NEUROETHICS AND THE DISSOLUTION OF THE MIND-BODY DIVIDE: AN EMPIRICIST PERSPECTIVE ON THE PROBLEM OF RETRIBUTIVE JUSTICE IN THE AGE OF NEUROSCIENCE

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Abstract

In this paper I will explore what I call the dissolution of the mind-body divide, and how advances in neuroscience are making it more difficult to determine culpability in a consistent way. I will argue that as neuroscience continues to advance society's knowledge about the brain, including the impact that heredity and environment can have on behaviour, questions of culpability become increasingly difficult to decipher. Subsequently, the legitimacy of our largely retributivist criminal justice system is called into question and the foundation on which the system was built becomes tenuous.

By exploring how courts already deem certain offenders as special cases, given health concerns, or even past experiences, I will demonstrate that as the courts begin to accept more and more factors as mitigation for criminal acts, the legitimacy of the criminal justice system will erode when it becomes clear all individuals are at the mercy of their genes and upbringing. In essence, I contend that because neuroscience currently shows that some actions are a result of uncontrollable genetic and environmental factors, as science progresses it will become possible to argue that any person suffers from a "mental illness" – and it will become impossible, and I would argue arbitrary, to consider some deviant behaviours as illness – and yet others as criminal.

I will briefly explore the roots of criminal behaviour, and the effectiveness of incarceration as a deterrent to crime, ultimately arguing that the criminal justice system needs to be completely overhauled in order to meet desired outcomes, and to satisfy emerging views about culpability. Using Indigenous restorative justice as an example, I will demonstrate that whatever replaces the existing system must include better social supports in order to prevent crime and welcome offenders back into the community.

Finally, I will conclude that policy makers must put a focus on the frank discussion of this topic as soon as possible, before the issue of arbitrariness and illegitimacy threaten to collapse the criminal justice system. In the Canadian common law context it is possible that a single court case will set a precedent that will overturn not only the legitimacy, but the legality of portions of the criminal code, leaving a problematic gap in the system.

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Neuroethics and the Dissolution of the Mind-Body Divide: An Empiricist Perspective on the Problem of Retributive Justice in the Age of Neuroscience

1. INTRODUCTION

The cornerstone of the Canadian criminal justice system is rooted in the Cartesian premise that humans are dualistic creatures with a body that works according to natural laws and a distinct mind or soul that can be swayed by the body, but ultimately makes decisions through a separate entity that is responsible for morals, intentions, and beliefs. This "mind" is responsible for an individual's will and ultimately for all uncoerced decisions (Descartes et al. 109–24). This dualistic perspective is demonstrated in a fundamental aspect of the justice system, in that the courts require both *actus reas*, a guilty act, and *mens rea*, a guilty mind, in order to convict an offender. By requiring a guilty mind, the system aims to spare individuals who act under duress, or who cannot be expected to take responsibility for their actions, due to age, ability, or circumstance, but what if humans are not dualistic? What if we are simple products of our genetic make-up and environment?

The current criminal justice system in North America is based on a view of human nature that includes free will. By imbuing individuals with free will, we can uphold the justice system as an equalizer that aims to punish criminals. The current trend in Canadian sentencing appears to be to adjust charges and punishments based on the understanding that some individuals have mitigating circumstances that lead them to commit crimes, essentially conditions which impact their free will, and this is a laudable goal, but I would argue will become problematic as advances in neuroscience continue to broaden the area of what could be considered legitimate mitigating circumstances. The more society accepts that individuals are at the mercy of their brains, the more we erode the traditional concept of free will, and as our belief in free will is

eroded, as a society we will struggle with maintaining a fair criminal justice system. I will set aside issues of prejudice, systemic racism, and classism that also affect criminal justice, as that is a topic for another paper.

In this paper I will explore what I call the dissolution of the mind-body divide, and how advances in neuroscience are making it more difficult to determine culpability in a consistent way. I will argue that as neuroscience continues to advance society's knowledge about the brain, including the effects that heredity and environment can have on behaviour, questions of culpability become increasingly difficult to decipher. Subsequently, the legitimacy of our largely retributivist criminal justice system is called into question and the foundation on which the system was built becomes tenuous. I contend that because neuroscience currently shows that some actions are a result of uncontrollable genetic and environmental factors, then as the science progresses it will become possible to argue that any person suffers from a "mental illness" – and it will become unreasonable, and I would argue arbitrary, to consider some deviant behaviours as illness – and yet others as criminal.

To build my argument, I will demonstrate that traditional North American views of what it means to be a human rely on a dualistic perspective that purports humans are both physical and mental, or perhaps better put, phenomenal and noumenal, and by exploring the work of Gilbert Ryle and Daniel Dennett, I will demonstrate that these dualistic beliefs have become entrenched in our society and language to such a degree that we take them for granted, and find it hard to communicate without them, or move beyond them. I will then turn to the work of Daniel Wegner and Sam Harris, and draw parallels between their arguments, and the rapidly widening realm of circumstances that are considered outside of an offender's control, laying the stage for the work

of Joshua Greene and Jonathan Cohen, neuroethicists who argue that neuroscience is eroding traditional conceptions about free will that are fundamental to maintaining the legitimacy of our criminal justice system. Finally, I will briefly touch on the work of prison abolitionist Angela Davis, as well as Indigenous systems of restorative justice, with a hope to shedding some light on how the criminal justice system could be changed to better serve citizens and better align with changing perspectives on culpability.

Through these arguments, I hope to demonstrate that as neuroscience and psychological assessments of competency continue to be used as evidence in criminal trials, it will become more difficult for people to cleave to the idea of dualism. In fact, the current system already makes concessions for offenders who are deemed mentally ill, have suffered certain types of hardship, or who acted under extenuating circumstances. If these mitigating factors can be used to exonerate some individuals, why not all? Who is to say what genetic factors, or life experiences predispose someone to crime? As neuroscience progresses it is only becoming clearer how little knowledge humans have regarding what factors impact an individual's behaviour or dispose him to crime. I contend that some neuroscientific advances, coupled with the inconsistent application of special sentencing, will create problems in the application of criminal laws, as citizens begin to believe that all individuals are just victims of their genetics and circumstance.

I hypothesize that as science continues to demonstrate the link between heredity and environment to actions and behaviours, the fundamental principles on the which retributive criminal justice system is based will need to be closely examined and evaluated, and likely adjusted accordingly. Unless there is a robust discussion of these issues in the public realm, there

is a risk that the current retributivist foundation of the criminal justice system will lose credibility. Despite the fact that 1585 judicial opinions issued between 2005 and 2012 in appellate courts in varying jurisdictions in the United States make reference the use of neurobiological evidence (Farahany), [t]he current engagement of the criminal justice system with now arriving neuroscience is messy, unsystematized, undertheorized, [and] underinvestigated (Jones et al.). Unfortunately, in the face of rapid scientific advances, and an increasing call to make judgements based on neuroscientific evidence, judges have been and will continue to make inconsistent and potentially precedent-setting rulings that may have damaging consequences. I will argue that fruitful discussions must begin now, before the issue becomes urgent, there is potential to create a more effective and fair criminal justice system.

Exploring the work of Raymond Paternoster, who looks to the writings of Beccaria and Bentham, Angela Davis, alternative sentencing and justice practices, and the socio-economic roots of criminality, I hope to demonstrate that a more effective and legitimate criminal justice system would rely on preventative justice and rehabilitation. Such a system would be a shift from a mainly retributivist system to a wholly consequentialist one. It is my contention, that by creating a system that attempts to undo the root causes of criminal behaviours, the issue of free will and personal responsibility is replaced with a question of how best to support citizens in achieving meaningful and law-abiding lives. In this way, neuroscientific advances could support rather than undermine the justice system.

To support my hypothesis, I will explore the classic conversation surrounding free will, with a view to demonstrating how advances in neuroscience are affecting traditional perspectives on what it is to be human. Arguing from an empiricist perspective, I will assert that humans are

wholly physical beings, as put forward by David Hume. I hope to contrast the empiricist perspective with that of the well-known rationalist René Descartes, who believed that humans are dualistic, and as such capable of making moral decisions irrespective of physical circumstances. The argument against Descartes is fundamental to my thesis, as Cartesian dualism is at the heart of our society, and consequently the foundation of our most important institutions, including the criminal justice system. To demonstrate why the dualist foundation of our criminal justice system is problematic, I will link these dualist intentions to the retributive nature of the system. A retributive system is problematic if free will is shown to be an illusion, because if individuals are not freely deciding to commit crimes, it can be argued that it is not fair or even moral to punish them.

I will argue that scientific advances are leading to a situation where the courts are no longer able to fairly and consistently apply considerations related to mitigating circumstances, as it becomes evident that the actions of *all* citizens are greatly, if not wholly, impacted by their genetics and environment. Once the courts are unable to make fair and consistent rulings, confidence in the criminal justice system will begin to erode, and the mainly retributivist system will need to be adjusted to account for new ideas about culpability and free will. In light of the ever-evolving breakthroughs in neuroscience, how can new understandings about self and intention inform a fair and effective criminal justice system?

I will explore the arguments of neuroethicists Joshua Greene and Jonathan Cohen, who suggest that neuroscientific advances have begun, and will continue to erode society's beliefs about autonomy and culpability. They argue that this erosion will create a friction between the retributivist nature of North American criminal justice and new understandings about culpability.

