

## Neuroscience and Legal Aspects of Criminal Responsibility

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### Abstract

Neurolaw has been more popular since the nineties. The repeated concept of a neuro-revolution of criminal responsibility is at the centre of contentious discussions. The basis of criminal responsibility, including free will, should be taken with a grain of salt. The relative imperviousness of its genuine roots to scientific findings is frequently overestimated. Neuroscientific research may influence social institutions, but only if it engages in a political justification of the changes being demanded, persuades audiences, and considers the implications that will follow. Additionally, when employing neuroscientific evidence in a trial, extra caution is required due to the various limitations of these instruments. In this paper, we seek to lay the groundwork for logical future discussions on the relevance of neuroscience to criminal law, specifically the determination of criminal liability. As a result, we analyse the existing or anticipated application of neuroscience in law and offer analytical methods to understand the political and normative basis of criminal culpability. A growing body of research in neuroscience is pointing to links between biology and aggression that may be used in court as proof of criminal guilt. Additionally, in a time of "zero tolerance of risk" policies, it may be conceivable to use biological abnormalities in some violent people or biological indicators of violence as justification for preventive detention in the interest of public safety.

Keywords: Criminal law, Neuroscience, Evidence, Actus reus, Mens rea

### Introduction

Criminal law sees moral responsibility and the nature of human agency loom bigger than any other critical doctrinal field since it regulates the state's ability to impose sanctions for offences. Both noninstrumental and instrumental notions of the desert are predicated on the moral assumption that human beings are accountable under criminal law. First, law penalises those who deserve it because they have done something wrong, and in doing so, we presumptively act as though human agents voluntarily committed the crime. In order to reduce the likelihood of such conduct in the future, we penalise those who commit it and assume that people make a conscious decision not to commit crimes. (Maoz, U., & Yaffe, G. 2016) The same unitary penalty choice might fulfil both noninstrumental and instrumental goals, but that outcome is not inescapable. In most situations, it may even be impossible to serve both instrumental and noninstrumental aims at the same time. Realising one aim may in all, or almost all, situations inevitably result in frustrating the other. Retribution is the foundation of noninstrumental punishment, which its proponents could distinguish from revenge.

The premise is that illegal acts have some unfathomable element that justifies or even needs a society's reaction in the form of punishment. There is no clear explanation for this desert. Is it admirable or despicable, effective or pointless, if there is something that feels right about imposing punishment? The tension is enduring, or at least resilient. Furthermore, if we do decide that punishment is justified based on some normative standard, how do we decide how severe the punishment should be? How much would the offender's peculiar traits or the conduct's unique circumstances factor into the normative calculus? Is it even feasible to do such normative mathematics? An instrumental basis of punishment may avoid some of the issues raised by noninstrumental premises by focusing on deterrence, but the math is still difficult. With the current constraints of even the greatest neurobiology, we still have to reach (or at least presume) a level of

normative clarity that is extremely artificial. It may be hard to determine what specific deterrence preventing a single defendant from engaging in antisocial behaviour or how broad deterrence preventing others from engaging in antisocial behaviour would be calibrated to serve rather than disappoint the underlying moral purpose.

Although the emphasis of this study is the doctrinal incoherence of noninstrumental, principally deontological, normative principles, it is important to keep in mind that, in the context of criminal law, instrumental objects may be just as elusive due to the limitations of human knowledge. Criminal law is based on normative responsibility notions, not causal responsibility alone (or in addition to it). Your automobile is causally liable for your tardiness to work if it refuses to start one morning. If you didn't fill up the gas tank, and that's why your car won't start, then you are to blame for the problem in both a causal and, at the very least, a colloquial normative sense (and for your being late to work). We are accustomed to this crucial normative distinction between when it makes sense to blame ourselves and when it does not. Criminal law is responsible for defining normative responsibility and its boundaries. Because punishing inanimate objects or even humans who behave in an inanimate manner would not serve any no instrumental or instrumental purposes, our goal is to punish those who are accountable in the normative sense.

