world as you are, treat each other and community members with disrespect and disdain?

As activists, many of us have either witnessed or experienced these situations but tend to believe that, for the most part, we understand how they occur. We’ve built an elaborate analysis around understanding how anti-social behaviours develop. How it’s healthy and even desirable to feel anger, frustration and fear in the face of injustice. Basically, we note that unhealthy societies produce unhealthy people. We aren’t taught how to cooperate; we’re taught how to compete. We aren’t taught how to resolve conflicts, we’re taught to win them. We aren’t taught to embrace difference, we’re taught to fear it. We also aren’t instructed on how to maintain an awareness of our feelings and

manage them. As a result, many people around us, some with considerable wealth and power, role model suppression, denial and/or inappropriate ways of dealing with emotions.

Those of us from marginalized communities (racialized, impoverished, differently-abled, etc.) have been hated, feared and mistreated our whole lives. So of course we're frustrated and angry. That doesn't just turn off because we become activists for social justice or community workers in a non-profit. We self-righteously claim that our anger fuels our activism and desire for change. We're entitled to our anger, we tell ourselves, especially since we channel it into doing social justice work. Meanwhile, racialized people suffer disproportionately from high blood pressure, high rates of cardio vascular disease and other physical symptoms of the injustices we confront on a daily basis¹ and there is reason to believe that our endemic anger is contributing to our unwellness.

We activists understand how unhealthy behaviours impact our work. At best they drain our time and energy. At worst they make it difficult to attract new folks into our movements and burn out our best people. Anti-social behaviours can, and do, kill groups. They also kill people, as we very well know. Such behaviours clearly present barriers to achieving our social justice goals.

Activists, to our credit, are able to share beautiful visions of the communities we are working hard to establish. We've created a variety of resources and trainings devoted to helping each other develop cooperative, consensus-building and peace-making skills. Sometimes they work. Other times, not so much. We urge each other to engage in self-care but don't usually consider it an essential part of our activist work, even though we recognize that healthy individuals contribute to the wellness of communities. And we all know that no amount of skills and resources will replace the fundamental desire to work with integrity, honesty and respect.

It's this fundamental desire that this book addresses. *Wielding The Force* will provide you with a new take on old

¹ Nestyl PhD, Cheryl. Colour Coded Health Care: The Impact of Race and Racism on Canadians' Health, Wellesley Institute, January 12, 2012.

wisdom to inform and reinforce your work for social justice. After reading this book, you will be empowered with persuasive hard science data that can be interpreted and applied using the wisdom you already possess. You will be better able to help people transform their hearts and minds - in that order – because, as the science shows us, emotions play a crucial role in our decision-making and thought processes.

I have written this book because it is my desire that people equate the word *activism* with peace, fairness and kindness. I want activists to be understood as grounded, compassionate and hopeful individuals. The model of activism I espouse is one that literally uses the heart's intelligence, a concept which you will understand as you read on. Information in the following chapters will enable you to ground your activism in a sense of peace and optimism that contributes to personal and collective wellbeing, thus setting the stage for the coming revolutionary shift.

Allow me to illustrate with a story.

Have you ever heard of Matthieu Ricard? If so, you might recall that this French Buddhist monk, renowned for his generosity and kindness, who also has a PhD in molecular genetics, has been dubbed by media as “the happiest man in the world.” How could anyone possibly conclude that? Well, today we can identify happiness and other emotions through new technologies that allow us to detect and quantify electrical activity going on in different parts of our brains. Our heart rates and biochemistry can also reveal our emotional states.

In 2007 Matthieu Ricard was a participant in an experiment that aimed to study what was going on in the brains of people who were experiencing a feeling they called “happiness.” As it turns out, happiness lights up the pre-frontal cortex with increased synaptic (bio-electrical and chemical) activity that signals all kinds of changes in your biochemistry, in your heart rate and at the molecular level in every cell of your body. Those changes both result from and intensify feelings of wellness and a sense of profound peace, which is one definition of happiness used in such studies. Such changes are also signs of the best states of physical health.

Matthieu Ricard registered more activity in his happy brain than others participating in the study. Researchers, who were

amazed at the readings he'd generated, asked the monk what he had been thinking about during the scan. Mr. Ricard answered that he had been meditating on ... wait for it ... *compassion!* The researchers were surprised. Compassion is not generally seen in our society as a cause of joy. And, while people in good health tend to be joyful, joy hasn't, in and of itself, been understood as an emotion that *creates* physical wellbeing.

Nevertheless, just as emotions like depression, anger and fear generate a physical stress response that jeopardizes health, it has become clear that feelings of compassion, appreciation and gratitude improve health and wellbeing. In fact, deliberately calling up such feelings for a mere five minutes results in five hours of heightened immunity and lowered stress levels.

One of the discoveries that activists particularly like about compassion is that a part of the brain that becomes active when feeling this emotion is the area responsible for planning action. Apparently feeling compassion, that is feeling that you want to alleviate someone's suffering, involves an action component. So the Dalai Lama quote that often appears on my Facebook page, "It is not enough to be compassionate. You must act," has some scientific credibility. Vietnamese Buddhist activist Thich Nhat Hahn was right when he said, "Compassion is a verb."²

New and emerging science is further demonstrating that the wellbeing of communities is also enhanced in measurable ways when compassion, cooperation and social justice characterize our relationships. This is contrary to many contemporary worldviews that uphold individualism, competition and the profit motive as the driving forces behind economic progress, social evolution and community wellbeing.

In the succeeding chapters, this book will take a plain language look at how "hard" sciences such as epigenetics and neuroplasticity not only strengthen the argument for social justice but also indicate that a major paradigm shift for all of society is in order. By examining the works of scientists such as biologist Dr. Bruce Lipton, neuroscientist Dr. Alvaro Pascual-Leone and physicist Dr. Geoffrey West, as well as the work of the HeartMath Institute, the Good Science Centre and the Institute of Noetic

² http://www.goodreads.com/author/quotes/9074:Thich_Nhat_Hanh

Sciences, I will discuss how recent scientific discoveries have major implications for how we understand and co-create healthy relationships, community-building and sustainable activism.

