

**WHERE NO ONE HAS GONE BEFORE:
THE NEUROSCIENCE OF STAR TREK**



By
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Dedication:
For Caleb, my dear friend and fellow traveler



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INTRODUCTION

Yes, I know that the title of this book is far from original. But there is intention behind my choice. Not only is that phrase beyond iconic for every Star Trek fanatic, but as importantly that phrase describes exactly what I am going to posit in this treatise: that the overwhelming majority of people -- perhaps all of us to a significant extent -- have never truly immersed ourselves in practices that help us integrate into our daily movements a conscious merger of brain and mind, a profound awareness of the capriciousness and rogue actions of our biochemistry. We don't go there. We tend to believe everything that we think, and feel. We engage in behaviors and initiate actions based upon faulty interpretations of our physiological states of being -- and often those actions end in tragedy.

Hi, I'm Dan. I'm a 58 year old digital nomad currently sheltering in place, deep in the hills above Royalton, Vermont, during both a relentless pandemic and (at least for now) a howling snowstorm. I'm the author of the books: *20 Observations About the Human Brain And Nervous System* and *The Bodhisattva On The Sideline*. Also, I'm a career educator, a life coach and an educational consultant, a father, a touring singer-songwriter, an Olympic

Development soccer coach, a former storm chaser and severe storms climatologist (self-proclaimed) and a Star Trek fanatic (the original series, of course). Finally, and most pertinently, I am a midnight oil burning student of the labyrinthian realm of the human brain and mind, an explorer and expeditionist into the vast wildernesses of the human nervous system, and a traveler through time and space, on a constant quest to understand that which few seem to understand -- that we are a species who, lacking awareness, are more often than not pawns to the internal, biochemical and electrical wars being waged inside our brains, brain stems, and central nervous systems.

This truly is the final frontier, where no one has gone before. Yes, our knowledge of human neuro-physiology grows by leaps and bounds on a seemingly daily basis; but this ever-expanding knowledge of human neuroscience rarely if ever joins forces with the reflective application of daily and conscious practice -- practice aimed at mitigating the overwhelming and often virus-like power of that most renegade and capricious and rebellious and anarchistic of organs, our brains.

In this brief book(let) I am going to reference ten Star Trek episodes and describe how each of the stories and plot lines serve as metaphors for our ongoing sojourns into the windswept and stark landscapes, into the at times arctic winters, that constitute our conscious knowledge of the human brain and mind.

Before reading each chapter, I would encourage you to watch the episode being discussed. Indeed, if I were

teaching this as an online college course, your homework would be to watch the episode. *In fact, watch the episodes!*

Sidenote: Star Trek was produced in the 1960s. Taken out of context we could certainly find offense in some impolitic and insensitive moments and themes, and with regard to some long-since-rejected stereotypes and norms. While such is of course a reflection of each individual's personal internal experience and choice, I would only offer that, for a television show created over half a century ago, Star Trek pushed into and against many boundaries and narratives; in fact and in retrospect, the show is seen today as rather revolutionary for its time. Of note as well: when the show was produced, the messages that were being conveyed by the writers and producers were focused primarily on such seminal and ongoing events as The Cold War and The Civil Rights Movement. I am not going to dwell in those somewhat apparent and values-based messages and metaphors. My goal herein is to use ten episodes as a way to discuss issues related to our individual and collective neuro-physiologies, to investigate how that physiological state of being is too often overlooked and unseen when examining the human experience and endeavor. Another note: I've borrowed the plot summaries for each episode from Wikipedia. I'm not planning on making a living on this work of art (insert laugh track), and the collaborative braintrust of Trekkies on Wikipedia do a good job of describing what happens plot-wise during the 47 or so minutes of TV time. I also used the scripts from Chakoteya.net (?) instead of recreating them myself.

Finally, you may wonder, particularly if you're a Star Trek fan yourself, why I chose the episodes that I did. You may also, after reading this book, have some of your own thoughts about episodes that would have served well as examples for other investigations of the internal and neuro-physiological human experience. I chose the ten I did because, well, I *did*. But I'd sure love to hear your thoughts as well! Send me an email. Any chance to chat about Star Trek makes me feel quite delighted:

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In any event, and without further fanfare, it's time to boldly go!

Enjoy the mission.

CHAPTER ONE

SPECTRE OF THE GUN

(Season Three, Episode #61)

Plot Summary (taken from Wikipedia): The Federation starship Enterprise has been directed to make contact with a reclusive species known as the Melkotians. As they approach the Melkotians' planet, they encounter a space buoy warning them to stay away, but Captain Kirk orders the ship to remain on course. Once in orbit, Kirk and First Officer Spock, Chief Engineer Scott, Chief Medical Officer Dr. McCoy, and Navigator Ensign Chekov transport to the surface. They are met by a Melkotian who declares that they have been condemned to death for trespassing. The landing party then finds themselves in an abstract landscape that resembles a Wild West town, though many buildings are only facades. Further, they find their phasers have been changed into six-shooters, and they cannot contact the Enterprise. Exploring the town, they find a newspaper dated October 26, 1881, the date of the infamous gunfight at the O.K. Corral. The townspeople believe the landing party are members of the Cowboys: Kirk as Ike Clanton, Scotty as Billy Clanton, Bones as Tom McLaury, Spock as Frank McLaury, and Chekov as Billy

Claiborne. Further, the Earp brothers, lawmen Virgil, Wyatt and Morgan, and Doc Holliday are preparing to fight them at the appointed time. Knowing that in real history the gunfight was fatal to most of the Cowboys, the Enterprise crew make several attempts to alter their fates, but their efforts are unsuccessful, leading them to believe that history cannot be changed. However, when one of the townspeople, Sylvia, gets close to Chekov, Morgan Earp interferes and kills Chekov. Spock remarks that the real Billy Claiborne had survived, suggesting that the day's events could be changed in other ways. To that end, Spock creates an improvised tranquilizer gas grenade to subdue the Earps before the shootout, and is surprised when the gas fails to work. The time of the shootout arrives and the landing party suddenly finds itself at the O.K. Corral, with the Earps approaching. Spock realizes from the failure of the gas grenade that these events are not real, and that as long as they are convinced of that they cannot be harmed. Kirk has Spock mind-meld with the rest of the team to imbue them with Spock's conviction, allowing them to ignore the illusion of the Earps' gunfire. Kirk chooses not to shoot Morgan Earp in revenge for the death of Chekov, and discards his weapon. They then find themselves, along with a still-living Chekov, on the Enterprise bridge, apparently at a time before the appearance of the Melkotian buoy. The Melkotians make contact, inquire about Kirk's refusal to kill, and finally welcome the Enterprise to approach their planet.

This is a wonderful Star Trek episode. Of the many elements that I enjoy about this particular show, the incomplete picture that Kirk's unconscious creates about

the Old West, and followingly the Melkotians only partial replication of that environment, is both eerie and haunting. I love that kind of stylistic macabre; it's an Escher-like reproduction of a 19th century boomtown, and both the red sky and clocks suspended in thin air are the perfect final touches.

Toward the climax of the episode -- when the four Starfleet officers are forced by the Melkotians (and despite their attempts to flee) to face the gunmen at the OK Corral -- Mr. Spock addresses the other three (Kirk, McCoy and Scotty):

“Physical laws simply cannot be ignored. Existence cannot be without them. We are faced with a staggering contradiction...Physical reality is consistent with universal laws. Where the laws do not operate, there is no reality. All of this is unreal. *We judge reality by the response of our senses. Once we are convinced of the reality of a certain situation, we abide by its rules.* We judge the bullets to be solid, the guns to be real, therefore they can kill.”

Kirk responds:

“We do know that the Melkotians created this situation. If we do not allow ourselves to believe that the bullets are real, they cannot kill us.”

The line in this interaction upon which I want to focus my attention is in italics.

For the sake of our conversation (my analyses), I am going to make the argument that by “senses” Spock is referring to how our brains filter incoming data. And I am also going to use the second part of Spock’s statement --

that once we are convinced of a certain situation we abide by its rules -- as a reference to our master interpreter, the mind.

On my life coaching website I draw the following distinction between the brain and the mind: *The Brain Creates, the Mind Interprets. The distinction is critical. Moving toward a life that makes sense, the life that we want to experience, demands that we remain ever aware of this distinction. The brain responds to stimuli and speaks to the central nervous system, and the mind creates story and narrative, is the meaning maker, in an effort to explain, to justify, to believe in the veracity of, our feelings and sensations. The importance of recognizing this dichotomy cannot be overstated.*

Our brains are fascinating things. Influenced by myriad inputs -- individual biochemical predisposition, personal history, genetics, trauma or injury, etc. -- our brains are in a constant, unending, 24/7 state of data absorption. And even more fascinatingly, each human being on the planet has an entirely unique brain, an entirely distinctive set of filters. So for example, if you put ten people in a room and provide some kind of stimulus and input, each person in that room is going to have a completely unique physiological response. The release of neurotransmitters and hormones, the electrical impulses and communications of the brain with the sympathetic nervous system, the resultant physical and internal experience for each person -- utterly unique.

Here's where the mind comes into play. The mind (in my topology) quickly goes to work in an attempt to

explain, rationalize, make sense of the feelings and sensations generated in the body by the brain and central nervous system. By way of another example, for one person the sound of yelling might stimulate a release of adrenaline and cortisol and, in concert with deep neural grooves based upon personal history, this sound might precipitate a “flight response”. In response to this physiological manifestation, the mind goes to work explaining why there must be danger here. The individual believes the mind, because that is what we do; we far more often than not accept the mind’s interpretation of what we are experiencing in the body. Of course, for *another* person the sound of yelling might, indeed will, precipitate an entirely different neuro-physiological reality. And so back to Spock’s statement: We judge reality by the response of our senses. Once we are convinced of the reality of a certain situation, we abide by its rules.