As a result, criminal law must address responsibility-related concerns in a way that other doctrinal areas are not required to. Criminal law is largely predicated on the coincidence of a men's *rea* (a guilty state of mind) and an *actus reus* (the criminal act), and the specifics of each of those components are the subject of a great deal of complexity and scholarly research. For our purposes, it is necessary to consider, broadly, how to present criminal law's concepts of human agency are predicated on ideas that developing neuroscientific knowledge may call into question. This study will highlight the criminal law's punishment and sentence concept to show how the awkward fit between no instrumental and instrumental goals may indicate the eventual incoherence of the existing doctrine. No area of criminal law is exempt from revision in light of advances in neuroscience, but in some situations, the prevailing conflicts are more starkly shown. Such information is provided by criminal law as it relates to juvenile justice. When we contrast the punishment of a kid with the punishment of an adult, we tend to sense, maybe even deeply, the difference in the normative calculi. Whichever normative idea of responsibility we favour, the way the doctrine treats children and adolescents puts the criminal code to the test. Although we might assume that preadults are less responsible for crimes committed, we might also feel obligated to shield preadults from the repercussions of their own deeds. After all, that is just human nature. In turn, we need to better understand juveniles and ourselves in ways that neuroscience may explain, if not support, our intuitions concerning the punishment of juveniles.

### **Research Methodology**

The present study is based upon secondary data to analyse the neuroscience and legal aspects of criminal responsibility. The data which is secondary in nature has been collected from various books, research journals and proper care has been taken while analyzing the data to reach on a specific conclusion of the study. The nature of the study is descriptive which is based upon previous research papers which have been published in reputed research journals.

### **Results and Discussion**

According to scientist Richard Dawkins, neuroscience would overturn the retributive principles that form the basis of criminal law. "A fully scientific, mechanical account of the nervous system makes fun of the entire notion of responsibility," he says. Others embrace the idea that "free will is an illusion" and want to replace punishment with a deterrent, prevention, and medical care. Sapolsky supports "a universe of criminal justice in which there is no guilt, only preceding causes" in a similar spirit.

The study of brain structure and function across many fields, including neuroscience, has had a rising impact on political debate, especially in the legal field. In the 1990s, the subject of research known as "neurolaw" began to take shape. The subject of criminal responsibility and an equally frequent enthusiasm for a purported debunking of this idea by the rapidly expanding field of brain sciences are

at the centre of contentious discussions. In the media, as well as in scientific and philosophical literature, the idea of a neuro-revolution is actually widely discussed.(Eastman, N., & Campbell, C. 2006)

The relationship between science and law, or between the explanatory and the normative, is far from obvious, and there is still much room for improvement in the connections between neuroscience and criminal culpability. The idea of free will is just one of the purported, and allegedly in question, foundations of criminal responsibility. These foundations are also false. Because they are ingrained in our everyday experiences and ideological framework, the true underpinnings of responsibility are mostly immune to scientific evidence. They can be influenced by the latter, but only to the extent that they can be used to support a different political or ideological viewpoint. Additionally, extra caution is required when utilising neuroscientific evidence in a trial, if at all, due to the numerous limitations (technical, interpretive, etc.) of such evidence.

In the end, the law is practised. On the grounds that it must provide solutions that are derived from and stated in its own words, it directly confronts challenging moral concerns. In doing so, the law has a tendency to both look to science for guidance and to be sceptical of it. Its scepticism is a result of the distinct social roles that law serves in comparison to science, as well as the unique constructions it develops for itself that serve its own ends. These are extremely unlike the constructions that science has developed to serve its objectives. Therefore, science tries to describe and, in the end, explain real facts recognised to be "in existence," but law seeks the abstract notion of fairness, which is reached through the adoption of legal artifices. At a more fundamental level, however, law does deal with actual situations and occurrences and must thus use evidence, including scientific data. Such evidence ultimately serves the larger objective of establishing abstract justice, and this is where the conflict between law and science, as well as the difficulty of accurately representing science in legal contexts, arises. Law has a natural propensity to falsify the science it allows as evidence when it attempts to use it as proof. This is due to a lack of a distinct line separating justice from evidence. The concept of justice upheld in the relevant field of law is both reflecting and determinant of decisions made regarding what evidence is "admissible" in a trial and in what form.(Aharoni, E., Funk, C., Sinnott-Armstrong, W., & Gazzaniga, M. 2008) Because various areas of law deal with different justice concerns, even what is considered a "mental disease" differs. For instance, there are many different definitions of mental disorders that have been established, and they are significantly different from those that have been used to assess the appropriateness or not of preventive custody or in connection to certain civil incapacities. There is no such thing as a "genuine" mental disease in law; instead, there are definitions of it that are used for circumstances that frequently have little to do with the medical diagnosis of the condition. Law is "autopoietic," in other words. It is "non-reflexive" to all other discourses, including the discourse of scientific science, because it can only originate from within itself and within its own discourse. However, there are some fields of research where inconsistency with the law is frequently concealed. Neuroscience has special trouble in this area. Neuroscience is interested in elements of human functioning that resemble issues that are of primary concern to the legal profession. For instance, while the law is interested in "intention" and "guilt," neuroscientists are concerned with "thinking" and "feeling." As a result, some of the challenges that neuroscience handles are "near to" the fundamental ones that the law addresses. The forensic psychiatrist offers evidence that can come close to commenting on whether the defendant had the necessary intention for the crime of which he or she is accused, in contrast to the forensic pathologist, who merely offers evidence that contributes to a factual finding that the law then "uses" towards determining some ultimate issue. To put it another way, much of the science used as evidence helps to establish whether the defendant committed the actus reus (wrongful act), whereas behavioural neuroscience frequently helps to establish whether or not the defendant had the necessary mens rea (guilty intention) for the act he committed (if he did commit the act). There can never be more than an apparent, not a true, resemblance across disciplines since, in the end, each field gets its own constructions from its own discourse. The legal rule of evidence reflects this by excluding even expert witnesses from commenting on the "ultimate legal question," who can otherwise offer unique