This information will be contrasted and framed within what I'm calling a "relational" worldview, which I will explain and explore. I will further make the case that this framework best allows us to understand and make use of the science; indeed, it is where the science is leading us. I draw a lot on First Nations teachings because it is what I know best, however, I am not suggesting that this knowledge tradition is the only wisdom tradition that exemplifies relational ways of knowing. There are many relational wisdom traditions. I will not be sharing ceremonial knowledge or proselytizing around specific beliefs and practices. What I share of Indigenous North American and other wisdoms will be what is already publicly accessible through various sources, such as films, the worldwide web, and publications.

Similarly, this book will not focus on the history of colonization or attempt to argue that the settler colonial project in North America and other parts of the world is ongoing. If needed, the curious reader and serious activist will find many resources devoted to this topic elsewhere. You can start with CBC's documentary series *8th Fire*³ and the Defenders of the Land website.⁴ In any case, my purpose is not to examine or reveal the many historical and current injustices that exist in our society and around the world but to proceed with the assumption that colonialism and other systemic injustices exist and that the reader has a critical understanding of how these function and to whose benefit.

Furthermore, while I draw on Indigenous cultural knowledge to explore relational paradigms, my purpose in writing this book is not about conversion to any particular political philosophy or spiritual tradition. Although I happen to identify as an Indigenist, I have no interest in colonizing anyone else's thinking in this regard. After all, my own beliefs have shifted and

³ <http://www.cbc.ca/doczone/8thfire/2012/01/wab-kinews-walk-through-history.html>

⁴ <http://www.defendersoftheland.org/>

changed over time and will continue to do so. Consequently, I hold no illusions about assuming that my current beliefs are superior to any others. Nor am I convinced they represent some ultimate unshakable truth that will bring wisdom, joy and peace to everyone. Each of us has our own path to follow and our own destination at which to arrive.

My intent with this book is to share information that we can collectively develop for our common benefit in the interest of improving the quality of life on planet Earth. My hope is that when you read *Wielding The Force* you will be better enabled to make changes in your life, groups and communities that promote wellbeing and social justice.

What is social justice? I can't give a one-size-fits all definition of the term, though I share some thoughts in the final chapter. Each of us must decide what social justice looks like in our own lives. Each of us must further decide whether we consider ourselves to be activists. From my perspective, mothers raising their children to be caring, compassionate and kind may call themselves activists just as much as protesters marching in the streets. First Nations Elders who teach language and culture are activists just as much as those who block roads to prevent uranium mining. Those who demonstrate to city folk how to grow organic vegetables in community gardens are activists just as much as those who stage sit-ins at government offices to advance their demands. The reasons why I believe this will become clear as you read on. Personally, I identify as an activist because I've been committed for years to social justice and wellbeing for myself as well as all other life on the planet. I've struggled as a mom, artist and community worker to rationally argue that caring and sharing make sense in terms of ensuring the survival and flourishing of the human species.

People who believe in "survival of the fittest" as well as the idea that competition and conflict drive innovation and creativity have dismissed my set of beliefs as unsubstantiated and, therefore, unworthy of consideration. Or, as the likes of Immanuel Kant, Ayn Rand and some other highly regarded philosophers might say, the perspective of a 'weak-minded woman driven by emotion'. Consequently, I am greatly excited that, in the course of researching speculative fiction story ideas, I accidentally stumbled

upon evidence that my “POV” is actually well-substantiated in new and emerging (though under-publicized) scientific findings. I’m gratified to confirm that my Indigenous teachers, mentors and role models are wiser than many give them credit for as this new hard science knowledge validates cultural practices from First Nations (and many other wisdom) traditions as contributors to community and individual wellbeing. Or as my activist colleagues say, perhaps I should be grateful that the science is catching up to our age-old wisdom.

When viewed through the “relational” lens of some wisdom traditions, new science lays the groundwork for feelings of fulfillment and a sense of purpose that many scientists now consider to be more important to health and happiness than what some people believe makes them happy, such as accumulating wealth, being consistently entertained or getting laid. Not that you can’t enjoy these things but it’s our relationship to life with all its ups and downs that determines our overall sense of joy and contentment – which in turn impacts our individual and collective wellbeing. The next two chapters are devoted to exploring “relationality” so don’t worry if you aren’t sure what that means right now.

This book is divided into nine chapters:

- **Chapter One: Sith versus Jedi** looks at the question of paradigms, worldviews and ideologies – frameworks that help us make sense of our world. This chapter contrasts some key features of the dominant cultural paradigm as well as leftist paradigms, with those of global Indigenous peoples. This is to generate understanding of and appreciation for indigenous and other relational ways of knowing, which have much to offer advocates of social justice.
- **Chapter Two: Spidey Forces** goes further in depth to explore the concept of “relationality” to enable the reader to grasp some fundamental differences between leftist knowledge paradigms and those of Indigenous and other wisdom traditions. It will further examine intersections and compatibility among paradigms as well as demonstrate the advantages of sharing and interacting across knowledge traditions.

- In **Chapter Three: My Adventures in the Jedi Academy of Life**, I preface sharing my story of being an activist with a look at the issue of social location and how it might matter to the discussions the book provokes.
- **Chapter Four: The Internal Force** deals with new hard science discoveries around the mind/body connection and discusses the implications for social change.
- **Chapter Five: Jedi Heart Tricks** examines the role of the heart organ in the mind/body connection and its relevance to the struggle for social justice. Practical exercises in the chapter demonstrate this connection to readers.
- **Chapter Six: Jedi Brain Tricks** looks at the implications of recent discoveries in brain science and their relevance to activism and social change.
- **Chapter Seven: Intersecting Force Fields** explores findings about the science of relationships and interactions; our energetic connections to other life forms on the planet and the planet Herself, as well as to each other, again teasing out the relevancy for social justice advocates. This will be the longest chapter in the book because it's the meat of what concerns me: the science of human interactions.
- **Chapter Eight: Shape-Shifting Tricksters** focuses on the critiques, concerns and limitations of the above information as it applies to social justice activism.
- **Chapter Nine: Activist Forces** answers the question, "Now that we have this information, how do we effectively apply it in our social justice work?" This chapter argues that emerging science is informing a paradigm shift that can and should support the transformation to social justice. Armed with this new information activists can hasten our collective transition to a kinder, healthier world.