Essentially, they question how society can continue to uphold a criminal justice system that punishes culpability, if neuroscience continues to demonstrate that an individual should be deemed less culpable of a crime due to his heredity or the environment in which he was raised (Greene and Cohen). I will ask the further question, how can courts determine which factors affect criminal behaviour, and which do not, and argue that they can't.

Authors who fully refute Greene and Cohen argue that free will is not required for criminal culpability, and that the law only requires an offender know the difference between right and wrong, and that he acts without coercion (Hardcastle; Dubljević). By exploring how neuroscientific advances are calling into question the fundamental assumptions of our justice system, I will demonstrate that the distinction between agency and free will is not strong enough to put aside the concerns raised by neuroethics. The current trend in Canadian criminal justice demonstrates a growing desire to accommodate certain individual's past and current circumstances when evaluating or judging his or her actions, and I hope to demonstrate that we have already begun the journey towards a justice system that recognizes the mitigating circumstances offenders.

The current Canadian justice system provides accommodation for offenders suffering mental illness, or particular environmental circumstances, and while this is an important step toward upholding fairness in the courts, a critical and honest discussion is required to ensure some measure of consistency across the system. Without a set of ethical principles to guide decision makers, decisions on culpability risk losing legitimacy and appearing arbitrary. I hope to bring these arguments together to demonstrate that the current criminal justice system is

ineffective, inconsistent, and arguable immoral, and requires not small reforms, but a full-scale revolution.

1.1 Key Terms

In order to better guide the reader, I will provide a brief definition of the key terms I intend to use throughout this paper.

Neuroscience – For this definition, I turn to the Department of Neuroscience at the Georgetown University Medical Centre, which describes neuroscience as "the study of how the nervous system develops, its structure, and what it does." Noting that "[n]euroscientists focus on the brain and its impact on behavior and cognitive functions[, and that n]ot only is neuroscience concerned with the normal functioning of the nervous system, but also what happens to the nervous system when people have neurological, psychiatric and neurodevelopmental disorders" (*About Neuroscience*).

Retributive Justice – I will be writing with a focus on the North American model for criminal justice, and in that context I will be using the definition provided in the Stanford Encyclopedia of Philosophy, which defines retributive justice as a system based on the following general principles:

1) "that those who commit certain kinds of wrongful acts, paradigmatically serious crimes, morally deserve to suffer a proportionate punishment;

2) that it is intrinsically morally good—good without reference to any other goods that might arise—if some legitimate punisher gives them the punishment they deserve; and
3) that it is morally impermissible intentionally to punish the innocent or to inflict disproportionately large punishments on wrongdoers (Walen)."

I will also be relying on the premise that this type of a system is necessarily based on a belief that humans have free will and thus deserve punishment for their crimes.

Consequentialism – I intend to refer to consequentialism as the opposing theory to retributive justice. In the context of the criminal justice system, I will rely on the definition from the Internet Encyclopedia of Philosophy which notes that:

> consequentialism holds that the rightness or wrongness of actions—or rules for action, or (relevant to our context) institutions—is determined solely by their consequences…thus for punishment to be justified, it must be the case that it brings about other, sufficiently valuable consequences to outweigh its onerousness for the person on whom it is inflicted…a necessary means to the socially valuable end of crime reduction, through deterrence, incapacitation, or offender reform. (*Moral Permissibility of Punishment | Internet Encyclopedia of Philosophy*)

In opposition to the definition of a retributive system, which requires individual free will to maintain legitimacy, I will maintain the position that a consequentialist system does not require free will, and instead requires only that the criminal justice system, and perhaps other institutions are designed to deter crime, reform offenders, or perhaps even prevent crime through targeted social programs.

Libertarianism – For ease of reference, I will refer to the belief in free will as "libertarianism," as do Joshua Greene and Jonathan Cohen.[1] Green and Cohen do not provide a comprehensive definition of libertarianism, but contrast it with compatibilism and determinism. For a more explicit definition, I have turned to the Internet Encyclopedia of Philosophy which describes "free will as the capacity unique to persons that allows them to control their actions." In the context of the criminal justice system, in a libertarian world everyone is responsible for his actions, except in special circumstances such as duress, illness, or incapacity.

Determinism – The Stanford Encyclopedia of Philosophy notes that "[t]he world is governed by (or is under the sway of) determinism if and only if, given a specified way things are at a time t, the way things go thereafter is fixed as a matter of natural law." Although my argument will not be focusing on whether the whole of the universe is deterministic, my exploration of the effect of neurological activity on behaviour, is a microcosm of this deterministic universe. I am applying this concept to the question of free will in one individual, and exploring the impact a deterministic perspective has on the concept of individual culpability.

Compatibilism – A definition of compatibilism relies on the already established definitions of libertarianism (free will) and determinism. "Compatibilism is the thesis that free will is compatible with determinism. Because free will is typically taken to be a necessary condition of moral responsibility, compatibilism is sometimes expressed as a thesis about the compatibility between moral responsibility and determinism" (McKenna and Coates).

[1] Given my focus on the work of Greene and Cohen and the lack of a better term, I have opted to use "libertarianism" here instead of repeatedly referring to "free will".

Autonomy – To define autonomy I will be looking to Veljko Dubljević, a critic of Greene and Cohen who notes:

> autonomous actions could be analyzed in terms of competent choosers who act (1) voluntarily or intentionally (volitional component), (2) with sufficient information and understanding (cognitive component), and (3) without controlling influences that would override already chosen actions (liberty component). These controlling influences can take the forms of either external coercion or internal compulsion." (Dubljević 46)

The definitions of *empiricism*, *rationalism* and *dualism* are described in detail in the next section, which expands on the theoretical framework through which I will be approaching my research question.

2. THEORETICAL FRAMEWORK

In order to demonstrate that humans are wholly physical entities, not dualist with a mind and body, but just a body with a brain, I will be approaching my research problem from an empiricist perspective.

2.1 An Empiricist Perspective in a Dualistic System

Given that I am going to explore the fully physical nature of human beings (in contrast to a dualistic view of personhood), I intend to approach the issue from an empiricist perspective. The 17th century saw the birth of the modern scientific method, and consequently the opposing theories of empiricism and rationalism, championed by Francis Bacon and René Descartes respectively. Bacon's theory later expanded and improved upon by thinkers such as David Hume and John Locke, is the lens through which I intend to approach my research question.

Empiricists contend that human knowledge can only come from experience, and that humans are physical creatures who act based on what they believe will be the probable outcome of those actions. These actions are simply complex physical occurrences, and the human body, including the brain, works like a complex machine. In contrast, rationalists argue that humans have a mind, a non-physical self that is the source of knowledge, and which is responsible for choice. The most prolific rationalist theory is Cartesian dualism, the belief that humans are both physical and mental, and these two facets of personhood are intertwined and impact each other. In contrast to Descartes, and in line with empiricism, I will be arguing that humans are not dualistic, but are instead a unitary entity composed of only a body, with a brain, but not a non-physical "mind". By approaching this problem from an empiricist perspective, I hope to make a compelling case for the fully physical nature of human beings, thus supporting neuroscientific conclusions about behaviour and free will.

The dualistic nature of our language and the implicit bias in our societal structures and systems is clearly demonstrated in the linguistic indicators "mental illness" and "illness" (which refers to non-psychological illnesses)." This distinction without a difference holds the implicit meaning that mental illnesses are somehow of a different quality, and not wholly physical. By arguing from an empiricist perspective, I will upholding my view that brain chemistry strongly impacts the actions of individuals, and that more progress is needed to explore and address this issue. This perspective informs my empiricist arguments about the wholly physical nature of persons, and my opinion that the term "mental illness" is problematic, as it lends itself to the inaccurate conclusion that the individual who is ill is suffering from something different from a physical illness, and this conclusion is inconsistently used separate offenders into the categories of guilty and not guilty.

As I am approaching this research problem from an empiricist perspective, I will begin by clearly defining what I mean when I refer to empiricism and its opposite rationalism. The Stanford Encyclopedia of Philosophy defines empiricism as the belief that "we have no source of knowledge in S or for the concepts we use in S other than sense experience" (Markie, Rationalism vs. Empiricism). That is to say, we obtain knowledge through our interactions with the material world. The birth of modern empiricism coincided with the enlightenment and the birth of the scientific method. Given that the epistemology of empiricism is based in the physical realm, it is clear how the theory is complemented by the scientific method, namely observation and experimentation to obtain knowledge. This revolution in thought provided the impetus for a theory of knowledge that looks to the world and sense experience, and as such, is the clear perspective from which to explore neuroscience, it being a field of research that focuses on the impact that brain and nervous system changes have on behaviour.

Post-enlightenment thinker David Hume argues that humans are wholly physical entities, essentially complex machines that work within a physical realm and make decisions based on probability and past experience. Hume notes that "reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them" (Hume 217). In this statement Hume is suggesting that reason is not a special sort of mental action, but part of the physical process of being human. Hume does not suggest there is a mind and a body that work together, or a mind that is responsible for decision-making based on reason, instead he purports that what we call reason is simply the thought process stemming from our desires. This particular perspective is integral to my argument, as it depicts not only the world, but humans, as solely material, and dispenses with the idea that humans are anything more than physical creatures. By accepting a fully material world, it becomes possible to explore how experience

and genetics affect the brain, and subsequently have an impact on an individual's behaviour. This perspective will allow me to explore the nature of human beings as non-dualistic, and fully physical, and how society's potential acceptance of the fully physical nature of humans will necessarily impact ideas about free will and culpability.