By way of translation, what Spock is saying (were he discussing the murky and oft misunderstood realm of the neurological) is that we judge reality based upon our mind’s interpretation of the sensations we experience in our bodies when provided with certain input and stimuli, and we subsequently make decisions and undertake actions because the mind interprets the feelings and passes judgment on them: this is good and righteous, this is bad and poisonous, etc.

Let’s take the current political environment as an example. I am writing this chapter of my book in January of 2021, a few days before the inauguration of Joe Biden.

Just ten days ago, the Capitol was stormed by protesters who believe in several narratives, one of which being that the election was a fraud and another being that the incoming administration is anti-democratic. (So be it. I am not writing this book as a back-handed political statement, excoriating certain people and groups for holding onto the views that they do. I am simply making a point about how blind we all can be to our own and to the collective neuropathology.)

Again, back to Mr. Spock's words: *We judge reality by the response of our senses. Once we are convinced of the reality of a certain situation, we abide by its rules.*

Those who are currently embracing any number of conspiracies -- which to many of us seem so outlandish as to verge on insane -- are, in a very real sense, according judgment and value to beliefs and thoughts based upon an acceptance of the mind's interpretation of sensations in their bodies. In other words, the folks who espouse 100% certainty in their knowledge that the election was stolen, that Joe Biden is a radical socialist with close ties to Beijing, and that there is a Democrat and liberal-led satanic cult at work in Washington D.C...these folks, surrounded by others who reinforce these views, are making these judgments because it feels *good* to be certain, and it feels *good* to be part of a group that reflects them; conversely of course, it feels *bad* for such adherents to push back against those seemingly irrational narratives because to do so would mean alienation from their team -- it would mean fear, anxiety, depression, or worse.

And so the followers of “Q” must follow the rules as set down by the group. And in order to do so they must be convinced of the reality of the narrative. To believe 100% in the narrative means neuro-physiological homeostasis, a release of feel-good hormones and neurotransmitters, a regulated and quiet nervous system. It feels good to be part of something, part of a cause, even if that cause is manifestly false -- because, as Spock says, once we are convinced (or have convinced ourselves) of the reality of a situation, we abide by its rules. We abide by its rules because our brains and nervous systems like the way it feels, and our minds convince us that, because it feels good, it must be the right thing to do -- and all of this occurs beyond the reach of our consciousness, in that mesmerizing and blindness-inducing wilderness to which I alluded in my introduction.

In the Star Trek universe, Mr. Spock is able to use the Vulcan Mind Meld as a way to instill certainty in the falsehood of the bullets -- in the falsehood of the three men's (their brains and minds) acceptance of what appears to be real -- and thus the bullets cannot and do not harm our heroes. We cannot do that. There are no Vulcans walking around, placing hands on our crania and instilling truth into our fickle neurological existences. The only thing we have is skepticism; skepticism in the veracity of our thinking and beliefs, skepticism when we feel 100% certain about whatever it is we perceive, skepticism in our assessment of that which is real and that which is not.

We are *all* seeking some kind of internal experience that makes sense, that feels good, that brings us into balance, that creates sensations in the body that are familiar and feel to us like home. As we move through a quite tricky time in the history of our world, please bear in mind Spock's wisdom.

CHAPTER TWO

THE DAY OF THE DOVE

(Season Three, Episode #62)

Plot Summary (Wikipedia): The Federation starship Enterprise responds to a distress call from a human colony, but on arrival finds no signs of any type of inhabited settlement. A landing party, including Captain Kirk and Ensign Chekov, beams down to investigate further. A few moments later, they are found and surrounded by Klingons who have transported to the surface from their own orbiting vessel. Commander Kang accuses the Enterprise crew of firing upon their vessel and demands that they surrender immediately. Suddenly, Chekov makes a move to attack the Klingons, claiming they had killed his brother. Kang's men subdue him and use an agonizer device to torture him, forcing Kirk to agree to surrender. However, upon contacting the ship and asking to be beamed up, Kirk secretly warns First Officer Spock about the Klingons. Spock uses the transporter to materialize the Enterprise crewmen first, followed by the Klingons, who are overpowered by Enterprise security personnel. Kang surrenders and he and the other Klingons, including his wife Mara, a science officer, are escorted to secure quarters on the

ship. Meanwhile, a glowing entity composed of pure energy, which had initially emerged on the planet below, enters the Enterprise undetected and interfaces with its controls. The ship lurches into warp at maximum speed headed for the edge of the galaxy. With the crew panicked, the entity then traps 392 members of the Enterprise's crew belowdecks by closing bulkheads and making them impenetrable. The 38 remaining members of the crew are equal in numbers to the Klingons. With tempers high – and spurred on by the sudden materialization of swords and other antique hand weapons – they begin to fight. Spock soon detects the entity, apparently feeding off the violence. When informed by Lt. Sulu that Chekov never had a brother and is an only child, Kirk realizes that the entity is capable of implanting false memories in order to trigger aggression. Kirk and Spock try to calm the crew's escalating furor to no avail. Kirk believes that if he can get to Kang, the Klingon commander can help stop his crew from fighting and help return the ship to a normal state. Kirk and Spock work their way through the animosity aboard the ship and happen upon Chekov sexually assaulting Mara. Kirk pulls Chekov from her and knocks him unconscious, relenting only when Spock reminds him that Chekov was not in control of himself. Bringing Mara along, they take Chekov to Sickbay, where Dr. McCoy reports that crewmen gravely wounded in the fighting are healing at a much faster than normal rate; the entity wants everyone alive and fighting. Mara is initially skeptical that the entity exists, but is persuaded after realizing Kirk is completely unwilling to kill her. She agrees to lead Kirk to Kang in

Engineering. They travel by the risky technique of intra-ship beaming – using the transporter between two points within the ship. In Engineering, Kang distrusts Kirk's explanation of the entity despite Mara's assurance, and believing she was assaulted, challenges Kirk to a sword duel. As they clash, and with the entity hovering and pulsating a bright red nearby, Kirk implores Kang to stop, telling him that they may become its puppets for a thousand lifetimes if they continue to fight. Kang acknowledges Kirk's warning and the fact that their fighting is pointless. Kirk and Kang order their respective crews to lay down their arms. To starve the entity, Kirk and Kang encourage their crews to act jovially and to laugh with one another loudly. The entity fades and leaves the ship.

Another fantastic episode from the oft-maligned season three, this script was penned as an anti-Cold War screed, a rejection of the kind of seemingly irrational hatred and enmity that drove domestic and foreign policy in the mid-20th century. My take, once again and for the sake of this booklet, is rooted more in the neurological than in the ideological.

It must have been fun for the actors to get to play these roles. In this episode, the Dr. McCoy and Mr. Scott characters get to go completely off the rails, while for the most part Kirk and Spock remain somewhat grounded. The scene I want to focus most upon, at least for now, is the scene in which Dr. McCoy comes to The Bridge and loses his mind on Spock and Kirk for “not acting like military men.” But there's so much here: Chekov's creation of a brother who never existed, the men in red shirts who

just want to fight to the death no matter what, narratives so deeply embedded they cannot be questioned, etc.

About half way through the episode, Dr. McCoy comes to The Bridge. He overhears Spock saying that a truce will be difficult to arrange with The Klingons, "... now that blood has been spilled..." His retort is quick and pointed:

McCoy: "A truce? Are you serious? I've got men in sickbay, some of them dying! Atrocities committed on their persons. And you talk about making peace with these fiends? If our backs were turned they'd jump us in a minute. And you know what Klingons do to prisoners -- slave labor, death planets, experiments! While you're talking, they're planning attacks. This is a fight to the death!! We'd better start trying to win it."

Spock: "We are attempting to end it, doctor. By reason, preferably. There is an alien on board who may have created the situation."

McCoy: "Who cares what started it Mr. Spock, we're in it! Those murderers; we should wipe out every one of them!"

Kirk: "The alien is the real threat."

McCoy: "How many more men must die before you begin to act like military men!?"

Now, for those of you unfamiliar with the characters on the show, McCoy is the pacifist of the lot. He's the person who is always pushing back against the captain when Kirk chooses war over peace, force over diplomacy. But in this episode, he calls for the annihilation of the Klingons.

On the surface, this is an episode about the power and irrationality of hatred -- hatred steeped in ideology, racism, xenophobia, etc. And to the casual observer, that's all we need focus upon. But remember, this treatise is an examination of human neurology and neuro-physiology. Ideology is the stuff of the mind. I am asserting that it's the stuff of the brain and the nervous system that demands more of our attention.

Let's examine Dr. McCoy's reaction. (And if you watched the episode, you will recall that his response is similar to that of Mr. Scott and Mr. Chekov; complete and total rage, with no way for the front brain, the pre-frontal cortex, the thinking brain, to go back online. And, says the Trekkie, delivered in a deadpan style that makes him look like more of a puppet than a man. Brilliant!)

McCoy is under the control of the alien entity. Indeed, later in episode Mr. Spock (when asked about Kang, the leader of the Klingons) opines: "...The alien is affecting his mind, captain. Soon it will become so powerful, that none of us will be able to resist it..." McCoy has fallen under the spell of the entity; and in this case, that spell is bloodlust. But what does that tell us about human neurology?

Back in 2011 I wrote my first book. It was a reflection on my years as a youth, high school and Olympic Development soccer coach. In one of the chapters I bring up for examination the line that coaches straddle between motivation and manipulation. It is quite a hazy line to say the least. Coaches engage in all manner of "team building"

activities, put inspirational quotes on the walls of locker rooms, make fiery pregame speeches, all in an effort to both maximize their teams' performance on the field and to inculcate in their players a sense of mission and significance. And the players -- particularly youth athletes -- are susceptible to the ministrations of these coaches. But what's the line between acceptable motivational techniques and exploitation of a youngster's brain, and mind?