I hope that, though we may disagree on some details you will emerge from this book transformed and better able to contribute to co-creating a new, wondrous and rEVOLutionary world. Our collective paradigm is shifting and science is firmly on the side of social justice! Like the rebels of the original Star Wars trilogy who brought down the evil Empire, activists can effectively wield "The Force."

CHAPTER ONE: SITH VERSUS JEDI

As someone who was raised in the Christian tradition, later became an atheist and now identifies as a spiritual person, I struggle everyday with understanding the “relational” framework that informs how Indigenous peoples and others both sense and make sense of our world. Paradigms and worldviews are important in terms of how we collect, interpret and apply information. They are crucial to formulating a sense of curiosity. Before we get into how worldview impacts our understanding of emerging science and how that knowledge informs the struggle for social justice, we need to explore the question of paradigms. Before that, I will explain what I mean by terms like *worldview* and *paradigm*. That’s tough because our paradigms and worldviews are so engrained and normalized that often we aren’t aware that we have them, much less are able to define them. It might be a bit like describing colour to someone who is colour blind. Or like someone who is visually impaired explaining to a sighted person how s/he navigates through the world. Often it is not until we are confronted with a different paradigm that we can comprehend both the opportunities and limitations of our own way of thinking.

My middle son was (and is) a speculative fiction writer and as a child he used to enjoy musing about how life forms that evolved in other parts of the universe might look, think and act. He used creatures that had evolved on Earth to stimulate his imagination. How might a bat, he once asked, which is almost blind and depends on echolocation, “see” the world? How would the bat’s way of seeing affect its way of thinking?

Human beings have only three colour receptors. This enables us to see the spectrum of colours that make up the rainbow. But our visual range does not allow us to see *all* the colours produced by a rainbow. Butterflies have at least five colour receptors, which means they can see colours well outside of our visual range. Sparrows have the capacity to see in the ultraviolet and infrared ranges, so they see colours at both ends of the rainbow. The preying mantis shrimp, which lives in the shallow waters of coral reefs, has *16 colour receptors!* They can see colours beyond our imagination! If we could wear glasses that allowed us to see what a preying

mantis shrimp does, it would change our view of the world in ways we cannot currently comprehend. So it is with paradigms and worldviews. At the risk of not being well understood just yet, I am going to describe worldview as the filter through which we sense, interpret and understand our reality. For the purposes of this book the words *worldview* and *paradigm* are synonymous. A worldview is a set of beliefs that helps us make sense of the information we receive through our senses. This paradigm enables us to give meaning to and connect our life experiences. Our worldview sometimes gives us a feeling of security as it allows some predictability into our lives. That way we can safely make future plans. For example, one worldview may have you predict that your headache will end in a few minutes because you've swallowed a pill. Another worldview would have you predict the end of your headache because you've participated in a healing ceremony.

Paradigms come with a set of values; that is, a group of ideas that are considered important; ways of being that everyone is urged to see as, "normal," "natural," or simply inherent to life. For instance, in the dominant worldview of North America, competition is something that is valued. Most people believe that being competitive is not only normal and natural but desirable. Competition plays a beneficial role in spawning technological achievements that make life easier, some believe. It also keeps the price of consumer goods low so that we can all enjoy those achievements equally. Competition is responsible for human existence according to Darwinist theories of evolution, wherein two-leggeds are considered the winners of the survival-of-the-fittest contest.

In this worldview, we lose our motivation to do better in the absence of competition. Without competition people don't perform well. For instance, Leonard Sax, M.D and Ph.D., believes that males in particular are motivated by the desire to win. Thus, providing a competitive environment in classrooms and in other aspects of life enables the male of the species to better contribute to society.⁵

In another example, Canadians decried the lack of competition in phone services some 30+ years ago when Bell had a monopoly in North America. Consumer groups and other phone service providers advocated for laws that created a competitive environment for communications services so the Canadian government deregulated the industry between 1980-97, breaking Bell's monopoly. Whether this ultimately resulted in reduced prices for consumers and greater technological innovation is a matter for debate. And some ask whether the question is actually relevant to our quality of life.

⁵ Sax, Leonard. *Boys Adrift: The Five Factors Driving the Growing Epidemic of Unmotivated Boys and Underachieving Young Men*, Basic Books. 2008.

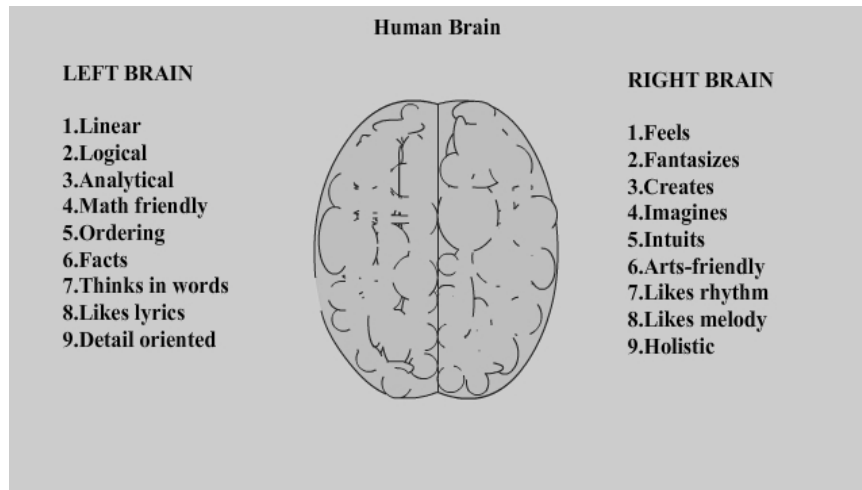
Indigenous people might point out (I among them) that European beliefs about the value of competition were used in North America to rationalize the seizing by European settlers of what were once collectively stewarded lands. First Peoples and their cultures were characterized as inferior in part due to the fact that we did not relate to land and resources in a competitive fashion; that is, most of our communities weren't organized around accumulating material wealth. The different ways First Nations and European peoples related (and in many cases, still relate) to land is based in differing worldviews; different ways of thinking.