In contrast to the theory of empiricism, rationalists argue that: "some propositions in a particular subject area, S, are knowable by us by intuition alone; still others are knowable by being deduced from intuited propositions; and we have knowledge of some truths in a particular subject area, S, as part of our rational nature" (Markie). In other words, knowledge is not a product of experience or environment, but obtained through the mind. Perhaps the best known rationalist is René Descartes, who coined the phrase "*cogito ergo sum* – I think therefore I am" in his *Principles of Philosophy*. Descartes contended that humans are rational beings, with a body, but more importantly, a mind or soul. In order to situate my argument in opposition to dualism, it is vital that I describe Descartes' dualist theory, as I will later demonstrate how it has become entrenched in our language, ways of thinking, and ultimately our institutions.

In the *Second Meditation*, Descartes argues that he can have true and certain knowledge of his mental states, but nothing more, and that even though he observes the physical world, he has no basis to believe that his observations are accurate, or that the things he perceives actually exist. In his famous wax example, Descartes notes that all the characteristics we observe about a cold ball of wax are fundamentally changed when the wax is heated, but that we still know it is wax. This, he contends, is because we do not know the object through observation, but by the "mental power of judgment." He goes on to note that he "know[s] that even bodies are not really

perceived by the senses or the imaginative faculty, but only by intellect; that they are perceived, not by being touched or seen, but by being understood…" (Descartes et al. 75).

If we unpack Descartes' example, we could ask what is meant by "mental power of judgment" or "being understood." An empiricist might argue that this judgment or understanding is in fact the culmination of repeated experiences with wax exposed to heat. To wit, if a young child who has never seen wax is shown both the cold ball and the melted puddle, without having seen the process of melting, he will likely not deduce that they are both the same substance. It seems the only way he could make the connection would be either by seeing the transformation from hard to soft wax, or being told by someone else. Rather than proving his argument, Descartes' wax example seems to uphold the empiricist perspective that knowledge stems from experience. Descartes does not solve the mystery of what or where a mind is, how mental processes are different from brain processes, or how a "rational" substance like the mind, can interact with and impact the physical substance of the body. He states that the only knowledge possible is that which comes from the mind, but does not provide a reason why or explanation of how mind processes are different than brain processes.

The erosion of the dualist perspective is problematic in a retributive system, because individuals are judged based on their actions and intellect, based on the assumption that they are fully responsible for both. As I mentioned in my introduction, the foundational concept of the current criminal justice system is to punish those who *deserve* punishment because they acted freely according to a decision made in the mind. In this context, they have not only committed a guilty act, but had a guilty intention. Although I will not be exploring the topic here, the erosion of the Cartesian concept of mind-body duality also has implications for the merit-based systems

that reward hardworking and intelligent individuals on the grounds that they have earned, or *deserve* rewarding.

2.2 The Entrenched Dualist Bias in our Society

Now that I have established my interpretation of both empiricism and dualism, I hope to shed some light on how the dualistic nature of our language continues to colour our institutions, and even to act as a barrier to progressive change. In his work "The Concept of Mind," Gilbert Ryle explores Descartes' arguments for mind-body duality, and concludes that the discussion is fuelled by what he calls a "Category-mistake." To illustrate his concept Ryle provides a number of examples, including a foreigner watching a game of cricket who asks where the player is who is responsible for "team spirit," or a man who gets a tour of all the buildings on a college campus, and asks "but where is the college?" (Cooney 35). In these examples, Ryle demonstrates how words can be misconstrued or misused when they are assumed to be part of the same category. For example, you can ask me to put my name on a document, and also ask me to put a sticker on a document. In this case both the nouns "name" and "sticker" are used in the same way. However, I can ask you to "pass me a sticker," but it does not make sense to ask you to "pass me my name." This example demonstrates how in a certain context we use words in the same way which can lead us to wrongly place them in the same category, and subsequently create logical and philosophical problems, which would not otherwise exist. Ryle applies this argument to the longstanding philosophical discussion of mind and body.

Ryle describes the key mind-body question as "a problem [of] how a person's mind and body influence one another" and notes that the discussion is "charged with theoretical difficulties" (Cooney 32–33). He goes on to note that the description of thinking events as

private and non-physical and the description of body events as public and physical creates a situation in which the connecting events (where the mind impacts the body and vice versa) cannot fit into either category, and thus are not describable or understandable (Cooney 33). Herein lies the root of the longstanding quest for mind. Where is the mind, how does it work, and how does it impact the body? We do not have the words to answer this question, and the mind as described by Descartes is only non-spatial, non-mechanical, and non-accessible. Rather than describing the qualities of mind, Descartes leaves us to understand them as simply the opposite of those of the body.

The Category-mistake described by Ryle highlights the barriers that can be created by language, and the way in which these barriers can deeply colour the values and institutions of a society. As I mentioned above, the justice system is based on the belief that offenders must be guilty in both mind and body; there is no room in the current retributivist system to consider that the intention behind an act is itself nothing more than the manifestation of physical occurrences. The binary words we use, i.e. "mind and body," or "intention and action" make it difficult to talk about human behaviour in a non-dualistic way, ultimately hindering discussions about a justice system built upon the belief that offenders commit ill-intended actions chosen by their rational minds.

Daniel Dennett expands on this issue in his work "Intentional Systems," which explores the way in which language forces us into certain thought patterns. He notes that "a particular thing is an intentional system only in relation to the strategies of someone who is trying to explain and predict its behaviour" (Dennett 87). That is, we attribute rationality to others as a way to describe behaviours, not as a way to prove intent. Dennett uses the example of a chess-

playing computer, describing the assumptions made by its opponent as he tries to predict its next move. First, he begins with the simple "Design stance," which is the way of predicting the behaviour based on the knowledge that the computer has been programmed to perform in a particular way. He notes that, unless the computer malfunctions, the Design stance is a foolproof way to predict the computer's next move. If the computer were to cease functioning, its opponent may adopt a second stance, what Dennett calls a "Physical stance," this manner of observation and prediction relies on the predictor's knowledge of the laws of nature, or mechanics. Upon noting that the computer is no longer choosing logical chess moves, or perhaps choosing them at all, the opponent can assume that something has broken down in the mechanics of the system (Dennett 88-89).

The third type of stance described by Dennett, and the one most crucial to my arguments, is the "intentional stance". As chess-playing computers learn and improve, they become too complex to be reliably predicted by their opponents, or even their designers, and it is at this point that opponents begin to take an Intentional stance. In this case the opponent may "be able to avoid defeat by treating the machine rather like an intelligent human opponent"(Dennett 89). The observed entity, in this case the computer, is believed to be in "possession of certain information," and "directed by certain goals". Through his example Dennett sheds light on a key assumption regarding the belief that individuals act according to intention, rather than as programmed. He notes that "lingering doubts about whether the chess-playing computer *really* has beliefs and desires are misplaced; for the definition of Intentional systems I have given does not say that Intentional systems *really* have beliefs and desires, but that one can explain and predict their behaviour by *ascribing* beliefs and desires to them" (Dennett 91). Dennett goes on to note that the complexity of the chess-playing computer is not equal to that of the intelligent

human or animal, but that "on occasion a purely physical system can be so complex, and yet so organized, that we find it convenient…to treat it as if it had beliefs and desires and was rational" (Dennett 91-92).

Once Dennett has fleshed out his Intentional stance, it can be applied to assumptions and interactions between humans. He notes that in particular, when dealing with those we deem "insane" we often go looking for factors that we suspect are impeding their rational intentions (Dennett 94). In short, the way that we talk about others, and the intentions that we ascribe them are the product of our taking Intentional stances. The fact that we discuss a person in this way, does not mean that he has a mind or soul, or is a self-conscious moral agent, but simply that he appears to be an Intentional system, and as mentioned above, an Intentional system need not be a dualistic mind-having person, but can be a highly complex chess-playing machine (Dennett 100-101). Dennett's arguments complement those of Ryle, by highlighting once again just how strongly language can impact our understanding of the world and others, and how much it can create a need to explain brain events as somehow of a different quality than physical or mechanical processes.

Understanding the dualist nature of our language can aid in demonstrating just how deeply entrenched dualism is in our society, but we can also see this entrenched ideology as evident in the nature of the criminal justice system in North America. Criminal justice in Canada and the United States, as well as much of the world, is rooted in the concept of retribution. In a retributive system, those who willingly and knowingly commit criminal acts are held morally responsible, and it is right and moral that they be punished in a proportionate way (Walen). North America's systems, and those of many other nations, display dualist roots by requiring

mens rea and *actus reas*, it is not enough that an offender committed a guilty act, he had to have carried it out freely according to his intention. By ascribing intention to an offender, it becomes morally permissible to punish him. If our society begins to believe that individuals are not dualistic, but are in fact complex machines, the morality of punishment is called into question, as it seems counter-intuitive to punish someone who could not help but act in a certain way.