Human beings are lousy interpreters and vetters of data. Human beings are also wired to seek physiological homeostasis, to find activities and communities and people whose data input elicits the "right" neuro-physiological response for them. For many young athletes -- boys especially -- incitements to violence and aggression fits the bill. The cocktail of hormones and neurotransmitters activated by aggression and violence feel, for lack of a better word, fantastic. It feels good to make a big tackle in a football game, and players will pretty much all tell you that it's a total rush. Translation: adrenaline, noradrenaline, dopamine, endorphins, all released into the body and accessed by the nervous systems of these men, and it feels great.

So, back to our episode.

The alien subsists on the aggression, on the anger and hatred, of others. In one sense, the alien is not altogether unlike a narcissistic demagogue, one who craves attention and adoration, and who will exploit the neurological frailty of those around him in an effort to feed his unquenchable thirst for power. But in another more

subtle sense, the alien is a metaphor for the mind's inability to correctly interpret the feelings generated by our neuro-physiological response to input. And the metaphor is beautifully woven into the plot. So many of the StarFleet personnel are simply incapable of observing the sensations in their bodies -- sensations created (one must assume) by that rush of adrenaline and endorphins, and aided perhaps by heightened levels of testosterone; sensations perhaps not so unfamiliar to athletes, to soldiers, to protestors storming capitol buildings or police stations. But there's more, because not only are the majority of people unable to step back and wonder about the feelings and sensations they experience

surrounding certain inputs, but in their haste to make sense out of the feelings, to reach neuro-physiological homeostasis, to feel good, they allow their minds to run amuck, to misinterpret the data -- and thus race hatred is born, and the willingness to kill for a cause is born, and indeed the choice to die over and over and over again "in the icy cold of space" is born.

This episode is really not about ideology, it's not about the Cold War or racism or any of those attachments or mind-states. This episode is the story of our absolutely beautiful vulnerability, our tragic innocence in the face of an internal experience that we simply can neither understand nor manage.

We are indeed "...an interesting species...capable of such beautiful dreams, and such horrible nightmares..." (*CONTACT*, the film) If we could only recognize how

susceptible our brains truly are to hijack, and if we could only quiet and calm our minds, we might move more toward beautiful dreams and away from horrible nightmares.

CHAPTER THREE

THIS SIDE OF PARADISE (Season One, Episode #24)

Plot Summary (Wikipedia): The USS Enterprise is ordered to a Federation colony on Omicron Ceti III. Captain Kirk, First Officer Spock, Chief Medical Officer Leonard McCoy, and others beam down to the colony, and discover the colonists all alive and well, a surprise since the planet is bathed in Berthold rays, a form of radiation which humans cannot survive for longer than a week. Their leader, Elias Sandoval, welcomes them and explains they only lost communications due to equipment failure. Also present is Leila Kalomi, a botanist Spock met on Earth six years before; she loved him, but he was unable to return her love. The landing party notices a lack of animal life, including livestock brought to the colony. During medical exams, McCoy finds no sign of disease or injury in any of them: even Sandoval, who has had an appendectomy, now has a healthy appendix. Kirk nonetheless insists that the colonists be evacuated due to the Berthold rays, against Sandoval's objection. Kalomi offers to show Spock how the colonists have survived, and takes him to a field of strange flowers. The flowers expel spores that cover Spock,

after which he professes his love for Kalomi, and blithely disregards orders to begin the evacuation of the colony. The rest of the landing party are also exposed to the spores and, with the exception of Kirk, exhibit the same sort of behavior. As part of a symbiotic relationship with their human hosts, the spores provide perfect health, including protection from Berthold rays. Kirk returns to the ship while the rest of its crew, under the influence of spore plants that have been brought on board, beam down to the planet. Lt. Uhura has sabotaged the communication system to prevent contact with Starfleet. After a second exposure to the spores, Kirk too prepares to leave, but as he is about to beam down, he is seized by frustration at his own abandonment of the ship. The effect of the spores disappears, and Kirk surmises that violent emotions destroy them. Kirk lures Spock back aboard Enterprise and uses derogatory racial remarks to goad him into attacking. As Spock is about to bludgeon Kirk with a stool, he notices that the spores' influence on him is gone. Kalomi beams aboard to find Spock no longer affected by the spores, and her heartbroken reaction frees her also. Kirk and Spock induce a similar effect on the planet below by broadcasting an irritating sub-sonic frequency to the crew's communicators, provoking fights among the colonists and crew. Once everyone is cleansed of the spores, Sandoval agrees to the evacuation. As they leave orbit with the colonists aboard, Kirk asks Spock about his experiences on the planet. Spock replies that for the first time in his life, he was happy.

“For the first time in my life, I was happy.”
Heartbreaking!!

OK, let's dig in here. From a purely science and science-fiction based perspective, Spock's "happiness" is itself worthy of some pondering. For example, Spock is half human, half Vulcan. Thus we must assume (Yes, I get it. I'm geeking out big time.) that his physiology is not entirely similar to that of his human compatriots on The Enterprise. That said, his human half does create at least in part a human neuro-physiology, replete with the same hormones and neurotransmitters, the same vagus nerve and nervous system structures, as his friends on the ship. For the sake of this book, we will assume that these human sub-structures are the guiding elements for his internal experience.

As we see in the plot summary, in this episode -- and this is a theme repeated in variations in other episodes -- the 300 or so members of the settlement on Omicron Seti III have been intoxicated by the spores of some magical species of flora (and protected from deadly radiation as well) and are blissed out and seem to have found utter peace of mind in their spore-influenced existences. Of course and as we might expect, members of the Enterprise crew, including Mr. Spock and Dr. McCoy, become infected with the bliss-spores and are ready to stay with the colony rather than evacuate the settlement to a nearby star base. This emerging reality is anathema to Captain Kirk, and he eventually figures out that inducing an angry and violent emotional response in his crew will negate the influence of the spores.

There is an intersection in human existence between the narratives we accept as true and of value, and the health and balance of the human nervous system. While the narratives vary somewhat from culture to culture, generally speaking the norms to which we unconsciously adhere as a species include the unquestioned laudability of such traits as personal productivity, a well developed work ethic, a sense of intrinsic motivation, and individual responsibility and accountability. We congratulate and celebrate the tireless 80 hour a week worker, the attentive and ever-present parent, the straight “A” student, the successful executive. Conversely, we look down with disdain upon the high school dropout, the partially employed *slacker*, the middle aged dirtbag still living out of his car and climbing mountains instead of getting a job (Please check out the documentary on Amazon about Fred Beckey.). These narratives and values run deep, powerful grooves in our collective consciousness that influence our sense of good and bad, right and wrong.

What is fascinating, however, is how these narratives often come into direct conflict with our neurological well-being; how adherence to these norms and narratives literally destroy millions of lives by summarily undermining the neuro-physiological health of so very many people.

There is precious little I can do to influence the narrative, though I do try. When I work with students, for example, I hone my energies and attention in on youngsters whose nervous systems are clearly dysregulated by

the current paradigm in academia. As I wrote in my most recent book: *“...Schools have it all wrong because we (the adults, the industry, the teachers) have come to accept the narrative that without a “proper education” children will flounder. And we have also come to accept the belief that a proper education means teachers imparting information and serving as conduits for the transmission of said information. This all sounds innocent enough. We are the adults and we know what’s best. We look into our crystal balls and peer into the future, and we decide what’s important (STEM for example). We provide lip service to the idea of health and wellness, while simultaneously setting the agenda and making decisions about health and wellness based upon our own biases and stories. And along the way, we ignore the single most important factor in the development of a happy, healthy, engaged, self-possessed individual; as we diligently set ourselves to creating the perfect math lesson or the most powerful cooperative-learning project, we ignore our children’s nervous systems. Teachers and administrators should spend pretty much all of their time discussing ways in which they can attend to the neurological needs of their charges. All curricula and units and lessons should be developed under an umbrella of conscious awareness surrounding the impact that actions, words, tone of voice, demeanor, stress-inducers, etc. can have on a child’s nervous system. Each child should be evaluated and reevaluated, and plans should be developed that hone in on the most effective path toward quieting each child’s neuro-physiology...”*

I believe this should be our calling. The academic world disagrees.

And now back to Mr. Spock. At the end of this episode, Spock utters the most tragic words of all. He has lost the spores, as Kirk has goaded him into feeling violent emotions through a verbal tirade that borders on abusive. This is all framed as an effort for the greater good, for now that Spock is free of the spores he can get back to the critical work of being a worker-bee, a drone, in the cog of the Starfleet machinery. But Spock understands the cost: “For the first time in my life, I was happy.”

It is indeed tragic that the narratives that guide our belief systems so often rip apart the internal life of the people we assert we love and support. It is an epic human failure that we unconsciously rank the values that precipitate neuro-physiological dysregulation -- another word for that is *misery* -- over the happiness of those we say we want to be happy. Some would argue this as a vestige of some age-old global religious aesthetic. Some might assert that this is but a natural byproduct of global free-marketism and Capitalism. The reasons for such deference to destructive narratives matters not. What matters instead is that we recognize that maybe, just maybe, happiness (in other words, neuro-physiological homeostasis) is a state of being worthy of aspiration. That perhaps, just perhaps, it's OK to be happy.

I'm sorry we let you down, Mr. Spock. How many more must eschew joy, must be compelled to reject the validity and beauty of their own internal experience and

physiology, in an effort to accede to the oft-twisted norms of a sick society?