An easy, introductory way that most of us can understand the idea of paradigm or worldview is to study how the right and left sides of the human brain deal with information. If you Google "right brain, left brain" you will find many websites that explain how the different hemispheres of your brain function. Because the information is so readily available, I'll be brief here.

The left side of your brain is logical and rational. It likes hard facts, especially when they're sequential and ordered. If information doesn't come that way it will attempt to organize it accordingly. Your left-brain is linear and generally sees things in terms of their cause and effect. Viruses cause colds, for example, or human beings need to consume specific amounts of food from different food groups in order to stay healthy. The future does not interest your left-brain, which is concerned with the past and present. The left-brain is analytical, methodical and diagnostic. It likes to think of itself as objective in that it can position itself outside of what it senses and observes. It doesn't develop emotional attachments to the data it manages. Your left-brain is concerned with accuracy and interested in how the small parts of something contribute to the functioning of the whole. How do atoms form molecules? How do molecules form cells in our bodies? How do cells affect the way our organs function? Your left brain learns about something from analyzing its parts.

Your right brain, on the other hand, is both intuitive and random. It likes looking at how things relate to each other rather than looking at linear causality. Your right brain sees the world as a spider web, where every strand has a crucial role in the web's function; where your cold might be the result of many factors such as exposure to a virus and low immunity as well as emotional stress; where your experience of being sick might feed life lessons back to you about how to take better care of yourself or the next person in your life who falls ill. The right side of your brain is very subjective and involved in what it senses. It reacts to and is influenced by the information it processes. It's also concerned with aesthetics, emotions and creativity. Your right brain understands something by looking at the big picture; how the whole interacts within a larger system. You are able to fantasize, dream and imagine thanks to your right brain.

In the “Human Brain” graphic you’ll see a summary of right and left brain functions. (Graphics in print might be blurry but are crisp and clear on my website: www.swallowsongs.com)



At first glance it’s easy to see that the two sides of your brain approach the world from seemingly opposite, conflicting points of view. In most of us, one side of the brain is more dominant than the other, influencing which information we take in, how we take it in and what we do with it. That’s partly why some of us make better accountants than nurses, why most artists I know dislike math and why scientists sometimes devalue the contributions of spiritual thinkers. I like to think of the left-brain as the mouse’s perspective and the right as the eagle’s. Mice have very poor eyesight, which is why they tend to run along the floorboards of a room and hide in corners. These little creatures rely on their sense of hearing, whiskers and sensations on their fur to help them navigate through the world. They react to tangible, concrete objects in their environment. In many instances they don’t sense an obstacle in their path until they are literally up against it. Eagles, on the other hand, illustrative of the right brain, have sharp eyesight. They fly higher than all other winged creatures and look down on the world from their vantage point in the sky. They can see brilliant colours and details of vast landscapes and hunt by taking in the big picture, studying the interaction of the life beneath them, while also being able to focus on details from a great distance.

The thing is, both ways of sensing the world, as represented by mice and eagles have their uses, benefits and advantages. Of course, the eagle and the mouse may not closely communicate or cooperate, certainly not in ways as complex as your right and left brain. But the two

hemispheres of your brain definitely communicate, cooperate and collaborate on receiving, processing and acting on information. This is called *brain integration*.

Even though one side of the brain may be more influential in your thinking, both sides are involved in the process. Furthermore, integration between the left and right brain impacts your physical health as well as your thinking. We now know the more communication and cooperation between the right and left hemispheres, the more you benefit through better physical health and increased mental capacity. Unfortunately, if you spent your childhood in the North American school system you've probably received an education that valued and strengthened your left-brain skills over your right. You can change this with varying amounts of effort, depending on a number of factors, such as your natural (genetic) inclination, the cultural paradigm in which you function and the activities on which you spend most of your time. It possibly changes with age anyway. For example, scientists have recently found that the brain's language centre starts out in the left hemisphere but by the time we reach our senior years, both hemispheres are heavily involved in processing language.⁶ In any case, the point I'm making here is that seeing the world only from one vantage point, leading your life only from the mouse's point of view, for example, has its limitations.

Yet this type of either/or, black or white, thinking is typical of the dominant paradigm. Libertarian author Ayn Rand once said, "There are two sides to every issue, one side is right and the other is wrong, but the middle is always evil."⁷ She is also credited with the quote, "Any white person who brings the element of civilization has the right to take over this continent [North America]," which is one outcome of the assumption that all ideas in life have to be put into antagonistic camps. The structure of debates and even the "democratic" system of voting in elections is pretty much based on the either/or, right/wrong principle; either this is true or that is; either she's is the people's choice or he is. Yet we know that very few aspects of life, very little of what actually goes on in the world is either/or. We don't live in a Star Wars universe where everyone must be aligned with either the Sith or the Jedi.