2.3 The Current Ideological Foundation of Criminal Justice in North America

The dualist foundation of our criminal justice system necessarily credits individuals with free will, or the very least free agency. We rely on our observations of offenders, as well as facts about the circumstances and the offense to determine what we deem is a just and moral punishment. To rephrase, in order for a system to mete out *deserved* punishment, an individual must be able to deserve it. This may be best highlighted by contrasting the human justice system with that for animals, we do not try animals in court when they act violently or dangerously, and any action taken against the animal is done to ensure the safety of other animals and humans, not to *punish* the animal. For example, if a dog bites a child, and the dog is deemed unable to change its behaviour in future, the dog may be euthanized, or at the very least required to wear a muzzle. Muzzling or euthanizing a dog is not meant as a punishment, but a safety measure to avoid negative consequences. In so much as the criminal justice system seeks to institutionalize the criminally insane, it is consequentialist in this way, but in contrast to the way dogs are policed, the vast majority of criminal punishments do not seek or succeed to reduce recidivism or inhibit future crimes (Fazel and Wolf 1; Richie 23).

Thus, we work within an almost wholly retributivist system. Offenders are judged guilty and punishment is meted out accordingly. Those who repeatedly commit crimes are judged more

harshly, and those who are the subject of mitigating circumstances, such as age or disability are given special consideration. An obvious conclusion to take from our system is that by and large we believe individuals to be the architects of their own fortunes. From this perspective, an individual who commits a crime has most likely done so because he was ill-intentioned, and rather than choosing to abstain, he chose to commit a crime in flagrant disregard of the law and the safety of others. In some cases an individual may be so ill that he commits a crime unknowingly, or because he could not control his actions, in such a case we may pardon the offender, or require him to seek medical care or other assistance.

Greene and Cohen suggest that our retributive system is rooted in our beliefs about free will, and an individual's ability to choose to commit a crime. They posit that this belief has led humans to develop a criminal justice system based largely on retribution, a system that strives to ensure each person gets his "just desserts". The problem then lies in the incompatibility of this retributivist system with our evolving intuitions about free will, an evolution caused by advances in neuroscience. If no man has free will, then no man can be blamed for his actions, and consequently, he should not be punished for his crimes.

Stradella, Tresan and Fileva, and Greene and Cohen all support the argument that the modern criminal justice system in North America relies on a combination of mainly retributivist reasoning. Although they accept that in some ways the system is impacted by consequentialism, for example lifetime incarceration of dangerous offenders to prevent future crimes, they argue that by and large the system seeks to punish offenders based on the gravity of, and perceived intentions behind their actions. The most obvious evidence of the retributivist nature of the system is the goal of punishment, rather than that of crime prevention or rehabilitation, goals

which seem elusive within our current prison-centred system. Perhaps it was best put by Nicholas Turner in the documentary film 13th who noted "where we've moved as a society is that, it's not enough to just deprive you of your liberty, but we want to punish you too" (DuVernay, pt.1:15:37).

Operating from a dualist perspective that upholds free will as a key characteristic of humanity, the retributive justice system makes sense, but what if humans are not responsible for their choices? How can an individual deserve a punishment if he does not possess true intent? And what proof do we have that individuals have a real choice, or that we have accurately deduced their intentions? To use Dennett's language, we attribute intention to others by taking an Intentional stance, but this perspective does not prove that actions stem from a rational intention, only that the best way to predict and understand actions, is by the attribution of such intent.

Researchers, such and Greene and Cohen, Wegner, and Harris write from an empiricist perspective, highlighting the fully physical nature of persons, and denying the existence of any non-physical mind. They also argue that a lack of such a mind necessarily leads to the conclusion that humans lack free will and thus should not be held accountable as they currently are under the traditional retributivist model. Greene and Cohen take the argument further, and suggest that as intuitions about free will change due to advances in neuroscience, they will create a friction with the criminal justice system as intuitions about culpability butt up against traditional models of punishment. We can no longer uphold a retributive system if we no longer accept that individuals are responsible for their actions. These perspectives support my contention that as humans learn more about how the brain works, and its impact on behaviour, it will become harder to accept the existence of free will, which will ultimately make it difficult to uphold a

retributive justice system. A system which risks becoming arbitrary and incredible as more and more inconsistent rulings are meted out on the basis of neuroscientific evidence.

In the next section, I will explore the traditional discussion of free will within the context of neuroscientific advances and neuroethics. By exploring how neuroscience is currently being used in criminal cases, as well as traditional views about free will, culpability, and autonomy, I hope to shed some light on the impending issue of retributive justice in a society that is losing faith in the doctrine of free will and crime and punishment.

3. NEUROETHICS AND FREE WILL

The question of whether humans have free will is one dating back centuries, and like most of all great philosophical debates, it has carefully developed arguments demonstrating mutually exclusive solutions on completely opposite ends of a spectrum. On the side of free will are the libertarians, understood here as free willists, who argue for a universe with a future yet to be determined, a future which can be impacted by the freely made decisions of individuals. On the opposite end of the spectrum lie the determinists. Determinism posits that once the universe was set in motion it began an inevitable chain of causally related events which ultimately cannot be changed, even if individual decisions feel free, and appear to have an impact on future occurrences. The moderate position in this discussion is referred to as compatibilism, and as its name suggests, it attempts to reconcile the seemingly incompatible stances of determinism and libertarianism. Compatibilists argue that it is not logically incoherent to believe that humans possess freedom of action in a deterministic world (McKenna and Coates). This compatibilist

view is often used to uphold the argument that humans should be held accountable for their actions, including those of a criminal nature. For example, free will and autonomy are described as distinct concepts, the former a concept appropriate for abstract philosophical discussion, and the latter an important pillar in political life, as explored by Veljko Dubljević who posits that "the concept of autonomy embedded in the legal and political system does not presuppose libertarianism nor compatibilism and/or determinism. Autonomy is a political construct within a political conception that can (but need not) be supported by different comprehensive (e.g., metaphysical) doctrines (Dubljević)". I will argue that this separation of philosophical concepts from practical realities is fast becoming problematic, as neuroscience begins to eat away at ideas about not only free will, but also autonomy, or freedom of action. In a society that is beginning to accept social and neurological factors as mitigation for criminal activity, I argue that this distinction without a difference is disappearing, and that compatibilist views, such as those put forward by Dubljević are no longer defensible.

3.1 A Lack of Free Will

In support of my thesis, I turn to Daniel Wegner's work, *The Illusion of Free Will*. In his book, Wegner argues that our experience of free will is nothing more than that, an experience. Throughout Chapter 3, Wegner explores a number of experiments in which individuals are made to believe they have willed events, or are asked to describe their perception about the causes of events. Wegner argues that although the experience of conscious willing is an important part of being human, and is undeniable in its occurrence, it is no more than a perception, and is not the actual cause of our actions (Wegner). To support his theory, he puts forward "three key sources of the experience of conscious will–the *priority*, *consistency*, and *exclusivity* of the thought about the action. For the perception of apparent mental causation, the thought should occur before the

action, be consistent with the action, and not be accompanied by other potential causes" (Wegner). These three key sources are integral to demonstrating how a mind can be mistaken in its belief that it is the cause of an action. For example, in the "I Spy" study, in which subjects were paired with a partner who, unbeknownst to them, was not taking part in the study as a subject, but as part of the experimental apparatus. Subjects were to move a mouse around a screen in partnership with the non-subject and according to instructions heard through headphones. The messages in the headphones would sometimes include the name of one of the objects on the screen and would ask subjects to stop the mouse at random intervals. Nearly immediately after the subjects had heard the name of an object, the non-subjects would be directed to move the mouse to the named object. Despite the movement of the mouse being caused by the non-subject, subjects reported that they had intended to move the mouse to the named object and had been responsible for the action, and the shorter the period of time between the naming and pointing, the higher the likelihood that the subject believed they had willed and caused the action. The experiment was done with a variety of delays between naming and pointing, and demonstrated that individuals could easily be made to believe they had willed an action as long as the they could be convinced their thought about the action had come immediately before their perceived action (Wegner).

Through the example of the "I Spy" study, and various other experiments, Wegner demonstrates how an individual's belief about his intentions can shape his view of actual occurrences, if those beliefs conform to the three key sources of experience of conscious will. As long as individuals believe that they willed something before it happened, the closer the better, that nothing else had caused the action, and that the action was not inconsistent with their

previously expressed will, they could be made to experience a conscious will. Wegner concludes that:

> "the experience of will is the way our minds portray their operations to us, not their actual operation. Because we have thoughts of what we will do, we can develop causal theories relating those thoughts to our actions on the basis of priority, consistency, and exclusivity. We come to think of their prior thoughts as intentions, and we develop the sense that the intentions have causal force even though they are actually just previews of what we may do. Yet, in an important sense, it must be the case the *something* in our minds plays a causal role in making our actions occur. That something is, in the theory of apparent mental causation, a set of unconscious mental processes that cause the action. At the same time, that something is very much like the thoughts we have prior to the action" (Wegner).