CHAPTER FOUR

AMOK TIME

(Season Two, Episode #30)

Plot Summary (Wikipedia): Spock, the first officer of the USS Enterprise, begins to exhibit unusual behavior and requests that he be granted leave on his home planet Vulcan. Captain Kirk and Chief Medical Officer Dr. McCoy, having witnessed one of their friend's outbursts, agree and Kirk diverts the ship to Vulcan. En route, Kirk receives orders from Starfleet to travel to Altair VI to represent the Federation at the inauguration ceremony for the planet's new president. Though Kirk instructs the crew to set course to Altair VI, Spock secretly changes course back to Vulcan. Kirk confronts Spock, who claims to have no memory of ordering the course change. Kirk orders Spock to Sick Bay, where McCoy finds evidence of extreme physical and emotional stress, a condition that will kill him within eight days if not treated. Spock is forced to explain that he is undergoing pon farr, a condition male Vulcans experience periodically throughout their adult life, and that he must mate or die. Kirk contacts Starfleet to request permission to divert to Vulcan but is denied. Kirk disobeys orders, believing that saving the life of his

friend is more important than his career. At Vulcan, Spock invites Kirk and McCoy to accompany him to the wedding ceremony. He explains that Vulcans are bonded as children so as to fulfill the pon farr commitment, and that T'Pring is to be his mate. T'Pring arrives with Stonn, a pureblood Vulcan, whom she prefers to Spock. T'Pau, a matriarch renowned as the only person ever to refuse a seat on the Federation Council, prepares to conduct the ceremony. However, T'Pring demands the kal-if-fee, a physical challenge between Spock and a champion she selects. To everyone's surprise, she chooses Kirk instead of Stonn. Spock begs T'Pau to forbid it as Kirk is unaware of the implications, but T'Pau leaves the decision to Kirk; another champion will be selected if he refuses. Kirk accepts the challenge, only to learn that it is "to the death." The two begin combat with lirpa, a traditional Vulcan weapon. Kirk is challenged by Spock's strength and agility, even in his current state, as well as the thinner atmosphere of Vulcan. McCoy convinces T'Pau to allow him to inject Kirk with a tri-ox compound to offset the effects of the Vulcan atmosphere. The battle continues, with Spock eventually garroting Kirk with an ahn'woon. McCoy rushes to Kirk's body and declares him dead, and requests immediate transport back to the Enterprise. Spock renounces his claim on T'Pring, but not before demanding an explanation from her. She explains that she feared losing Stonn in the kal-if-fee. By choosing Kirk, T'Pring would be assured of having Stonn in some capacity regardless of the outcome: if Spock was the victor, he would release her from the marriage (for having made the challenge in the first place), and if Kirk

had won, he would not want her either. Spock, now free of the pon farr, compliments T'Pring on her flawless logic, and returns to the Enterprise, warning Stonn that "having is not so pleasing a thing after all as wanting." Aboard the ship, Spock announces his intent to resign his commission and submit himself for trial for killing Kirk, when he discovers Kirk is alive and well in sickbay. McCoy explains that the injection he gave Kirk was a neuromuscular drug that merely simulated death. Asked about what followed, Spock states that he lost all desire for T'Pring after he thought he killed Kirk. Kirk then learns that Starfleet, at T'Pol's request, has belatedly given the Enterprise permission to travel to Vulcan.

This is a good follow-up to chapter three and a useful episode to examine, as *Amok Time* paints an equally stark picture for us about the centrality to our health, at times to our very survival, of our internal experience.

A quick quote from my last book: "...for me, the internal experiences surrounding, for example, love and relationship were (and remain) wildly variable: from waves of ecstasy to a darkness and pain that is quite inexplicable. These internal experiences possess a quality I cannot accurately convey as no one shares my unique internal frame of reference. No one can feel how much pain I feel when my brain reacts to input that tells my mind and senses that love is being withdrawn from me. That physical pain is unique to me; and my ability to withstand that turbulence, those feelings, is also entirely distinctive..."

In this episode, Spock's body is literally shutting down as he enters the physiological realm of the Vulcan

time of mating. The metaphor is clear. While Vulcans are known throughout the galaxy for their assiduous belief in and adherence to the sanctity of logic, when it comes to marriage they go right off the emotional rails. Indeed, the internal experience is so dysregulating that, if they don't attend to those biological signals and needs in a timely manner, they will die:

MCCOY: Jim, you've got to get Spock to Vulcan.

KIRK: Bones, I will, I will. As soon as this mission is...

MCCOY: No! Now. Right away. If you don't get him to Vulcan within a week eight days at the outside, he'll die. He'll die, Jim.

KIRK: Why must he die? Why within eight days? Explain.

MCCOY: I don't know.

KIRK: You keep saying that. Are you a doctor, or aren't you?

MCCOY: There's a growing imbalance of body functions, as if in our bodies huge amounts of adrenaline were constantly being pumped into our bloodstreams. Now, I can't trace it down in my biocomps. Spock won't tell me what it is. But if it isn't stopped somehow, the physical and emotional pressures will simply kill him.

In the parlance of the Vulcans I am currently examining, I find it fascinating that we either reject the validity of each individual's unique internal experience, or we use our own internal barometers as a frame of reference for everyone else's (a form of projection). We assume that,

because love and romance more often than not feel good to us and don't dysregulate us, that this must be a universal experience; that anyone having a disparate internal experience is broken, and that we should all somehow aspire to fulfilling the narratives that society has laid out for us regardless of the depth of pain we might experience.

I grok Spock! Indeed, my body, my neuro-physiology, responds to a perceived withdrawal of love with such an ongoing and relentless surge of adrenaline and cortisol, that a heart attack or stroke cannot be far off. I know this may sound like hyperbole to you, but your internal physiology is different from mine. Spock tries to explain the same to Kirk:

KIRK: You mean the biology of Vulcans? Biology as in reproduction? Well, there's no need to be embarrassed about it, Mister Spock. It happens to the birds and the bees.

SPOCK: The birds and the bees are not Vulcans, Captain. If they were, if any creature as proudly logical as us were to have their logic ripped from them as this time does to us. How do Vulcans choose their mates? Haven't you wondered?

KIRK: I guess the rest of us assume that it's done quite logically.

SPOCK: No. No. It is not. We shield it with ritual and customs shrouded in antiquity. You humans have no conception. It strips our minds from us. It brings a madness which rips away our veneer of civilisation. It is the pon farr. The time of mating. There are precedents in

nature, Captain. The giant eel birds of Regulus Five, once each eleven years they must return to the caverns where they hatched. On your Earth, the salmon. They must return to that one stream where they were born, to spawn or die in trying.

KIRK: But you're not a fish, Mister Spock. You're

SPOCK: No. Nor am I a man. I'm a Vulcan. I'd hoped I would be spared this, but the ancient drives are too strong. Eventually, they catch up with us, and we are driven by forces we cannot control to return home and take a wife. Or die.

Or...die.

As we move through our days, it is imperative that we recognize the unique internal experience of each human being we encounter. It is imperative that we not judge these folks for the entirely distinctive ways in which they respond to stimuli and input, that we project neither our own beliefs nor the prevailing narratives and normative expectations of society upon them. When we meet a stranger on the street, we know not what events from their history, what unique bio-physiology, informs their internal experiences. When we speak to them, we do not know how those words land, regardless of our meaning or intention. And, we never know just how much pain, how much neuro-physiological dysregulation, someone is experiencing from moment to moment.

Captain Kirk took Mr. Spock to Vulcan not because he could empathize with him, but because he loved him. He risked his career in Starfleet, he risked everything, be-

cause to not act meant the death of his friend. I would argue that this is how we should *all* move through our days -- that we should view *all* whom we encounter as people worthy of love, people with unique experiences and feelings we can never truly understand; and that we reject the temptation to judge and instead embrace a profound open-heartedness as we act as neurological bodhisattvas for all of humanity...and for the Vulcans as well.

CHAPTER FIVE

ERRAND OF MERCY

(Season One, Episode #26)

Plot Summary (Wikipedia): Negotiations between the United Federation of Planets and the Klingon Empire have collapsed, and The USS Enterprise is sent to the world of Organia, a non-aligned planet near the Klingon border, to prevent the Klingons from taking advantage of its strategic location. As Enterprise approaches Organia, the ship is attacked and destroys a Klingon vessel. Upon arriving on the planet's surface, Kirk and Spock find a peaceful but technologically primitive town. Kirk appeals to Ayelborne, the head of the local council to allow the Federation to help them resist Klingon occupation, but the Organians adamantly oppose any use of violence. When a Klingon fleet appears in orbit, Kirk orders the Enterprise to withdraw, which strands himself and Spock on the planet. Ayelborne disguises Kirk and Spock to avoid suspicion and the Klingons seize control of the planet without resistance, installing the ranking Klingon officer, Kor, as the military governor. Kor has Spock questioned with a "mind sifter" device to confirm he isn't a spy and designates Kirk as the Organian civilian liaison

with the occupation force. Spock uses his mental discipline to withstand the scrutiny of the device. That evening, in an attempt to inspire the Organians, Spock and Kirk sabotage a munitions dump outside the town. Ayelborne reveals the true identities of the Federation officers to Kor. He and the council then mysteriously free the two before the Klingons can torture information out of them. While Kirk and Spock try to comprehend the council's contradictory actions, Kor orders the execution of two hundred Organians, yet the council seems unmoved. As the Federation and Klingon fleets ready themselves for a confrontation in the system, Kirk and Spock raid the Klingon headquarters in hopes of rousing the population into resistance. They capture Kor and prepare to make a last stand. The Organians then reveal their true nature: they are highly advanced incorporeal beings. They instantly incapacitate both sides, forcing them to agree to a cessation of hostilities. The Organians predict that the two sides will work together in the future.

Just a quick reminder: This book is dedicated to a conversation about the brain, the mind, our nervous systems and our phantasmagorical physiology. I am trying to steer clear of the obvious, and to instead apply reflections and musings about human neuro-physiology to that most wonderful of all television shows, Star Trek. (I will not argue the point! Star Trek is The Beatles of television, the Mozart, the Michaelangelo, the...well, you get the point.)

In the realm of the obvious, this episode is an excoriation of the aggressive, violent proclivities of both Klingons and Humans. Indeed, both Commander Kor and Captain Kirk make their militaristic natures quite public:

AYELBORNE: As I stand here, I also stand upon the home planet of the Klingon Empire, and the home planet of your Federation, Captain. I'm going to put a stop to this insane war.