I have come to think of paradigms/worldviews as similar to the pair of glasses I put on to enable me to see well. I wear bi-focals so when I want to see something up close I look through the bottom part of my lenses. If I

⁶ "Language 'Center' Of Brain Shifts With Age". Science Daily. April 28, 2004. <http://www.sciencedaily.com/releases/2004/04/040428062634.htm>

⁷ <http://www.brainyquote.com/quotes/quotes/a/aynrand387290.html>

want to see something far away I look through the top. Having access to both of these views generally improves my capacity to see what is in my environment. This is my understanding of how paradigms are useful to us. There are many paradigms and some may be more useful than others in specific situations but when combined they probably all contribute in some way to a more comprehensive understanding of reality. On the other hand, drawing from only one paradigm can deprive you of the advantages and benefits of a more comprehensive worldview. As former Ardoch Algonquin co-Chief, Elder, educator and activist Robert Lovelace has noted, “On their own paradigms do not struggle or, as you would expect, conflict with one another. ... Opposition is ... an imagined condition and not represented in nature’s practice.”⁸ Nevertheless, it is quite possible that the lenses in your pair of glasses can crack. Damaged lenses prevent us from seeing anything clearly and that is an analogy that could be applied to paradigms that jeopardize the survival of human and other species. We’ll discuss this more in the final chapter.

Another way of looking at paradigms might be to think of hiking up a trail to enjoy the vista from a mountaintop. There are probably many paths leading up to the top of the mountain. Some might meander while others are straight. Some might be overgrown with bush and studded with sharp rocks while others are clear and easy to tread. Each path provides you with a different experience of your journey.

In going up the mountain you might start on one path and decide to switch to another. You might decide to take your time and enjoy the vistas or stride quickly, to the top. Your reasons for climbing, (getting fresh air and exercise, spending quality time with loved ones, guiding a bunch of tourists from the city, etc.) will influence your experience of the climb. When you reach the top you’ll enjoy pretty much the same view as anyone else who makes it up there with you. At the same time, your feelings about making it to the top might depend on your reasons for embarking on the journey and your experience of the journey itself. Furthermore, those feelings around your experience very much inform what you see and the importance you assign to it, as we’ll discuss later. My point is there are many legitimate ways to get to the mountaintop and many legitimate and understandable feelings about arriving there. Feelings concerning what to value about the journey and the destination are going to vary from person to person. Furthermore, there are many mountaintops from which to enjoy the view. When you get to the top you might see someone on a mountain opposite yours, looking down into the same valley as you, but seeing it all

⁸ Lovelace, Robert. “Foretelling the Future: Philosophical Discussions of Witchcraft and Culture” Lecture Notes. Used with permission. Former Co-Chief of the Ardoch Algonquin First Nation is an Elder, educator, author and activist.

very differently. If you were to compare notes on what you saw later you might find they saw things you didn't and vice versa. Just because from your vantage point you couldn't see what they saw doesn't mean it wasn't there.

My point here is that your framework may allow you to see some things but block you from seeing others. It may leave you frustrated that people who operate within a different worldview don't see what you do or can't understand the importance you may attach to what you see.

In this way relationality, as the cornerstone of Indigenous and other wisdoms, is no less valid than Eurocentric worldviews, be they right or left wing. Those of us who see the world through relational glasses just might not share the same reasons as you do for climbing the mountain. You may not choose my path or even my mountain and consequently what you see and your feelings about what you see might be very different from mine. Unfortunately, when one person on the mountaintop has more power than all the others and can coerce people into seeing and doing things her way, it can cause problems. Especially when her way has unhealthy consequences for all.

As in right and left brain integration, clear, frequent and thorough communication as well as developing equitable and just relationships across our cultural paradigms, enables us to gain insight into each other's mindsets and get a more comprehensive idea of what's really going on in our world. It enables us to share solutions to problems or move forward in a way that avoids problems. We may never fully understand each other but we can appreciate, respect and value what each of us has to offer to complete the big picture.

Now I realize that to many social justice activists discussion of paradigms is often about right and left wing philosophies - capitalism versus socialism versus anarchy, for example. What I'm advocating might go against Eurocentric leftist political and social theories that see right and left paradigms as oppositional and contradictory; that see conflict, specifically class conflict, and not relationality as the driving force of social change.

Unfortunately, these theories are as foreign to Indigenous relational ways of knowing as those of liberal democrats, libertarians and capitalists. Anishinaabeg scholar and activist Leanne Simpson points out that...

Western theory, whether based in post-colonial, critical or even liberatory strains of thought, has been exceptional at diagnosing, revealing and even interrogating colonialism; and many would argue that this body of theory holds the greatest promise for shifting the Canadian politic because it speaks to that audience in a language they can understand, if not hear. Yet western theories of

liberation have for the most part failed to resonate with the vast majority of Indigenous Peoples, scholars or artists. In particular, western-based social movement theory has failed to recognize the broader contextualizations of resistance within Indigenous thought, while also ignoring the contestation of colonialism as a starting point.⁹

Simpson has indicated that she's more interested in exploring Indigenous theories and teachings because they speak to Indigenous peoples, valuing and embodying our knowledge ways. I would further argue that leftist theory, for the most part, still has difficulty embracing, comprehending and coming to terms with relational paradigms. In fact, it too can be quite reductionist, linear and materialist in its orientation. And while we who function within relational worldviews can and do incorporate reductionism, linearity and materialism into our story of how the world functions (though these will never dominate our thinking), I don't believe that the reverse is true. At least not yet.

In any case, it's not right or left wing philosophies that I am addressing when I juxtapose worldviews/paradigms in this book. It is the paradigms of materialism versus energy or "relationality" that I want to explore. Quantum physics has been attempting to resolve these paradigms for at least half a century. The discovery that light can behave as either matter or energy kicked off a continuing discussion about whether our universe is partly comprised of particles of matter or whether everything we sense in our reality is actually, at its core, energy.