In his conclusion Wegner concedes that something must be causing our actions, but the salient point is that we cannot know what that thing is, or how it works, and as such we cannot be sure that we are wholly responsible for our actions, even though we may feel we have intended them. This distinction between the experience of will as the cause of our actions and the cause of our actions as an unknown act of the mind, the origin of which is a mystery, is the foundation of my argument that humans are wholly a product of their heredity and environment. As neuroscience uncovers the observable links between brain states and actions, it becomes more apparent that humans are simply experiencing conscious will as a means of interpreting their life and surroundings, and that those around them are taking Dennett's Intentional-stance by attributing to them intentions and goals. Both theories explain our experiences as humans, while

also highlighting the lack of evidence that any individual is capable of consciously willing, and then causing his actions.

In his work *Free Will*, Sam Harris supports Wegner's hypothesis about conscious will as a feeling, rather than a cause. He notes "that no one was ever moved to entertain the existence of free will because it holds great promise as an abstract idea. The endurance of this notion is attributable to the fact that most of us *feel* that we freely author our own thoughts and actions". He goes on to note that, given that in the current era we understand that unconscious neural events determine thoughts and actions, compatibilism is the only legitimate way to believe in free will, as determinism is true "in every sense relevant to human behaviour" (Harris). He argues that, what is problematic about the compatibilist view is that it imbues humans with a narrow free will, more akin to simple autonomy: .for example, the decision to eat a second scoop of ice cream. However, he argues that individuals credit themselves with a much more profound free will, one that paints them as the "conscious source of their thoughts and actions" (Harris). Humans believe that when making important decisions they are not impacted by prior events, and this allows them to take ownership of their thoughts and actions, which is not compatible with the knowledge we have obtained through advances in neuroscience, knowledge which demonstrates that behaviours are caused by unconscious brain activities. Harris argues that this false sense of will is the "hook on which to hang our conventional notions of personal responsibility" (Harris). What are the implications if this hook is pulled out of the wall? And what are the likely impacts should that happen? Joshua Greene and Jonathan Cohen explore this possibility in their examination of the impact of neuroethics on the law.

3.2 A System of Half-Measures

As demonstrated in the sections above, North America relies on a heavily retributivist criminal justice system. In the vast majority of cases, offenders are convicted and sentenced based on a common understanding that they are *deserving* of a punishment. This belief allows society at large to support what might otherwise be considered unfair or uncomfortable living situations for convicts. Until recently, the compatibilist foundation of this system has been strong enough to maintain the legitimacy of the criminal justice system, and convince lawmakers and citizens that a system of just desserts is the best and fairest manner to administer the law. Greene and Cohen examine the irreconcilability between the current compatibilist system of retributive justice and new intuitions about free will stemming from advances in neuroscience. They refer to dialog about these contemporary philosophical problems as neuroethics, which is defined as "a field that studies the implications of neuroscience for human self-understanding, ethics, and policy" (*What Is Neuroethics?*). In the case of the criminal justice system, all three facets are affected, as questions about intention, fairness, and reform are explored through a lens of increased understanding of the human brain.

To properly explore how neuroscience is impacting the criminal justice system, it is important to take a brief look at how it has been used in the past to affect the outcome of criminal proceedings. For example, Farahany argues that neuroscience is already entrenched in the US legal system, and even a cursory investigation of recent Canadian case history demonstrates that neuroscience is being used to explain why certain offenders should not be held accountable for their crimes. For example, in the cases of Matthew de Grood and Vince Li, both of whom were deemed not criminally responsible for what can only be described as brutally violent crimes (*R. v. de Grood*; *Vince Li, Man Who Beheaded Passenger on Greyhound Bus,*

given Absolute Discharge - Manitoba - CBC News). This type of judgement demonstrates that the court system has the flexibility to take into account the specific circumstances of the very serious crime of murder, but what about those cases in which offenders proposed a defence of no criminal responsibility, but were denied clemency from the courts? For example the conviction of Elaine Campione, who was found guilty of first-degree murder in the drowning deaths of her daughters. Campione's defense was based on a diagnosis of "Psychosis Not Otherwise Specified – together with a major depressive disorder, post-traumatic stress disorder, symptoms of anxiety, and a personality disorder with borderline and dependent traits" (*R. v. Campione*), but in her case a jury did not deem her illness a satisfactory mitigation of her guilt; she was deemed to be aware of the moral wrongness of her actions at the time of the murders, and despite a delusion which led her to believe her daughters would be safer in heaven than with her ex-husband, she was found criminally responsible for her actions (*R. v. Campione*). What is it about Campione's specific circumstances that led to a criminal conviction, when in other cases individuals are deemed not responsible? There are many cases in Canadian history in which juries, judges, or review boards were tasked with determining whether the offender was in fact criminally responsible, and the existence of such a system belies a society which accepts that individuals are not necessarily always culpable for their crimes. If our justice system has taken this first step towards accepting the impact of illness on behaviours, then it is paramount that in future these decisions are made in a consistent and fact-based way which upholds the perception of the legitimacy and fairness of the courts.

In addition to the option of deeming an offender not criminally responsible, paragraph 718.2(e) of the Canadian Criminal Code requires judges consider "(e) all available sanctions, other than imprisonment, that are reasonable in the circumstances and consistent with the harm

done to victims or to the community should be considered for all offenders, with particular attention to the circumstances of Aboriginal offenders." Given the history of Indigenous peoples in Canada, including the legacy of the Indian Residential Schools system, First Nations, Inuit and Métis people have been marginalized, and as a result economically and socially disadvantaged, the result of what the Truth and Reconciliation Commission's Final Report deemed a cultural genocide (Truth and Reconciliation Commission of Canada), paragraph 718.2(e) of the Criminal Code attempts to provide special consideration to Indigenous peoples. By calling attention to an offender's heritage, it is expected that a judge will consider the impact of the colonial legacy in Canada, as well as the diverse forms of rehabilitation practiced by Indigenous groups. This section of code led to a historic court decision in which a young women's Aboriginal status was put forward as a mitigating circumstance for her sentencing, and the resulting decision in *R v. Gladue* ultimately led to the practice of creating "Gladue Reports" as a means of informing judges before the sentencing of Aboriginal offenders. These "reports and plans contain information on the unique circumstances of Aboriginal people accused of an offence (*What Are Gladue Reports?*). Although many might argue Gladue reports are not used consistently, or effectively (Parkes et al.), their existence points to an understanding that socio-economic and environmental factors can have a profound impact on an individual, and as such should be duly considered when determining sentences. If the Indigenous heritage of an offender can be used to inform and potentially affect a criminal sentence, then why not consider the heritage of other marginalized groups, such as people of colour, or those fleeing to Canada as refugees? There are innumerable circumstances which one could argue impact criminality, and by recognizing one – the unique circumstances of Indigenous peoples– the Canadian legal system has taken a first step toward accepting the fact that environment can have a profound impact on an individual's

actions. Unfortunately, this first step does not provide a consistent means of assessing whether an individual's background, health, or heredity are factors in their offences; instead, it creates a system in which judges and juries are expected to make determinations about the fitness of offenders to stand trial, or to be held accountable for their crimes despite a dearth of expertise in behavioural science or neuroscience. This is a disconcerting situation, and, I would argue, has the potential to eventually undermine the foundations of the criminal justice system by damaging the public's trust in the ability of the system to fairly mete out punishment.

3.3 A System on the Brink

Now that it has been established that the criminal justice system includes provisions for dealing with certain environmental factors and illnesses as mitigating factors in criminal cases, we can begin to explore why these provisions, coupled with the rapid advances in neuroscience, may become problematic for the legitimacy of the criminal justice system. Greene and Cohen argue that the current justice system is based on our "intuitive sense of justice" (Greene and Cohen). That is, although the law says simply that someone must have intention and action, *mens rea* and *actus reas,* what people intuitively want from our justice system is for it to punish those *deserving* of punishment. They argue that "the law's intuitive support is ultimately grounded in a metaphysically overambitious, libertarian notion of free will that is threatened by determinism and, more pointedly, by forthcoming cognitive neuroscience" (Greene and Cohen). That is, intuitions about what makes the criminal justice system fair, are grounded in our belief that those found guilty, have freely chosen to commit a crime, free of coercion of course, but also free of factors that would make their actions inevitable. To revisit the definition in section 1.1, free will is "the capacity unique to persons that allows them to control their actions" (*Free Will | Internet Encyclopedia of Philosophy*). I went on to specify that in the context of the criminal justice

system, this would mean offenders are responsible for their actions, except in special circumstances such as duress, illness, or incapacity. Here lies the crux of the issue. If neuroscience begins to unravel ideas about what is done "freely," it may become impossible to hold any individual to account for his actions. For example, if functional MRIs show that the same brain activity always occurs before an individual has a violent episode (Hardcastle; Farahany), it calls into question the individual's culpability, by suggesting his actions are part of a physical causal chain, rather than the result of a spontaneous and unseen mental thought process. It is here that dualist basis of the criminal justice system shows its weakness. The system was developed around the premise that individuals have a mind and a body, that the former controls the latter, and that without the mental component a man's actions are not his own. As demonstrated in the experiments described by Wegner, there is no basis for assuming that what people experience as a conscious will is actually the *cause* of actions.