KOR: You're what?

KIRK: You're talking nonsense.

AYELBORNE: It is being done.

KIRK: You can't just stop the fleet. What gives you the right?

KOR: You can't interfere. What happens in space is not your business.

AYELBORNE: Unless both sides agree to an immediate cessation of hostilities, all your armed forces, wherever they may be, will be immediately immobilised.

KIRK: We have legitimate grievances against the Klingons. They've invaded our territory, killed our citizens. They're openly aggressive. They've boasted that they'll take over half the galaxy.

KOR: Why not? We're the stronger! You've tried to hem us in, cut off vital supplies, strangle our trade! You've been asking for war!

KIRK: You're the ones who issued the ultimatum to withdraw from the disputed areas!

And in retrospect, at the end of the episode, Kirk (kind of) laments his own nature...or at least his actions on the planet:

SPOCK: You've been most restrained since we left Organia.

KIRK: I'm embarrassed. I was furious with the Organians for stopping a war I didn't want. We think of ourselves as the most powerful beings in the universe. It's unsettling to discover that we're wrong.

But this message is, well, obvious. The Humans and The Klingons both see themselves as righteous, both view the other side as contemptible, both believe in a narrative that could perhaps best be described as self-serving and self-congratulatory.

The reason I chose this episode as one of my ten in this investigation of human neuro-physiology is because, beyond the patriotic flag-waving and the intergalactic ideological narrative-stoking, this episode draws a clear metaphorical distinction between beings whose neuro-physiology is beyond their ability to understand and manage, and those whose neuro-physiology is in a state of balance.

Both the Klingons and Humans in this installment of the show -- and when I say the Klingons and the Humans, I mean Kirk and Kor -- spew forth vitriol and values, belief systems and self-rationalizing narratives, all in a mind-centric bellicosity that circumnavigates any awareness of their internal experiences. The two have bought into age-old stories about war, about honor, about courage, about duty, and the two are so hypnotized by these cultural narratives that they are willing to kill, and to die, in their defense. It's only once Kirk is back on his ship that, in relative private, he's able to admit that he's a bit embarrassed.

The Organians -- again, extending the metaphor -- act as a constant and ever-mindful opportunity for the two protagonists to step back from their minds' rationalizations and to look inward, to examine sensations in their bodies, and to choose, instead of adherence to the narratives, a different journey.

I would posit that this metaphor is the most important of all.

We get a feeling in our body, a sensation based upon some kind of input. We then most often default to beliefs and stories about people, events, and ideas that help us make sense of the feelings. The more intense and acute the sensations, the more we seem to need to dogmatically attach ourselves to well-developed stories and beliefs -- stories and beliefs that provide an explanation or rationalization for the existence of the dysregulation and discomfort.

The Organians keep telling Kirk that they are in no danger. Kirk of course cannot find a way out of his meaning-making in order to actually hear such a claim. And the reality is, the Organians *are* in no danger because they are in a constant state of neuro-physiological stasis -- they are always in balance, because they adhere to no narratives whatsoever. Spock calls it "*pure energy, pure thought,*" but in the realm of the neurological I would use a different language. I would say they are pure awareness -- awareness of the sensations that exist in their corporeal essences, and completely devoid of narrative around such.

Dan Weintraub

Sometimes we just have to reject all story, all meaning-making, and sit with the sensations. We might be in far less of a quandary as a species were we so inclined.

CHAPTER SIX

CHARLIE X (Season One, Episode #2)

Plot Summary (Wikipedia): The USS Enterprise meets the merchant vessel Antares to take charge of Charlie Evans, the sole survivor of a transport ship that crashed on the planet Thasus. For fourteen years, Charlie grew up there alone, stranded in the wreckage, learning how to talk from the ship's computer systems, which remained intact. Charlie is to be transported to his nearest relatives on the colony Alpha V. Crew members aboard Antares speak praises about Charlie, but seem pleased to see him removed from their ship. He tells Dr. McCoy the crew of Antares did not like him very much, and that all he wants is for people to like him. Despite his eagerness to please, Charlie becomes obnoxious since his lack of upbringing has left him with no knowledge of social norms or control of his emotions. He latches on to Captain Kirk as a father figure and develops an infatuation with Yeoman Janice Rand. He demonstrates extraordinary powers of telepathy and matter transmutation, though the crew initially fail to recognize the cause. Charlie meets Rand in the recreation room, where Mr. Spock plays a Vulcan lyrette and Lt. Uhura

suddenly starts singing. Charlie is annoyed with being a subject in Uhura's performance, as well as with Rand paying more attention to the song than to him, so he causes Uhura to temporarily lose her voice and Spock's instrument to malfunction. When the Antares is nearly out of sensor range, it transmits a message to the Enterprise. The message is cut off before it can convey a warning. Scanners show the Antares has been reduced to debris. Kirk tries to teach Charlie martial arts. Sam, Kirk's training partner, laughs at one of Charlie's falls, and Charlie makes him vanish. Shocked, Kirk calls for security guards to escort Charlie to his quarters. Charlie makes all phasers on the ship disappear, but ultimately yields to Kirk's order that he return to his quarters. Records show that Charlie's abilities are the same as those of Thasians, but the medical examination McCoy conducted when Charlie came on board confirmed that he is human. Charlie admits he used his powers to remove a vital component of the Antares. Frustrated at the adversarial turn in his relationship with the crew, Charlie breaks out of his quarters and begins to use his powers on the crew. When Rand resists his romantic advances, he makes her disappear. Realizing Charlie's powers are too great to be controlled, Kirk opts to divert from Alpha V so as to at least keep Charlie away from a civilized world, where he would wreak havoc. Charlie discovers Kirk's plans, and takes control of the Enterprise. Speculating that controlling the Enterprise may sap Charlie's power, Kirk orders all of the ship's systems to be activated and attacks Charlie. However, his hypothesis proves incorrect. A Thasian ship approaches and restores the Enterprise and its crew. The Tha-

sian commander says that his race gave Charlie his powers so he could survive on their world, but these powers make him too dangerous to live among humans. Charlie begs Kirk to not let the aliens have him, since the Thasians lack any physical form or capacity for love. However, the Thasians reject Kirk's argument that Charlie belongs with his own kind, and transport Charlie away. Yeoman Rand cries for him.

For Charlie, the physiological sensations associated with his perception -- the way his brain filters information, and the way his mind interprets those feelings -- that he is disliked, or is being ridiculed, is too much for him to metabolize. In this episode, and given Charlie's powers, he can literally make the feelings go away by making the people who are "responsible" for his big feelings go away.

Charlie's neuro-physiological response is not all that uncommon. When our brains (informed by our histories and unique biochemistry) perceive some kind of a threat, and when our minds create all manner of stories, flawed interpretations, as a way to rationalize and make sense of the sensations in our bodies, we are susceptible to acting and behaving just like Charlie does. But because we cannot *will* people to physically disappear, we often make them disappear in other ways -- we kill them off in our minds, we delete them, all in an act of physiological desperation.

The tale here is a cautionary one. Our brains are amazing machines, complex beyond complex, truly magnificent in depth. But our minds are fickle and often unreasoned. And when our bodies cry out in pain, when

the sensations precipitated by a rush of hormones cause our nervous systems to short-circuit -- when we are in terrible emotional distress -- our minds grasp for answers, for solutions, for anything that might explain away our suffering.

For Charlie, the solution is simple: send his perceived detractors into the void. For narcissists, a similar path is followed: only surround oneself with sycophants, and “kill off” all others, anyone who poses a threat to a perceived identity. (Some narcissists, some of the ones who rule nations, actually *do* kill off those who defy them, those whose actions and words arrive through such damaged filters, that elimination seems the only answer.)

For those of us engaged in a process of observation, those of us desiring both personal growth as human beings as well as maintenance of a regulated and quiet nervous system, the choices are far more nuanced. As students of brain and mind, we need to assess the sensations we are experiencing and consciously decide if we can healthily manage these feeling-states or if we need to address the conditions that precipitate such neuro-physiological events. Sometimes we can address those conditions and feelings by looking inward, through mindfulness and other practices. Sometimes, however, we may need to make shifts in how we move through the world.

Choose wisely, if you are able. There is a great deal to be lost from choosing one or the other path without sufficient circumspection.

CHAPTER SEVEN

LET THIS BE YOUR LAST BATTLEFIELD (Season Three, Episode #70)

Plot Summary (Wikipedia): The Federation starship Enterprise is on a mission to help decontaminate the polluted atmosphere of the planet Ariannus, when sensors detect a Federation shuttlecraft that was reported stolen. The craft is brought aboard along with its alien pilot, who identifies himself as Lokai, a political refugee from the planet Cheron. Lokai's most striking feature is that his skin is ink-black on one side of his body and chalk-white on the other side. Shortly thereafter, sensors detect another spacecraft in pursuit of the Enterprise. The alien craft disintegrates, but not before its pilot, Bele, transports to the Enterprise bridge. He is colored black and white, similar to Lokai. Bele explains that he is on a mission to retrieve political traitors. His current quarry is Lokai, whom he has been chasing for 50,000 Earth years. Bele is taken to Lokai, and the two begin to argue about the history of their peoples, almost coming to blows. Bele demands that Captain Kirk take him and Lokai

to Cheron. Kirk refuses, telling him he will have to make his case to Federation authorities. Some time later, the ship changes course to Cheron, and Bele announces that his "will" has taken control of the ship. Lokai demands the death of Bele, and Kirk orders both of them to be taken to the brig. Unfortunately, a force field generated by both aliens makes that impossible. With no other way to regain control, Kirk threatens to destroy the Enterprise, and begins the ship's auto-destruct sequence. In the last seconds of the countdown, Bele relents, and the ship resumes its course to Ariannus. As Bele continues angrily to press his matter with Starfleet, he reveals the source of his conflict with Lokai. He, and all of his people on Cheron, are black on their right sides, while Lokai's people are all white on their right sides. The distinction is lost on the ship's officers, who leave it for legal authorities at the next starbase to decide, as Starfleet has no extradition treaties with Cheron, and the case requires due process. Once the Ariannus mission is completed, Bele takes control of the Enterprise again, this time disabling the self-destruct system. When the ship arrives at Cheron, Spock can find no sign of intelligent life. Lokai and Bele realize they are each the only ones left of their peoples, who have completely annihilated themselves in civil war. Enraged, they attack each other, their force fields threatening to damage the ship. Lokai breaks away, Bele pursues him, and the two eventually beam down to the planet. The bridge crew remark sadly on their unwillingness to give up their hate.