Materialism is the notion that what we term *matter* is actually made up of microscopic particles: molecules formed by atoms, formed by sub atomic particles and on down. Science is always thinking it has found the smallest particle of which matter is comprised, only to have a new discovery that there is something smaller. Mainstream science likes to look at how these particles function, interact and lend properties to the materials that they make up. This is a significant difference in Eurocentric and Indigenous thinking and this has implications for how we relate to each other and the Earth we share. Professor of American Studies John Mohawk (Seneca) illustrates this below:

Let's say you have three people approach a tree.
One's a socialist materialist, one's a capitalist

⁹ Simpson, Leanne. *Dancing on our Tuttle's Back: Stories of Nishnaabeg Re-Creation, Resurgence and a New Emergence*. Arbeiter Ring Publishing, 2011. P. 31.

materialist and one's a traditional native person. The capitalist materialist will explain to you that he has to cut the tree down because this is the best interest not only of himself but also of society; that it is a kind of destiny; that by cutting the tree down he will rationally distribute the materials from the tree and he'll do the most good for the people. A socialist person approaching the tree will also tell you to cut the tree down, because after cutting the tree down you can distribute it equally to everybody and it's going to do the most good for the world that way. But a native person looking at the tree will say that the tree, in its unharmed, original form, has a value that's greater than anything the others are proposing.¹⁰

Of course, this is an oversimplification to make a point. Indigenous people have been known to chop down trees and non-Indigenous folks have certainly been known to protect them. But the example does illustrate different ways of thinking about trees and their place in our world.

The world's Indigenous peoples have had difficulty comprehending and accepting materialist paradigms since the time of colonization. From an Indigenous understanding it is energy or Spirit that is at the core of everything we sense in our realm and this is what I believe to be a crucial point of tension between Eurocentric worldviews and those of others. It's not that we don't comprehend or accept that there is a materiality to the world and that "materials" or particles interact in certain consistent and sometimes predictable ways. It's just that we comprehend that the behavior of the material world is governed by Spirit or "life force".

For those who believe relationality, as I've explained it thus far, conflicts with leftist social theory, I make the observation that:

1) Relational worldviews, while emphasizing peace (inner and outer), reciprocity and other values do, in fact, see conflict in some situations as conducive to social change. Tension and conflict are seen as functional in many contexts. That's why so many wise and courageous people block access to roads and otherwise engage in actions that prevent resource exploitation and oppose activities that threaten the survival of human and other life forms. Most of the people I know who engage in these actions

¹⁰ Mohawk, John. "Subsistence and Materialism" in Tauli-Corpuz, Victoria & Mander, Jerry, Eds. *Paradigm Wars: Indigenous Peoples' Resistance to Globalization*. Sierra Club Books & University of California Press. 2006. Page 26.

make an articulate case that these tactics are employed as a last resort, in defense of the life we are dependent upon. We'll explore this thinking in more detail in the Spidey Forces Chapter.

2) If we were to apply conflict theories to the human body what we would see is disease and illness. Auto-immune disease, for example, is characterized by cells attacking each other in the body. How well would your body function if the liver declared war on the stomach or the lungs starved the body of oxygen? It's only when the different parts of your body cooperate that you can experience wellness. At the same time, your immune system will attack foreign invaders such as viruses and bacteria that make you sick. Your immune system keeps you alive and functioning to the best of its ability. So there is a role for conflict within the body as well but it's a specific role, useful in specific contexts.

As a social justice advocate I'm sure you can make a convincing case to equate capitalism, colonialism and other "isms" that cause deadly social illnesses with pathogens or auto-immune diseases. At the same time, I've been taught by my Indigenous teachers that we two-leggeds are part of Mother Earth's body. When we harm each other, or harm the survival capacity of the other life that we depend upon to sustain us, the whole system suffers.

I'm not arguing in favour of anyone and everyone adopting an Indigenous paradigm. From what I understand of Buddhism, Sufism and other worldviews these are also relational paradigms; Indigenism is not the only one. I also don't want to suggest that *all* the teachings of these traditions are "correct," "factual" or even useful. I'm simply providing one of many possible ways to help you understand relationality and contrast it with other ideologies that inform social justice activism.

Since we're going to be discussing science it might be helpful to look at a couple of paradigms that govern the formation of scientific questions, data collection and the interpretation of information, as well as how information gets used. See Table I on the following page for a summary of Scientific Paradigms and Table II on page 29 for a quick look at the Role of "Scientists" in both frameworks.

If we look at the prevailing cultural understanding of what science is, what it is not and the role it plays in society we'll find something very similar to the left-brain paradigm. In the dominant culture, science is concerned with measuring and counting. What quantities of medication produce the desired results? How many stress hormones can our body tolerate without negative consequences and for how long? Left-brained science tends to be reductionist in that it looks at how the parts contribute to the whole, sometimes extracting the pieces and separating them out in order to study them, for example, removing organs to dissect them or looking at the behavior of cancer cells under a microscope. Left-brained

science tends to be linear in its search for causality. Exploring whether A leads to B leads to C, for instance. How does the breast cancer gene lead to cancer? This science is further concerned with replication and provability. Is there an ordered, sequential set of events in a specific context that cause the same results every single time?

Table I: Scientific Paradigms

Mainstream	Relational
<ul style="list-style-type: none"> • Measures, quantifies • Linear, looks for causality • Reductionist: how parts contribute to the whole • Duplication, provability, empiricism • Science is separate from art, philosophy, etc. Science has a specific and limited frame of reference. 	<ul style="list-style-type: none"> • Cycles, rhythms • Transformation, change – nothing is static • Connection, interaction within a complex network • Holistic, big picture • Multi-disciplinary: includes philosophy, art, mythology, ceremony & prayer, etc.

In the dominant culture a scientist is a professionally trained person, supposedly an objective observer of the outcome of her research. She often works in a lab but even when she doesn't she must control or at least strive to account for all the variables that might impact her research. Furthermore, she is given the *limited* right to interfere in the natural course of events in her quest for knowledge. For example, she can terminate the life of a non-human for no other reason than to better understand it. She may infect an animal with disease, alter its body surgically or extract genetic material from one life form and inject it into another for the purposes of learning and/or transforming life forms so they better serve perceived human needs.