As advances in neuroscience erode our faith in the existence of a separate mind, we are brought to the conclusion that behaviour is a product of brain function, brain function we do not fully understand, and which we cannot prove is anything more than a step in a physical causal chain. Consequently, we can no longer judge actions based on a presumption of intent, and this undermines our retributive criminal justice system by destroying traditional intuitive beliefs about free will and culpability. Greene and Cohen may put it best, noting "the gap between what the law officially cares about and what people really care about is only revealed occasionally when vivid scientific information about the causes of criminal behaviour leads people to doubt certain individuals' moral and legal responsibility, despite the fact that this information is irrelevant according to the law's stated principles" (Greene and Cohen). So although the law only requires an individual know that his actions are wrong, intuitions about punishment are actually

grounded in a much more robust autonomy of will, in which an individual can be shown to have true free will in a non-deterministic universe. Greene and Cohen go on to note that the small gap between intuitions about free will and traditional retributive justice will be widened by future neuroscientific discovery, eventually completely undermining people's "libertarian conception of free will and the retributivist thinking that depends on it" (1776).

Greene and Cohen's thesis is supported by Galen Strawson's Basic Argument, in which he describes a proof that no individual can be responsible for his own actions (Strawson). Critics of this hypothesis, and that of Greene and Cohen argue that humans possess agency and that this is the only the necessary condition to prove culpability. For example, as many compatibilitists before him, Velko Dubljević, argues that the discussion of free will has no place in the more practical political and social concerns of the criminal justice system (Dubljević). He describes autonomy as that "the minimal or basic sense of autonomy requires only that the agent is capable of making rational decisions in accordance with his or her own long-term interests, not that it must always be the case." Strawson's argument refutes this account of autonomy, by noting that "nothing can be *causa sui* – nothing can be the cause of itself" (Strawson). He expands on this statement, with a detailed description of his Basic Argument, which includes a description of how an individual cannot be responsible for his own mental state:

> (2) When one acts for a reason, what one does is a function of how one is, mentally speaking.
>
> (3) So if one is to be truly responsible for how one acts, one must be truly responsible for how one is, mentally speaking – at least in certain respects.

> (4) But to be truly responsible for how one is, mentally speaking, in certain respects, one must have brought it about that one is the way one is, mentally speaking, in certain respects. And it is not merely that one must have caused oneself to be the way one is, mentally speaking. One must have consciously and explicitly chosen to be the way one is, mentally speaking…

He concludes that true moral responsibility is not possible, since "[t]rue self-determination is impossible because it requires the actual completion of an infinite series of choices" (Strawson). The impossibility of original choice as described by Strawson, and many determinists over the ages, is brought to the fore by recent advances in neuroscience. While in the past, discussions of metaphysical topics like cause and free will were undertaken only in the realm of philosophy, and as such may have appeared unimportant to the practical concerns of politics, scientific advances are being brought into courtrooms, and forcing a public discussion about free will, and even the narrower autonomy as described by Dubljević.

Many of the authors that argue against the likelihood that advances in neurology as well as neuroethics will strongly impact the criminal justice system, base their argument on the premise that culpability does not require free will, but simple autonomy, and while this may be true, their definitions of autonomy note that an individual is autonomous as long as he is not constrained by debilitating pathologies or constricting circumstances (Dubljevic). However, I am not arguing about whether we have free will, but rather that the further neuroscience and sociological study take us, the more obvious it will become that we all have "debilitating pathologies" and "constricting circumstances". Given this, those articles that argue against Greene and Cohen's hypothesis are also wholly compatible with my conclusions. In the Canadian context this situation becomes particularly interesting, as paragraph 15(1) of the

Charter of Rights and Freedoms protects the equality of all Canadians before the law regardless of disability. If neuroscience and psychology widen, or even change, the definition of disability, it will become harder and harder to argue that any one individual's circumstances are the cause of his actions while arguing that another individual is wholly responsible for his. If, as Strawson suggests, an individual's actions depend on his mental states, and he cannot be responsible for those states because they are one step in a causal chain, a chain which is an unseen series of physical brain events, then punishing him for his crimes becomes a meaningless exercise, and one could argue an immoral exercise as well.

3.4 Friction Between Ideals and Systems

Why are emerging ideas about free will and culpability so problematic? Because, the nature of our criminal justice system relies so heavily on retribution. Despite the *Criminal Code*'s cited goal of creating a just and safe society, as remarked by Greene and Cohen, and evidenced by numerous cases in which individuals are deemed not criminally responsible, judges and juries want to be certain they do not punish individuals who did not freely choose to commit a crime. This underlying concern with meting out just desserts belies the retributivist nature of our criminal justice system, a system which is no longer compatible with a view of humans as singular bodies with brains, rather than mind-body constructs. Scientific advances are now forcing a conversation on the internal logic of a retributive justice system in a world which appears to lack individual free will or even morally significant autonomy. Before this clash of intuition and institution becomes catastrophic, candid discussions need to take place on how to radically update the criminal justice system to ensure fair treatment for all.

3.5 Objections to Greene and Cohen

Some have argued that issues highlighted by the use of neuroscientific evidence are not new issues, and the friction between beliefs about free will and retributive justice have long existed, and will continue to do so, with or without a frank discussion of neuroethics (Greely; Stradella; Fileva). While thinkers like Wegner and Harris would argue it has always been obvious humans don't have free will, and as such the frictions created by neuroscientific advances are not novel, I would argue that the scientific basis of neuroscience, rather than the philosophical basis of discussions on determinism versus libertarianism, lends the discussion a more universal appeal, and creates a situation in which the courts are finally forced to address the possibility that offenders are not responsible for their actions in a meaningful and morally significant way. Rightly or wrongly, the larger philosophical questions are often left aside in the realm of politics and governance, but in this age evidence-based policy –read: "scientifically verifiable"– is paramount.

Fileva and Tresan agree with Greene and Cohen that the criminal justice system is largely retributive, but they argue that any changes required will stem from what they refer to as the "expanding circle of concern" not from advances in neuroscience (Fileva). They argue that the true catalyst for change in the criminal justice system will stem from empathy, not scientific understanding. Referencing the work of Steven Pinker, Fileva and Tresan note that revenge is the main driver of retributivist systems, and such a driver is weakened when a criminal's ability to do further harm is greatly diminished, and/or when the offender shows signs of remorse or repentance (Fileva). Fileva and Tresan argue that given the drivers for increased empathy are still rooted in the idea of safety from danger and just desserts (a repentant offender should be forgiven, where a non-repentant one should not), any move away from retributive justice will be

grounded in empathy, or as they put it, a need to recognize each offenders' "humanity." "That is, the value of an agent's welfare cannot be influenced by such things as whether neurodeterminism is true or false of her," but by the fact that she is a person (66). While they agree that neuroscientific advances do not diminish this increasing call to empathy, they suggest that neuroscience alone will not create enough friction between traditional retributivist systems and ideas about free will to act as a catalyst to change (Fileva). Instead, they argue, retributive justice will be undercut by the increasing and improving empathy of the human race.

Fileva and Tresan highlight an important reason for reform of the criminal justice system, and, I would argue, a reason that is one and the same as that put forward by Greene and Cohen. Although Fileva and Tresan argue that neuroscientific evidence risks undercutting the humanity of offenders, by branding them as machines, I would argue that a neurodeterministic perspective allows for an increase, not a decrease in empathy. When judges and juries are asked to decide the fate of offenders, the more facts they are given about the life, health, and upbringing of the individual, the more real a person he will become. If an offender is known only for his criminal act, not the other facets of his life and personality, it is more difficult for individuals to see him as human. With every new piece of information a jury receives about an offender, there is the potential of increased empathy when a jury member feels they can relate to the offender's situation. Of course, the more details given about the crime, the less likely there is to be increased empathy, but these details are already a major part of the trial process; perhaps what is missing is the consideration and an explanation of the offender's situation, health, and socio-economic circumstances. Fileva and Tresan make an interesting point about empathy, but I would argue the consideration of neuroscientific information by the courts is a clear

manifestation of this empathy, and the only thing that appears to be shifting the conversation about culpability, to one about causation.

4. WHAT NOW?

If neuroscience continues to play a role in the criminal justice system, and as a result basic intuitions about culpability, punishment, and justice begin to change, it is vital that our public institutions evolve to accommodate these changes. The best system will be rooted in an understanding of what leads individuals to criminal acts, and how these environmental and hereditary factors can be improved and/or accommodated to decrease the risk of offenses. Rather than looking to punishment, an effective criminal justice system must look to causes and seek to decrease the incidence of crime while rehabilitating those who do offend.

In order to understand what drives criminal activity, it is important to explore the socio-economic situations that can lead some individuals to a life of crime. Hereditary factors, coupled with marginalization, abuse in childhood, or other pressures, may lead and individual to commit offenses in order to meet a need, such as food, drugs, housing, or even the need to be part of a community, as in cases where individuals are pressured by peers, or gangs to commit crimes. As previously noted, the courts sometimes take into consideration factors that might contribute to an individual's criminality, such as illness, or large-scale discrimination, as in the case of Indigenous peoples in Canada, and while these special cases are not the standard, they admit of the fact that some individuals are so impacted by their environment, past, and genetics that they should not be held fully responsible for their actions. Special consideration for certain

individuals is a chink in the armour of our retributive justice system, and suggests that, at some level, society does not want to punish those who are not deserving; this becomes problematic when it is made clear that decisions about who should be given consideration are not consistent, and that according to neuroscience each individual is affected by his own unique set of mitigating circumstances. The chink in the armour is the shortcoming of the current criminal justice system, and meaningful changes must occur before the small chink becomes a large crack.