Again, on the surface this would seem like a tiptoe through the obvious. Lokai and Bele hate each other because they are...different:

BELE: As always, Lokai has managed to gain allies.

KIRK: Now, wait a minute, Commissioner...

BELE: Even if they don't recognise themselves as being such. Yes, he will evade, delay, and escape again and in the process put thousands of innocent beings at each other's throats, getting them to kill and maim for a cause which they have no stake in, but which he will force them to violently espouse by twisting their minds with his lies, his loathsome accusations and his foul threats.

KIRK: I can assure you, Commissioner, that our minds will not be twisted, not by Lokai, nor by you.

BELE: It is obvious to the most simpleminded that Lokai is of an inferior breed.

SPOCK: The obvious visual evidence, Commissioner, is that he is of the same breed as yourself.

BELE: Are you blind, Commander Spock? Well, look at me. Look at me!

KIRK: You're black on one side and white on the other.

BELE: I am black on the right side.

KIRK: I fail to see the significant difference.

BELE: Lokai is white on the right side. All of his people are white on the right side.

Racism 101, right? Yes, and no. Remember, I am addressing this episode from the perspective of neuro-physiology -- or in this case, from the frame of reference of the

physiological sensations that Lokai and Bele experience in their bodies. More specifically, I am conjecturing here that the feeling-states that arise for these two beings when they are experiencing the expression of their anger, their hatred, and their desire for vengeance, are sensations that not only feel “good,” but that are too familiar to reject. In other words, Lokai and Bele are so habituated to the body-sensations of the chase, of the righteous political cause (endorphins and noradrenaline in particular), that they can no more reject their paths than they can change color.

You see, Bele and Lokai are pawns to their own neurologies. They literally must *die* rather than give up the fight -- and in my topology, that means they must perish instead of challenge their minds’ interpretations of their physiological realities:

SPOCK: Coming within visual range now, Captain.

KIRK: Chekov, put it on the screen. Extreme magnification. What are you picking up?

SPOCK: Several large cities, uninhabited. Extensive traffic systems, barren of traffic. Lower animal and vegetation encroaching on the cities. No sapient life-forms registering at all, Captain. There is no evidence of natural disaster, yet there are vast numbers of unburied corpses in all cities.

KIRK: You mean, all the people are dead?

SPOCK: All dead, Captain. They have annihilated each other totally.

BELE: My people, all dead?

KIRK: Yes, Commissioner, all of them.

LOKAI: No one alive?

SPOCK: None at all, sir.

BELE: Your band of murderers did this.

LOKAI: Your genocidal maniacs did this!

(They attack each other again.)

KIRK: Stop it! What's the matter with you two? Didn't you hear Spock? Your planet is dead! There's nobody alive on Cheron because of hate. The cause you fought about no longer exists. Give yourselves time to breathe. Give up your hate. You're welcome to live with us. Listen to me. You both must end up dead if you don't stop hating.

LOKAI: You're an idealistic dreamer.

(Lokai leaves)

KIRK: Bele. The chase is finished.

BELE: He must not escape me.

SPOCK: Where can he go?

(Bele leaves)

KIRK: Bele.

UHURA: Shall I alert security, sir?

KIRK: No, Lieutenant. Where can they run?

(Through the ship, knocking over crewmen, whilst imagining the buildings burning on their home planet.)

SPOCK: Captain, I have located them on ship's sensors. Bele is chasing Lokai on deck three. Bele is passing recreation room three, approaching the crewmen's lounge. Lokai is running past the crewmen's lounge. Lokai has just arrived on deck five. Passing recreation room three.

(Lokai beams himself away)

UHURA: Captain, someone has activated the transporter mechanism.

KIRK: Spock, anyone in the transporter room?

SPOCK: Negative, Captain. Transporter room is clear. However, there is a life-form materialising on the planet. It is Lokai. He is back on Cheron.

KIRK: There's nobody there to try him. His judges are all dead.

UHURA: Captain, the transporter mechanism has been activated again.

KIRK: Of course.

SPOCK: It is Bele, Captain. And another life-form has appeared on Cheron.

UHURA: It doesn't make any sense.

SPOCK: To expect sense from two mentalities of such extreme viewpoints is not logical.

SULU: But their planet's dead. Does it matter now which one's right?

SPOCK: Not to Lokai and Bele. All that matters to them is their hate.

My argument is different from Spock's. I wouldn't say that all these two beings had left was hate. I would argue that it's the only internal experience, the only set of physiological sensations, they could tolerate. For 50,000 years Bele had been chasing Lokai across the galaxy! It's not hate that drove him. Hate is the mind's construction, the mind's explanation and justification for entertaining the neuro-physiological. No, it was simply that 50,000 years of habituation to a physiological state meant an unwillingness, an inability, to challenge that physiology.

Again, we are provided here with a stark reminder of the lengths to which we will go *not to* challenge our own physiologies, the narratives we will construct in defense of our habituated and reified feeling-states. It's tragic really. Indeed, I have witnessed this reality in others, and I have experienced it myself. This excerpt is from an Op-Ed I recently had published in a local newspaper. It details my own flirtation with extremism:

"...The human brain, despite all of our growing understanding of neuro-physiology, is a renegade organ. The melange of neurotransmitters and hormones that wash over and through our brains and bodies, the unrelenting and mystical power that our amygdala and sympathetic nervous system holds over our consciousness, seems more from the pages of a science fiction novel than from the journals of medicine and psychology. And the reality of our minds' ignorance to these internal processes is both tragic and inevitable. I became an extremist because I was in distress. On both occasions, my life had become unmanageable. I was, at the two aforementioned moments in my life, adrift. I had no foundation, no floor beneath me. I was sure of nothing. My future was unclear. I was scared and confused, ashamed and defeated. And the feelings that these states of being precipitated were unbearable. In the parlance of the neuro-informed, my nervous system was entirely dysregulated. I was quite literally experiencing an unrelenting and crippling dearth of the feel-good neurotransmitters and hormones (oxytocin, serotonin, endorphins, dopamine to name a few) and an overflow of the edgier stuff (adrenalin, noradrenaline and cortisol; substances associated with amygdala hijack, stress response, etc.).

The resulting experience was physically painful and emotionally ruinous. Enter extremism. It was a godsend. It gave me purpose, and meaning. The certitude I felt, the communities I became integrally connected to, changed my neuro-physiology. I felt good again. I had a future. My nervous system was no longer jangly. I was quite literally saved..."

This experience is not unique to me. I befriended 1960s activist Abbie Hoffman in the mid-1980s. He joined a protest movement I had helped organize at the University of Massachusetts. He was by then a middle-aged, somewhat defeated and arguably drug-addicted man. He continued to ply his trade as a revolutionary, even though the 1960s were long since gone and the revolution he had helped author was all but extinct. I would assert that he held tenaciously to the narrative of revolution and social change not because of the narrative so much, but more because of the essential nature of his internal experience -- the sensations created by his history-informed neuro-physiology; he had to continue the fight, because it's the only feeling he could tolerate. And -- again, my story here -- when it felt like there was nothing left to fight, when he simply couldn't recreate the internal experience (primarily but not exclusively the dopamine and noradrenaline informed feelings and sensations), he died. He just died.

The point I am trying to make here is that, as a species, we tend to see values and ideology, morals and beliefs, as the things that inform our actions and choices. But I would contend that it is, more often than not, an

unconscious quest for neurological homeostasis, and our minds' attempts to justify such quests, that often win out in the end.

We are beings on a constant quest to feel OK. For some, that trek simply becomes too difficult to manage.

CHAPTER EIGHT

REQUIEM FOR METHUSELAH

(Season Three, Episode #74)

Plot Summary (Wikipedia): The crew of the Federation starship Enterprise is struck with deadly Rigellian fever, for which the only treatment is the mineral ryetalyn. Captain Kirk, first officer Spock and medical officer Dr. McCoy beam down to the planet Holberg 917-G in search of the substance and are attacked by an airborne robot, which is called off by its master, Flint. Flint demands they leave immediately, but Kirk orders the Enterprise to fire phasers on their coordinates if they are attacked. Acknowledging a stalemate, Flint agrees to let them remain long enough to obtain the ryetalyn. Flint offers the help of his sentry robot M4 to gather the mineral and escorts them to his home, which has an impressive art collection. Spock notices that the brushwork of the paintings is identical to Leonardo da Vinci's, but his tricorder indicates that they are made with contemporary materials. The party is introduced to Flint's young ward, Rayna Kapec, whose late parents, according to Flint, were employees of his. On Flint's suggestion, Kirk plays billiards with Rayna, and they dance to a waltz played on the piano by Spock. The sheet music,

apparently in the hand of Johannes Brahms, is written with contemporary ink. M4 returns with a container of ryetalyn, but it is contaminated with irilium, and therefore useless. Flint apologizes and accompanies M4 on a search for more ryetalyn. When Kirk kisses Rayna, M4 reacts as if he were attacking her. Spock destroys it with his phaser. The Enterprise reports that no information can be found on Flint or Rayna. A tricorder scan reveals that Flint is over 6,000 years old. Rayna comes to say goodbye to Kirk, who has fallen in love with her and begs her to accompany him. McCoy tells them that after being processed in Flint's laboratory, the ryetalyn vanished. Spock follows tricorder readings to a laboratory chamber containing not only the ryetalyn, but a number of android bodies, all labeled "Rayna". Flint reveals the truth. He was born in 3834 BC, and after falling in battle discovered he could not die. Flint has lived "lifetimes" as da Vinci, Brahms, and many others. He built Rayna to be his immortal mate and manipulated Kirk into teaching her how to love. Paranoid about the possibility that the Enterprise crew would reveal him and his location, Flint causes the Enterprise to disappear from orbit and reappear as a tabletop miniature in his laboratory, with the crewmembers in suspended animation. He proposes to keep them that way for up to 2000 years. Rayna happens into the room and vehemently objects, so he restores the starship to its previous state. When Captain Kirk professes his love for Rayna and pleads with her to leave with him, a fight breaks out between him and Flint for the possession of Rayna. Rayna stops them, claiming her right to choose her own future, and then, overwhelmed by indecision

for fear of hurting either Kirk or Flint, dies. Back on the Enterprise, McCoy reports that readings from the earlier tri-corder scan show that Flint has been aging normally since he left Earth's environment, and will soon die. Kirk falls asleep on his desk after commenting ruefully on Rayna's fate, and Spock places a suggestion to "forget" into his mind.