Ultimately, mainstream science seeks to understand as a precursor to control. If we control our bodies and our environment we will not have to suffer illness, discomfort or even die. In his latest book, theoretical physicist Michio Kaku (USA) predicts that by the year 2100 humans will be “masters of nature” and that “our destiny is to become like the gods we once worshipped and feared.”¹¹ He excitedly declares that in this future, humans will enjoy “perfect” bodies and extended lifetimes; we’ll even be able to create life forms that have not previously walked the Earth. Kaku’s

¹¹ Kaku, Michio. *The Physics of the Future: How Science Will Shape Human Destiny and Our Daily Lives by the Year 2100*. Doubleday. 2011.

predictions showcase the logic behind the prevailing scientific worldview.

The dominant paradigm sees science as a completely different field of knowledge, separate from philosophy, art, religion and others. That is

Table Ii: The Role Of “Scientists”

Mainstream Scientist	Enquirer/Scientist in Relational Worldview
<ul style="list-style-type: none"> • Objective observer • Controller • Professional, trained • Interferes with nature to learn or cure or ... • Collects data in the search for tangible facts& information, so we can exert control over our lives & environments • Questions of wisdom, purpose, etc. are within the realm of psychology, philosophy & religion 	<ul style="list-style-type: none"> • Participant – influences and is influenced by the subject of enquiry; intention matters; feelings matter • Respects, cares for, cooperates with and co-exists with life so life will show and share its gifts • Respects and desires uncontrollability because of its contribution to the ongoing regeneration of life • Searches for meaning, purpose, lessons, wisdom

why many famous scientists, for example, particularly in relation to research around atomic energy, have claimed a sense of innocence and lack of accountability in the development of nuclear weapons. From their point of view they’ve discovered a tangible fact about the way the universe works and developed a way to manipulate that process. Whether the information is used to harm or serve humankind is not within their realm of scientific responsibility. Standing Rock Sioux activist, scholar and author Vine Deloria notes, “Western civilization, unfortunately, does not link knowledge and morality but rather, it connects knowledge and power and makes them equivalent.”¹² In this worldview, science is about enabling human dominance over the universe. In practice so far, it has attempted to enable the dominance of humans over other life forms that share our planet as well as *some* humans over others.

In looking at an example of a relational paradigm, I focus on First

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http://www.brainyquote.com/quotes/authors/v/vine_deloria_jr.html#RcQLEVXdT8BLU:QA.99

Nations “science,” although some people question the use of that word to describe Indigenous knowledge ways. Yet, the word “science” comes from the Greek word “knowledge” and all peoples have legitimate, valid knowledge. If Indigenous peoples on Turtle Island (North America) did not have viable knowledge we would not have survived, especially through colonialism and genocide. At the same time I think that the concept of “science” as it is understood in mainstream society is too limiting to apply to Indigenous knowledge ways. Nevertheless, for the sake of contrasting the two paradigms, I’m going to use the word here.

Dr. Gregory Cajete (Tewa) describes science as nothing more than a story about the world and our relationship to it.¹³ Indigenous “science” and other relational knowledge paradigms tell a story that is less concerned with measuring and counting than with finding and participating in patterns, cycles and rhythms. The relational worldview understands and accepts that transformation and change are ongoing in all aspects of life. Nothing stays the same or remains still. Everything shifts, moves and undergoes complete makeovers. Birth and death are seen as transformations and not as beginnings and endings. Life shifts into spirit and “material” forms over and over again in never-ending cycles. Our long gone ancestors and those of generations yet to be born are beings with whom we interact. The more we two-leggeds align ourselves with the rhythms and cycles of the natural world, co-existing in harmonious ways with other life forms and the planet Herself, the more knowledge is revealed to us *and* the more wisdom we develop to guide its application.

The notion of Spirit, an invisible force that imbues and comprises all life; that governs creation, death and the transformations of all that we know and then some, is fundamental to the relational worldview. Although, certainly not all wisdom traditions use the term “spirit” and translating Indigenous concepts into English is hardly an exact science. However, since I’m not fluent in any Indigenous language and this book is in English we will use the word “spirit” here

As we have discussed, Indigenous people look at how everything and everyone connects to and influences each other through a complex set of relationships. Consequently, attempting to exert control over our world becomes a futile exercise. We can never account for all interactions that impact our reality, and consequently we could never plan and compensate for them. In fact, an ever-changing, constantly shifting environment is desirable because it ensures the ongoing creation, development and regeneration of life. A closed, static system signifies death to the Indigenous mindset. It’s the introduction of change, including difficulty,

¹³ Cajete Ph.D., Gregory. *Native Science: Natural Laws of Interdependence*. Clear Light Publishers, 2000, page 27.

into the mix that generates growth and renewal. You can see this in your own life. Although you may not enjoy challenges that have come your way, it is in managing such challenges that you have gained knowledge, deepened relationships or developed the spiritual “muscles” that allow you to cope better with life. Does a child ever learn to walk without falling? Can athletes excel without pushing through pain? Even the body after death decomposes and contributes to the renewal of life.

In the relational worldview we do not cease to exist in death but transform from a “material” manifestation into an energetic/spiritual one that continues to contribute to the ongoing development and regeneration of life. As Cajete notes, to the mind of the Indigenous scientist “... truth is not a fixed point, but rather an ever-evolving point of balance, perpetually created and perpetually new.”¹⁴ The “goal” or desired outcome of Indigenous scientific inquiry is to experience a sense of oneness with the Great Spirit; to feel the joys of being, sharing and contributing to wellness and ongoing creation.

Indigenous knowledge ways are more concerned with the holistic, big picture than its component parts. Spirituality, art, philosophy, ceremony and many other fields of knowledge are connected to, influence and interact with each other. In fact, they aren’t even understood as separate fields. Ceremony and art, for instance, are ways in which information can be asked for, received and processed – even created. Indeed, even mainstream science notes that making, engaging in and even appreciating art contributes to physical and cognitive brain development. Different knowledge disciplines cannot be separated any more than one can draw a line between a wave and the ocean that formed it.