4.1 What Causes Crime?

The heredity of an individual is no more his fault than the weather, and it is illogical to punish anyone for an act resulting from their physical reality, for example a man with severe schizophrenia who attacks and wounds a stranger during a psychotic episode. Assault is a serious crime, but that does not mean that punishment must be the response. We will explore other kind of consequences in the following pages. In addition, neuroscience is showing more and more how certain triggering situations, past traumas, and current circumstances can create brain states which lead individuals to act beyond their control and commit crimes. Which factors should be considered when sentencing offenders? Race, class, sexual orientation, health status, past abuse? Should education be taken into consideration, what about bullying during adolescence? Which factors can we be certain are having a profound enough impact on behaviour that they can be considered mitigation for crime, and are there certain crimes that should never be considered through this lens?

Much research has been done in an attempt to uncover the roots of criminal behaviour, and the findings are diverse, ranging from outright damage to the brain, to more subtle factors

such as malnutrition, or environment in childhood (Cole et al.; Grafman et al.; Liu et al.; Kim-Cohen et al.). However, in reviewing the research, one sees a common thread throughout all the conclusions, *the causes are outside the control of the individuals studied*, and most must be *prevented*, not remedied after the fact. A most basic example is damage to the prefrontal cortex; once this type of brain damage occurs it may be impossible to remedy behavioural problems arising from the injury. Unfortunately, in this case, complete prevention is not possible, as this damage is typically the result of a traumatic injury, which will continue to occur despite the use of helmets, airbags, and other protective tools. Perhaps more importantly, there is research to support the conclusion that *enrichment* of a child's environment can help to decrease the likelihood of schizotypal and antisocial behaviour later in life (Raine). This conclusion is unique, in its suggestion that improvement of an environment can lead to the prevention or decrease of certain negative characteristics. Rather than simply exploring the impact that the absence of a basic support, such as shelter, food, or education, might have on behaviour, it seeks to determine how individuals at risk for antisocial behaviour can benefit from positive interventions.

There remains much work to be done in the fields of psychiatry, neurobiology, sociology, and other disciplines, but waiting for research to unlock all the secrets of the brain cannot be the next step in the addressing of criminality. Based on the broader conclusions that can be drawn from brain and behaviour research, it behooves us to begin to develop systems which will better support youth, those with disabilities, and those prone to addiction in order to *prevent* criminal behaviour, rather than trying to change behavioural patterns once they have become entrenched. The current criminal justice system works with a remedy model, hoping to rehabilitate, or manage the risk of offenders, rather than putting strong efforts toward prevention. If social and economic supports are provided early in life, research suggests that there is potential to greatly

impact the rates of criminality and antisocial behaviour. Should these supports not decrease criminality, the worst possible outcome is that children, youth, and marginalized communities will receive better supports, which is itself a wholly positive outcome. How can we work to decrease criminality within our current criminal justice system, and is it possible to improve it without a radical sea change?

4.2 What Prevents Crime?

In his work "How Much Do We Really Know about Criminal Deterrence?" Raymond Paternoster explores what he calls "deterrence theory," a study of the reasons behind society's assumptions about incarceration and deterrence. He begins by elucidating on the deterrence theory of enlightenment thinker Cesare Beccaria. Beccaria's theory suggests that for punishment to be effective it must be certain, proportionate and swift (790), arguing that an individual is more likely to take the risk of a severe punishment that is uncertain, than of a milder punishment that is. Beccaria went on to argue that "the surest but most difficult way to prevent crimes is by perfecting education," (770) which, Paternoster adds, refers to "'moral education or self-restraint'—education on virtue. Education allows individuals to avoid evil by enabling them to make better choices rather than securing their compliance through punishment" (770).

After providing details about Beccaria's theory, Paternoster moves on to the writings of Jeremy Bentham, who introduced the concept of utility, the avoidance of pain and seeking of pleasure, to the study of criminal behaviour (770). As Paternoster explains, Bentham argued that what constitutes pleasure and pain, is not what truly exists, but what a man perceives. This perception, coupled with a desire to avoid pain and obtain pleasure is what leads an offender to crime, the low risk of being punished, versus the certain reward of the crime. When considered

together, Beccaria and Bentham create a compelling picture of the criminal mind. Paternoster refers to their work as a "fairly well-developed theory that explained the cause of crime" (772). Unfortunately, Paternoster notes, criminology began not from principles laid out by Beccaria or Bentham, but from a biological and psychological model. This model is based on an assumption that criminals are rare and have a pathological propensity for crime (772). The belief that criminals are rare is easily debunked with a brief look at incarceration rates in the United States; currently, 2.3. million people are in prison in the United States, approximately 25% of the total number of incarcerated persons worldwide (Initiative and Rabuy; DuVernay); and examination of some of the reasons for crime, such as poverty and addiction belies a criminal population largely made up of marginalized peoples, not pathological criminals. For example, individuals unable to meet the basics of survival may turn to crime for increased income, or even food, and it could hardly be argued that such an individual is antisocial or psychopathic.

History has left us with a criminal justice system based on a biological/psychological model that does not equate with the reality of most criminals, or succeed at deterring future crime. Not only is it ineffective at deterrence (Richie), Paternoster argues that this epidemic of incarceration may have the opposite effect. That is to say, since a criminal record makes freedom less attractive by limiting life's options, the risk benefit analysis made by a potential repeat offender will tip more heavily toward committing a subsequent crime than it had before the first incarceration (820). After reviewing the literature regarding the effect of incarceration on deterrence, Paternoster ultimately concluded that at most 20-30 percent of major crime rate drops can be attributed to longer sentences, but it's not clear whether that is due to the incapacity of incarcerated offenders, or an actual deterrence effect. He suggested instead that increases in social support and education could have a significant impact on crime reduction (Paternoster).

These conclusions and statistics point to a criminal justice system that is not meeting desired outcomes. Given that the system is also based on a retributive model, which, as argued above is becoming difficult to defend, then instead of reform, revolution seems to be the answer. As Davis suggests, prisons have become obsolete, which means there is a need for a new strategy to address criminality.

4.3 Reform or Revolution?

There are many advocates of prison reform, those who seek to improve the living conditions of prisoners, as well as groups that oppose minimum sentences, or life sentences for serious offences. However, if one accepts that individuals are not the true decision-makers in their lives, but are in fact at the mercy of heredity and environment, any reformation of the current system leaves much to be desired. For example, when prisoners are granted day parole in order to better reintegrate into society or to visit family or friends, it is a positive step, and one that undoubtedly improves the lives of those prisoners, but it does not address the fundamental question of true culpability and the morality of punishing someone who has no control over his actions. When countries abolish minimum sentencing requirements, it allows judges some discretion in determining whether offenders are due special consideration because of their circumstance, which can be a positive step in decreasing levels of incarceration, but does not take into account a judge's lack of neuroscientific knowledge, or the often uneven application of the law with respect to class, race, marginalization, or other risk factors. If incremental changes to the current criminal justice system will not be effective, and cannot resolve the friction between new ideas about culpability and existing retributive tendencies, then what can?

The prison abolition movement seeks to dismantle the prison system and attack criminal justice issues from a social perspective. Rather than supporting the punishment of individuals, abolitionists champion a system of rehabilitation and prevention. In her work, *Are Prisons Obsolete?* Angela Davis explores the prison industrial complex and its negative impacts on people of colour in the United States. She demonstrates that prison is akin to slavery, and is a continuation of a system to oppress marginalized groups. It is no longer, and never was, simply a system to keep dangerous offenders off the streets and law-abiding citizens safe. Although the history of Canada's prison system is not as sordid as that of the U.S., a number of Davis's arguments are applicable. For instance, Davis notes that incarceration was not always a means of punishment, but began as a way to keep criminals out of society until their punishments could be executed (Davis). Until reading Davis's work, it had not occurred to me why the criminal justice system relies on incarceration, and why many feel this is the only workable way of dealing with offenders (Palys), I believed that it had always been this way. Where then, did this idea of incarceration come from, and why do so many take it as a given? I will not explore the many possible alternatives to an incarceration-based retributive justice system in this paper, as that is a discussion for another time, but in the interest of demonstrating that offenders can and have been dealt with outside a traditional retributive model, I will turn to the Indigenous cultures of North America.

In some First Nations cultures in Canada, such as the Nishnawbe-Aski (*Restorative Justice « Matachewan First Nation*), rather than punishment, justice was sought through a healing approach. Communities were "encouraged to consider the circumstances which led to the commission of a crime and alter them in hope that future crimes [would] be prevented" (Ellis). Rather than assuming that a criminal is a "bad person," many of these traditional systems worked

from a perspective that people are fundamentally good, but make mistakes because of a problem or triggering situation in the community (Ellis; Berlin; Palys). When the problem of crime is approached from this perspective, criminal behaviour becomes the responsibility of the community, not only the offender. In particular, restorative justice systems seek to address marginality by laying part of the blame with a community when an individual does not feel welcome, and as a result may act outside the normal bounds of moral or legal behaviour. Criminal behaviour is seen as the product of an imbalance between an individual and his community, not the action of an ill-intentioned criminal. A process of restorative justice is meant to restore balance to the community and welcome the healed offender back into the fold. Restorative justice could be explored as a means of resolving conflict between retributive tendencies and new beliefs about culpability. By exploring the impact of an offender's environment, and the situations which may have led to his crime, restorative justice is in lock-step with prison abolition as well as the belief that individuals are not wholly responsible for their actions, but that circumstance also plays a role. If such systems existed in the past, why not explore them as the way forward?