I love this episode. I love pretty much *all* Star Trek episodes (Well, not The Lights of Zetar; I think that one kinda stunk.) The thing about Star Trek (the original series of course) is that science fiction and drama are woven so beautifully into stories about human frailty and imperfection. There's also a quirky and campy feel to the shows. Once you're a fan, you get the inside jokes, the funny looks that Spock gives to Kirk, the pointed musical interludes, etc. For me, watching Star Trek is like coming home to old friends, time and again.

OK, back to the book.

This episode contains two primary themes or storylines: one is the story about Flint being immortal and having actually lived through all of the events on Earth that define our collective memory (A similar theme is developed in the episode entitled *Who Mourns for Adonis*, in which the plotline revolves around a being of immense power who claims to be the god Apollo. Perhaps, the story posits, he actually *is* Apollo; that the Greek gods were actually intergalactic travelers who wielded such power, that the humans they encountered had no way to explain them other than to worship them as immortals.):

SPOCK: Your collection of Leonardo da Vinci masterpieces, Mister Flint, they appear to have been recently painted on contemporary canvas with contemporary materials. And on your piano, a waltz by Johannes Brahms, an unknown work in manuscript, written in modern ink. Yet absolutely authentic, as are your paintings.

FLINT: I am Brahms.

SPOCK: And da Vinci?

FLINT: Yes.

SPOCK: How many other names shall we call you?

FLINT: Solomon, Alexander, Lazarus, Methuselah, Merlin, Abramson. A hundred other names you do not know.

SPOCK: You were born?

FLINT: In that region of earth later called Mesopotamia, in the year 3834 BC, as the millennia are reckoned. I was Akharin, a soldier, a bully and a fool. I fell in battle, pierced to the heart and did not die.

MCCOY: Instant tissue regeneration coupled with some perfect form of biological renewal. You learned that you were immortal and...

FLINT: And to conceal it. To live some portion of a life, to pretend to age and then move on before my nature was suspected.

SPOCK: Your wealth and your intellect are the product of centuries of acquisition. You knew the greatest minds in history.

FLINT: Galileo, Socrates, Moses. I have married a hundred times, Captain. Selected, loved, cherished. Ca-

ressed a smoothness, inhaled a brief fragrance. Then age, death, the taste of dust. Do you understand?

The second and more pointed element in this story, and the one upon which I will briefly focus as it pertains to my overall thesis (that we are, above all else, physiologically-determined beings without a good sense for the power of such a reality), surrounds both Kirk's terrible pain and suffering in relationship to Flint's android companion, Rayna, and perhaps more importantly and poignantly, Rayna's own death.

If you've seen the episode, or if you read the plot summary, you will know that this story, above everything, is about love. Now, I'm not going to be so crass as to deconstruct the feelings of love as simply a biological and neuro-physiological imperative that promotes procreation. And, I would assert as an aside, that love as we have come to embrace it as a human construct is a function of action rather than sensation. Yes, we might feel the emotions of love (borne of an opiate-like cocktail of oxytocin, dopamine, serotonin and endorphins), but those feelings do not preclude us from behaving unlovingly toward others. For the sake of this treatise, however, I am going to talk more about the extraordinary and unique power of our own internal experiences, and how those sensations, as a metaphor and literally, destroy two of the main characters in this tale: Kirk and Rayna. First, Rayna:

KIRK: Rayna, come with me.

FLINT: Stay.

RAYNA: I was not human. Now I love. I love.

(She collapses. McCoy checks for a pulse)

FLINT: You can't die.

KIRK: What happened?

SPOCK: She loved you, Captain. And you, too, Mister Flint, as a mentor, even as a father. There was not enough time for her to adjust to the awful power and contradictions of her new-found emotions. She could not bear to hurt either of you. The joys of love made her human, and the agonies of love destroyed her.

Again, I must caution that in this book I am steering clear of the perhaps soapoperatic and superficial narratives and trying instead to examine the unknown universe: that of brain and mind, of neuro-physiology and bioelectricity and chemistry, of neurons and dendrites and myriad functions we often ignore as we grasp for understanding and integration.

Rayna dies because her internal experience overwhelms her system. The neurological experience that we call "agony" -- the explosion of adrenaline and cortisol most often associated with such experiences, the involuntary responses of her amygdala, her hypothalamus and sympathetic nervous system, that precipitate such profound dysregulation -- literally cause her biological functions to cease. (Yes, she is an android. But if one theme repeats itself throughout all of the Star Trek series, it is that androids, and cybernetic beings in general, are not simply robots; they are living beings, and as such we will assume that their internal experiences are driven by biological processes not unlike our own.)

Rayna's death is *not* the stuff of science fiction. The fact is, people do at times die when their nervous systems become dysregulated, when the flood of destructive hormones and neurotransmitters is so overwhelming, that the body simply cannot recover. People die of heart attacks when they are perhaps terrified or surprised, when a massive adrenaline rush causes their hearts to, well, explode. People die when, awash in too much cortisol and over too much time, a blood vessel in their brains bursts. This is a biological occurrence; it's no metaphor.

As for Kirk:

MCCOY: Well, I guess that's all. I can tell Jim later or you can. Considering his opponent's longevity, truly an eternal triangle. You wouldn't understand that, would you, Spock? You see, I feel sorrier for you than I do for him because you'll never know the things that love can drive a man to. The ecstasies, the miseries, the broken rules, the desperate chances, the glorious failures, the glorious victories. All of these things you'll never know simply because the word love isn't written into your book. Goodnight, Spock.

SPOCK: Goodnight, Doctor.

MCCOY: I do wish he could forget her.

(McCoy leaves. Spock goes over to Kirk and initiates a mind meld)

SPOCK: Forget.

In such a poignant moment in this story, Mr. Spock, employing his Vulcan powers of mind transformation, helps Kirk "forget" Rayna, forget the pain. From a purely

neuro-physiological standpoint, Spock's intervention in Captain Kirk's experience, in his history, alters Kirk's internal experience and (we must assume) balances out his neurology -- Spock in a very real sense regulates Kirk's nervous system.

Wow! Wouldn't we all, from time to time, love to have a friend like that! But of course there's a dark side, because we all know from experience that we are indeed able to build capacity for "agony," that we are able to withstand the inner turbulence of our fallible neuro-physiology, and this resilience in some ways defines at least a portion of our life's journey.

On final note: It's up to us to decide how we should move through the world, through life, as we seek both neurological homeostasis and also strive to live to our very fullest. Love and relationship perhaps embody the essential nexus of this existential journey; it's up to us to decide how to proceed as we navigate such mystical waters.

CHAPTER NINE

A PIECE OF THE ACTION (Season Two, Episode #46)

Plot Summary (Wikipedia): The Federation starship USS Enterprise has been ordered to Sigma Iotia II, where the space vessel Horizon was reported missing 100 years earlier. The ship receives a message from Bela Okmyx, an Iotian, who promises information about the Horizon and invites the crew down to the planet. First Officer Spock notes that their interference in the planet's development could violate the Prime Directive, but Captain Kirk points out that the Horizon's arrival a century ago would have already contaminated the culture. Kirk, Spock, and Chief Medical Officer Dr. McCoy transport to the planet. They find themselves in a city fashioned after an American city of the 1920s, and some of the residents appear to be gangsters carrying Tommy guns. Okmyx's men escort the landing party to his offices; en route, they observe a drive-by shooting that kills one of their escorts, but the other continues on as if nothing had happened. They arrive at Okmyx's office, where Okmyx orders his men to make a retaliatory attack against a rival gang led by Jojo Krako. Spock discovers an Earth book, Chicago Mobs of

the Twenties, published in 1992, and determines it was left by the crew of the Horizon. The Iotians have modelled their entire society on "The Book", which they regard with near-religious reverence. Okmyx demands the Enterprise crew supply his gang with phasers, and when Kirk refuses, threatens to kill them. The landing party is held while Okmyx uses a communicator to repeat the demand to Chief Engineer Scott. Kirk distracts their guards by intruding on their poker game and teaching them the fictitious game of "Fizzbin", allowing Spock and McCoy to overpower them. McCoy and Spock flee to a radio station to contact the Enterprise and transport back to the ship, while Krako's men capture Kirk. Krako demands phasers of Kirk as well, offering to cut him in for a third of "the action" in exchange. Kirk offers a peaceful solution, but Krako refuses and confines him, threatening to kill him by slow torture if he doesn't cooperate. Okmyx contacts the ship, informs them of Kirk's capture, and offers to help rescue Kirk if they will help him. Spock and McCoy return to the planet, but are quickly captured by Okmyx. However, Kirk has managed to engineer his own escape, and arrives in Okmyx's office in time to rescue Spock and McCoy. The three set a plan in motion. Taking suits and hats from Okmyx's men, Kirk and Spock return to Krako's office and gain entrance with the help of a local teenager. Quickly subduing Krako's men, Kirk informs Krako that the Federation is taking over the entire planet, but if Krako helps to maintain order and be a willing agent of the Federation, they will give him a "piece of the action". Krako agrees, but for safekeeping, Kirk transports him to the Enterprise. They then make the same

offer to Okmyx, which he quickly accepts. As they prepare for the meeting of all the planet's bosses, Krako's men attack Okmyx's headquarters, but the Enterprise uses the ship's phasers to stun the men as they approach. Both Okmyx and Krako realize that they are at Kirk's mercy, and agree to work for the Federation. Kirk installs Okmyx as the top boss with Krako as his lieutenant, and states that a Federation ship will come by once a year for their 40% cut of the planet's "action". Kirk, Spock, and McCoy transport back to the Enterprise where Kirk proposes that the Federation's "cut" be used in a planetary fund to guide the Iotians into a more ethical society. McCoy reveals that he left his communicator on the planet. Kirk and Spock note that the Iotians will analyse the technology. Kirk amusingly states that the Iotians may one day be in a position to demand "a piece of our action!"