Unfortunately, colonial culture denigrates and ridicules Indigenous knowledge. It is frequently dismissed as folk knowledge or folk medicine, of limited value, even though scientists from other cultures are often keen on documenting Indigenous wisdom, patenting it and selling it for profit. The number of White “healers” and New Agers holding dangerous and expensive “sweat lodge ceremonies” is a case in point. Unfortunately, too many people who steal this knowledge don’t always get it right and pose a danger to those they work with. One extreme example that made international news in 2009 is that of motivational speaker James Ray whose sweat lodge for a total of 64 people killed three and made 21 ill. The plastics he used in his structure and the processes he used in the “ceremony” bore absolutely no resemblance to any legitimate sweat lodge ceremony and Ray was later convicted on three counts of negligent homicide.

In another example, it was the Anishinaabeg who discovered the

¹⁴ Cajete, Gregory. 19.

healing properties of Essaic tea, which is now manufactured, distributed and sold in health food and herbal medicine stores for a profit by various non-Indigenous companies. Those peoples who discovered the healing power of Essaic, cared for the plant and its environment and continue to pass down the information over generations are not compensated for their knowledge or centuries of work.

An Indigenous enquirer (scientist) is also trained, a lifetime of it, but her training might involve ceremonial protocols, the use of sacred medicine items as well as special songs, dances and stories that create the best conditions under which to ask for, receive, process and apply information. The Indigenous “scientist” is a participant in her research, both influencing and being influenced at all stages, from formulating a question to receiving an answer to processing the response and finally to sharing it with her community. This is not a linear or stepped process, however. Professor Cajete in his book *Native Science: Natural Laws of Interdependence* notes that in the Indigenous worldview, spirituality is not a relationship between an individual and God but a much more complex one where the crucial interactions occur between communities and the Great Mystery/Creator. I would say the same is true in the realm of Indigenous “science.” The quest for knowledge and the wisdom to use it is one in which the whole community takes part, although individuals may have specific roles to play in the process.

The Indigenous knowledge-seeker cannot conceptually or physically distance herself from what she is studying or questioning. Her lifetime training involves learning about herself as much as her Relations. She needs to appreciate and observe the world in which she is a part as well as how she interacts with it. It is when we respect and take part in the natural world that Our Relations reveal their knowledge and wisdom. Consequently, the Indigenous “scientist” is reluctant to interfere in “natural” processes – the cycles, rhythms and patterns of Creation. Interventions are considered very carefully, within community, where Elders, ancestors and other Spirit Beings have substantial input. This is because the intricate balance of relationships and interconnections that generate and provide for life are respected, valued and understood to be so complex that there could be serious consequences for altering it.

One of the more significant underpinnings of relational knowledge ways is, in contrast to materialism, a concern with energy. The science of the dominant culture is increasingly becoming convinced that if we want to understand more about our world we need to focus less on the particles we keep studying and more on the energies surrounding, governing and, perhaps, comprising them. Increasingly, even mainstream science is coming to understand that it is energy that determines the behaviour of matter in our universe.

Perhaps you remember in grade school doing an experiment where iron shavings were placed on a sheet of paper and a magnet was moved underneath. The magnet determined the behaviour of the iron shavings above, even though there was no direct contact between the shavings and the magnet. This is the way in which my Indigenous teachers understand how prayer and ceremony act in the “material” world.

What is energy? The best definition I’ve heard is that energy is information. For example, the energy of our feelings, thoughts and intentions, fortified by song, dance, medicines/herbs, ancestor power, and so on, actually influence how our physical bodies and other life forms behave. Physical sensations and thoughts are entangled with emotions. For every feeling we experience, every thought we have, there is a corresponding physical reaction. That’s true in reverse as well. We’ll see that hard science has made significant inroads to demonstrate this but if you find yourself skeptical at this idea think about stress. It’s hardly controversial anymore to recognize that our emotional reactions to events in our lives can impact our bodies, sometimes making us ill. Likewise, injuries and illnesses impact our emotional states.

Mainstream science is catching up to Indigenous knowledge in finding that energy, in its various known forms such as sound, magnetism and electricity as well as thoughts and feelings, determines how matter behaves. One big difference, however, is that mainstream science does not necessarily consider these energies to be infused with consciousness, emotion or intellect. But if science declares our thoughts and feelings to be nothing more than electro-chemical reactions (energetic activity) in the brain, then energy is at least as aware, emotional and intelligent as we humans are.

To the Indigenous scientist, thoughts and feelings matter in the seeking out and application of knowledge. Thoughts and feelings impact results. Furthermore, the Indigenous scientist is not seen as superior to other life forms but related and connected to them. In this tradition, respecting, caring for, cooperating with, and co-existing with other life forms, their transformations, rhythms, and cycles, is what enables us to learn, grow, and transform ourselves. The closer we are to nature, the more we align ourselves with its rhythms and patterns, the more our senses open, heightening our awareness of what is going on around us. We then benefit from a heightened awareness, presence and joy in our experience of being.

Of course these scientific paradigms are generalizations about two polarized knowledge ways and don’t speak to the reality that there are exceptions, common understandings and increasing communication across cultures. Both approaches have validity and can sometimes lead us to the same place, as we will later see. However, it’s, of course, problematic when one scientific paradigm dominates and is seen as more valid and more

valuable than the other. Worse is when one knowledge way is backed up by coercive structures that can support the simultaneous dismissal and theft of knowledge with impunity. Such abuses of power discourage communication and sharing across our cultures. In the end, colonization makes it difficult, if not impossible, to work together to grow our common knowledge for common good. But just as right- and left-brain integration improves mental and physical health, we could choose to work together across our paradigms to improve the quality of life for all beings on planet Earth.