It is obvious from the example of Indigenous restorative justice practices that prison is not the only viable solution for dealing with offenders; prison is the way that Canadian law has been dealing with crime since confederation, but that does not mean that it must be the way forward. Just as corporal and capital punishment are no longer a part of the justice system in Canada, there is the potential to abolish incarceration. Until now, the justice system has continued to function on the understanding that individuals are fully responsible for their actions, except in extraordinary circumstances, but in the wake of new advances in neuroscience, and the increasing use of pre-sentencing applications as tools to defend the accused on the grounds of

illness, socio-economic status, or environment in childhood, the discussion of a more humane and effective criminal justice system might finally come to the fore. The concepts explored in this paper, such as the non-culpability of individuals due to mitigating circumstances, in effect, the inability of individuals to fully control their actions within a world over which they have no control, line up nicely with Indigenous ideals about restorative justice, and the role of community in rehabilitation of offenders. What might a prison-free criminal justice system look like, and would it even be appropriate to refer to it as such? In effect, such a system would stop labelling offenders as criminal, and instead focus on their humanity, their needs, and their place in society.

5. CONCLUSION

The mainly retributive nature of the criminal justice system belies a dualist bias that relies on a belief in man as a creature with both a physical body and a separate rational mind. The rational mind is responsible for what Descartes refers to as "the rational will," and this will is ultimately the cause of a person's behaviour. In this context, criminal behaviour is typically thought to be the result of ill intentions, and punishment is believed to be deserved. However, brain-imaging technology, and advances in psychology are painting a vastly different picture of the roots of human behaviour. Neuroscientific and psychological experimentation continue to demonstrate that brain states cause behaviour, and that these brain states are not caused by a will or intention in an individual, but are more likely the result of a physical event that is part of a larger causal chain.

While an *experience* of will may be an important aspect of humanity, there is no evidence to suggest such a will exists or that it affects our behaviour; in fact, there is much evidence to suggest otherwise. Brain imaging technology shows changes in brain states before and during violent or anti-social behaviour, and brain injury can cause extreme changes in personality; and psychological experimentation demonstrates that individuals can be easily convinced that they willed an action as long as the outcome is timely and expected. As Dennett explains, we view others from an intentional-stance because it is the most effective way to understand and predict behaviour (Dennett 91), but our perception is not proof of a rational mind. Without a dualist foundation, the retributive aspects of the criminal justice system are problematic and at risk of losing legitimacy. How can we continue to uphold a system that punishes individuals for both intending and acting, when science is beginning to show that man is not the author of his intentions?

It is clear that no person is responsible for his upbringing, his heredity, or even his risk for a condition such as addiction, and it is also becoming clear through scientific research that he is not responsible for his inclinations. If a man is shown to be the product of his genes and experience, then this holds for a criminal man as well; and it does not, and never has made sense to punish his criminal behaviour. If anything, the criminalization of marginalized groups and recidivism rates coupled with a lack of evidence that incarceration deters crime demonstrate that punishment is more likely to lead to an increase in criminal behaviour, not a decrease.

Instead of simply, and arguably ineffectively, making society safe for the law-abiding, prisons also punish "bad people," but what makes a bad person? If I am able to obtain a graduate degree as the culmination of a lifetime of experience, and millions of years of genetics, am I a

good person? If, on the other hand I decide to skip graduation and steal a car am I a bad person? If in both cases I'm simply carrying on from a chain of uncontrolled brain activity then how can I be good or bad? Neuroscientific advances continue to challenge ideas good and bad, personal responsibility, the nature of "mental" illness, and the reasons for criminal behaviour; and while the debate about whether humans possess a morally significant free will is centuries-old, the modern criminal justice system has only recently begun to address this question from a scientific perspective. The prevalence of sentencing decisions that reflect the circumstances of the offender, be they cultural, medical, or otherwise, demonstrate a willingness to move away from retribution and toward a system that considers the multi-faceted nature of human behaviour. Paradoxically, as Greene and Cohen note, this concern with only punishing those who are deserving highlights the retributivist nature of our system, for if the justice system was wholly consequentialist then juries would not worry about whether offenders had ill-intentions, because any sentence would not be a punishment, but a means for maintaining the safety of the community, or reaching some other laudable goal, such as rehabilitation.

The trend toward special consideration of mitigating circumstances is problematic in a criminal justice system based on punishment. In some cases, the courts deem an individual not criminally responsible due to mental illness, but it is impossible for judges and juries to know what factors have impacted an individual's actions, and they must wade through complex testimony by psychological and neuroscientific experts. In other cases offenders are charged and tried, then sentenced to prison for their crimes. Even if neuroscience never deciphers the details of which brain states cause certain criminal behaviour, by demonstrating that some behaviours are outside an offenders' control, neuroscience has opened the door to the possibility that all offenders are at the mercy of physical brain processes. If we 1) know that some criminal

behaviours are the result of brain processes, then we accept that in at least some cases individuals are not responsible for their actions. If we 2) also admit that we have only explored the tip of the iceberg in the realm of neuroscience, then we must admit that there are likely situations in which brain states are causing criminal behaviour even if we cannot see it, or do not understand how. In the face of these two conclusions it becomes difficult to defend a criminal justice system that seeks to punish the ill intention behind crime. Punishing someone for an action they could not help does not make sense morally or even practically; and sparing from punishment only those who happen to have the particular brain states we are currently able to examine through imaging is equally nonsensical and immoral. We should not be relying on incomplete scientific evidence as a means of assessing cases, when we cannot be certain other offences are not the result of similar, but as yet undiscovered, evidence.

In order to maintain the legitimacy of the criminal justice system, there must be a shift in thinking, either we must accept that all individuals are responsible for their actions and should be punished for it (except in cases of coercion), or we need to assume that no individuals are responsible for their actions, because we do not possess the knowledge to be certain we are only punishing those who are truly responsible. How can a judge or jury determine which individuals are truly mentally ill, and who is to say what experiences affect a given individual's capacity for crime? In the words of Douglas Coupland "where does personality end and brain damage begin" (Coupland and Augaitis 12)? I conclude that judges and juries are not, and may never be, equipped to answer these questions. If, as I contend, humans are wholly physical beings then theoretically it will eventually be possible to document the causes that lead to all criminal behaviour. Once these causes are observable, it will become obvious that they are part of a larger

causal chain and thus not the responsibility of the offender; and a system of retributive justice is nonsensical in the face of such a causally deterministic world.

We must be careful here not to turn to a conclusion of eugenics. Although some characteristics are determined by an individual's genetics, there are myriad causes that contribute to behaviour, including environment, nutrition, and past trauma. While we know that brain abnormalities can *sometimes* lead to criminal behaviour, we also know that positive environments can *sometimes* combat criminal behaviour. Given the mix of genetics *and* environment required to create a criminal or a law-abiding citizen, eugenics would be an ineffective tool to combat criminality, setting aside the moral problems with such a system. I am not arguing that we will be able to map out all the causes of crime in advance, and thus avoid the existence of criminals, but that we may one day be able to examine a criminal's life and body following a crime to see its causes. Given that we know some of the environmental factors that contribute to criminal behaviour, the safest and most effective route is to limit those factors as much as possible.

In the world of fully physical humans, it is necessary to move beyond punishment as a means of dealing with crime; and policy makers must begin a frank discussion of this topic as soon as possible, before the issue of arbitrariness and illegitimacy threaten to collapse the criminal justice system. The issue is urgent both because in the Canadian common law context it is possible that a single court case dealing with criminal responsibility will set a precedent that will overturn not only the legitimacy, but the legality of portions of the *Criminal Code*, but also because it is morally wrong to punish individuals for behaviours over which they have no morally significant control. The fact that the Canadian criminal justice system is based on

incarceration does not mean that it must continue to incarcerate thousands of citizens. Societies must progress and sometimes the progress must be radical. Rather than simply reforming the prison system it is vital that policy makers explore revolutionary approaches to dealing with criminality. New approaches could include systems of restorative justice that rely on the community to come together, acknowledging the fact that no man acts in isolation from this environment or his history.

Even more important than addressing the treatment of offenders, is addressing the root causes of crime. Even the 18th century thinker Cesare Beccaria remarked that it is better to prevent crime by improving the lives of individuals, than it is to punish after the fact (Paternoster 770). Instead of addressing crime after it occurs, policy makers should seek to prevent crime by discovering the roots and causes of criminal behaviour, such as socio-economic situation, level of education, addiction, and trauma. Resources currently used to maintain the adversarial criminal justice system and the prison system could be diverted to programs to better support marginalized members of the community, to integrate those who feel unwelcome, and care for those who need shelter, food, or medical care. By approaching crime as the by-product of a society that lacks compassion and does not make all citizens feel welcome, the question of how to effect change is reframed as one of prevention, rather than one of punishment. It is my contention, that by creating a system that attempts to undo the root causes of criminal behaviours, the issue of free will and personal responsibility is replaced with a question of how best to support citizens in achieving meaningful and law-abiding lives. In this way, neuroscientific advances could support rather than undermine the justice system.

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