An epically fun and iconic episode, *A Piece of the Action* is perhaps the most oft-quoted of any from the pantheon of Star Trek's myriad quotables. Indeed, Fizzbinn is the Quidditch of the Star Trek universe, and Spock's famous quip -- "I'd advise yuz to to keep dialing, Okmyx (pronounced ox-mix)." -- rolls off of the tongues of Star Trek aficionados like scriptural references roll from the mouths of the multitude of pastors who stand at the front of America's church pulpits.

For the purposes of this book, and relative to the ideas contained herein regarding the power of our misunderstood collective neurology, I am going to briefly comment on -- you guess it -- *The Book*:

(Spock has discovered a book on a lectern.)

SPOCK: Captain? Gangsters. Chicago. Mobs. Published in 1992. Where'd you get this?

OXMYX: Hey, wait a minute. That's the Book.

KIRK: I know it's a book.

OXMYX: The Book. They left it, the other ship. The Horizon.

SPOCK: This is the contamination, Captain. Astonishing. An entire culture based on this.

MCCOY: You said they were imitative, and the book...

OXMYX: I don't want any more cracks about the Book.

MCCOY: One book on the gangs of Chicago did all this. It's amazing.

SPOCK: They evidently seized upon that one book as the blueprint for an entire society.

MCCOY: It's the Bible.

The human brain (And clearly the Iotian brain as well) is quite a fascination. In a condemnatory ode to dogma and fundamentalism, and perhaps as an ideological statement about religious intolerance or political overbearingness, *A Piece of the Action* makes the case for rejection of such blind adherence to doctrine by pointing out the comic absurdity of the Iotian's loyalty to The Book.

For our purposes, there's perhaps more here than meets the analytical eye.

Why, for example, do all of the Iotians hold fast to their belief in the primacy, in the inviolability, of The

Book? I would posit it's because to reject the book, to question the narrative, would place too much neuro-physiological strain on any naysayers. Believing in the truth as explained by The Book means that you belong to the cult, and in belonging life makes sense, and the physical sensations associated with life making sense -- with a regulated nervous system and with neurological homeostasis -- are the Kohinoor diamond of all existence.

Just look at the world today! The proliferation of myriad conspiracy theories, and the online environment and echo chambers in which these delusions grow and multiply, makes absolute and complete sense -- *the nonsense is entirely sensible!* For most people -- nay, for all of us -- belonging to the tribe, feeling connected, precipitates in us sensations that are invaluable to our physical health and well-being. This is of course why, during times of greatest stress and dislocation, extremism and cultism find a most verdant and fertile ground for growth.

Again, this is *not* about values and ideology; this is the story of our most lovely and tragic human biological frailty. And thanks to Star Trek, we get to smile a bit as we reckon with our own unexplored and at times disastrous regions of human *inner* space.

CHAPTER TEN

SHORE LEAVE

(Season One, Episode #15)

Plot Summary (Wikipedia): The USS Enterprise, under the command of Captain Kirk, arrives at a planet in the Omicron Delta system. Scans reveal the planet to be congenial, and the crew is exhausted after three months of continuous operations. Kirk announces shore leave for all off-duty personnel. Not long after beaming down, the landing parties experience strange occurrences. Chief Medical Officer Dr. McCoy sees a large, anthropomorphic white rabbit hop past, and a moment later Alice, from Lewis Carroll's Alice in Wonderland, asks McCoy if a rabbit has passed by. Lt. Sulu finds an antique Colt Police Positive revolver and is attacked by a katana-wielding samurai. Yeoman Tonia Barrows is accosted and attacked by Don Juan. Kirk gives no credibility to the landing parties' reports, and Science Officer Spock persuades him to beam down for shore leave by pointing out that his performance as captain has severely deteriorated due to his lack of relaxation. After McCoy shows Kirk large rabbit tracks as proof, Kirk is accosted by young Starfleet Cadet Finnegan, a cocky Irish practical joker who was the bane of

his existence in his Academy days; and a former girlfriend, Ruth, whom he has not seen in years. Kirk orders a temporary halt to the beaming down of personnel until the landing party can discover what is happening. Spock reports that the planet is emanating a force field that seems to be drawing energy from the ship's engines. The energy patterns suggest some kind of industrial activity. Spock beams down to gather sensor readings as communications between the ship and crew members on the planet's surface are becoming impossible, thereby stranding himself on the surface as the transporters become useless. After Yeoman Barrows finishes changing into a medieval dress, a knight on horseback charges her. McCoy steps in front of Barrows to protect her, and is impaled with the lance. Kirk shoots the knight with the pistol he confiscated from Sulu. Kirk and Spock analyze the body of the knight and find out it is not human, but rather composed of the same material as the vegetation on the planet's surface. A World War II fighter plane then strafes the landing party, and during the commotion, the bodies of Dr. McCoy and the knight mysteriously vanish. Spock deduces a connection between the visions and the landing party's thoughts, and asks Kirk what was on his mind just before his "vision." Kirk recalls thinking of his academy days; then, as Spock expected, Finnegan reappears. Finnegan taunts the Captain and then runs off. Kirk chases him into a ravine where they have a fistfight. Taking revenge for all the torment the upperclassman put him through as a plebe, Kirk knocks out Finnegan. Spock and Kirk realize that their thoughts are conjuring up their fantasies, but also that the visions are starting to prove

deadly. Kirk orders everyone to come to attention and stop thinking about anything. An elderly man appears and identifies himself as the "Caretaker." Accompanying him is Dr. McCoy, who was revived by the sophisticated machinery below the planet's surface. McCoy shows off the two Rigelian cabaret girls he conjured up, to the irritation of a jealous Yeoman Barrows. The Caretaker informs Kirk that the planet is a sophisticated "amusement park," but its constructs are not designed to be harmful or permanent. He apologizes for the misunderstandings and offers the services of the planet to the Enterprise's weary crew, with the caution that the visitors must choose their amusements with care. Kirk accepts the offer as Ruth appears again, and he authorizes the crew to beam down. The leisure-loathing Spock, however, requests to be returned to the Enterprise.

My final episode of interest in this amazingly fun book to write is another silly one (on the surface), but one which nonetheless provides some profound implications vis-a-vis the brain, the mind, and the vast internal landscapes of our personal neurology.

Basically, in this story, whatever an individual unconsciously *thinks* about is created as an external reality by the keepers of the planet. So for example, Captain Kirk has memories about a man named Finnegan from his academy days. Kirk longs to get revenge on the mean-spirited and practical-joking Finnegan. And lo and behold, Finnegan appears and the battle is on! Of course, this story quickly gets out of hand, as all manner of realities are manifested through the unconscious machinations of the

numerous human brains that have beamed down to the planet for a little rest and relaxation.

The concept that our brains wander about, that thoughts arise without our awareness, and that these free-floating daydreams manifest some kind of reality (extremalized of course in this episode) is indeed compelling. But what is more important for our consideration, and given the thesis and focus of this little booklet, is that these externalizations of the unconscious brain in the episode *Shore Leave* are perhaps no different than what actually happens to us all on a daily basis. In other words and what I am arguing here is that, because we often believe in the veracity, the reality and truth, of our unconscious wanderings and meanderings, those meanderings often end up taking form and shape in our actions and choices and behaviors out in the real world. So we don't need the corporeal Finnegan to appear, because we bring to life the ideas of vengeance and the sensations of anger (adrenaline, noradrenaline, etc.) in our daily interactions with the world -- the daydreams precipitate feeling-states, and the feeling states, if unexamined, in turn form our realities.

I chose this as the final of my ten episodes to examine because again the story, and my argument herein, is one of great caution. I guess I'm making a plea of sorts:

It's not enough to simply "know thyself" (Socrates?); we have to become assiduous and acute observers of our *physiological* responses to the stimuli of the world. We have to build an awareness around the sensations we

experience in our *bodies*, and not fall lock step in line in pursuing all actions and paths that reinforce certain physiological states over others. We also have to have the courage to, from time to time, choose the journey that brings us to neuro-physiological stasis, to peace, rather than push our physical selves, our internal selves, past a place of health.

This then is the journey we must embrace -- where we must all boldly go.

CONCLUSION

Thanks for reading my book!

I hope you will consider what I have written here. We think that we are beings of the mind, beings whose actions and decisions are guided largely through our conscious alignment with values and beliefs. But there is a boundless and often unseen universe of neuro-physiological and internal physical experience that, if we are not paying careful attention, can compel us toward actions and behaviors that are neither in our, nor in anyone else's, best interest.

May you live long, and prosper.

Dan Weintraub 2021

BIO

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