testimony of their opinions. The link between the interests of law and neuroscience also has the further implication that there is a high risk of neuroscience being drawn into decisions that are legal rather than medical, be they related to guilt, public safety, or punishment, and especially so where law abandons its 'non-reflexive' nature. That is, there is a risk of even the courts not properly maintaining the boundary between scientific evidence and legal decision.

*Neuroscience revolutionise and criminal responsibility:* Should neuroscience change the concept of criminal responsibility? The answer to this question inevitably begs the second question. Drawing the line between normativity and science, revolution and conversation, and dreams and real aspirations is necessary for each response. Here, we try to explain such subtleties. To achieve this, we must first define criminal responsibility and then discuss the guiding norms and normativity of this paradigm. The limitations of using neurobiology in court will next be discussed. Finally, we will assess the more straightforward.

*Criminal Responsibility:* Some introductory definitions are required before getting to the core of the issue, particularly in relation to the notion of accountability. As with any ambiguous term, "responsibility" allows for a variety of interpretations. For example, a tree falling on an electrical wire can be blamed for a power outage (causal meaning), the ship's captain is in charge of maintaining order on board (role), a young man can exhibit particularly reckless behaviour (character), insurers are liable for compensating victims of traffic accidents (civil liability), a patient can be found to be irresponsible by psychiatrists. Criminal responsibility has a variety of connotations (both practical and capacity), but it particularly refers to social and legal standards (normative meaning). A person is prima facie criminally guilty when they violate the actus reus and mens rea, which are the two ingredients that make up a crime. Mens rea, the mental component of a crime, refers to the accused's state of mind at the time the act was committed. Actus reus, the material aspect of a crime, refers to the offence that is being punished. For instance, a murder needs both the act of murdering someone and the deliberate desire to kill them. Manslaughter, not murder, results from killing someone without this mens rea. Mens rea is assessed either subjectively via purpose, carelessness, or intentional blindness, or objectively through negligence or recklessness in comparison to a "reasonable person" in the same situation. Knowledge (of the act's nature, its effects, and the context) and willpower are the necessary factors to demonstrate such states of mind (in the sense of a wilful act, i.e., an act that is part of a conscious plan of action). These words all signify the same thing in everyday speech.

The actus reus and the mens rea serve as the foundation for criminal liability. To be criminally liable, one must thus (1) consciously will to Mr. A; (2) know that Mr. A is wrong; and (3) do Mr. A. A topic related to free will (how does one create intentions? where do they originate from? etc.) is the existence of neurological previous causes to an action or the predictability of an action according to recognised priors. Contrarily, responsibility merely worries about the perception of consistency in the causal relationship between purpose and consequence (intention-action-effect chain). The accused's ability to behave in line with his or her objectives is what judges assess. The accused's account of his or her agency is subsequently normatively examined, which means that the account is put up against the norms and beliefs that are currently prevalent. The law's normative reality is a secular world in which Satan does not exist, thus even if you admitted to willfully killing your neighbour while knowing it was immoral at the time, you would not be held accountable for your actions since you don't share this reality. Therefore, the subjective sense of agency and the normative evaluation of that experience are what determine a person's criminal liability.

It's crucial to comprehend the boundaries of criminal culpability, which leads to the classification of legal defences. For instance, in Canadian criminal law, defences are generally split into two categories and pertain to circumstances that impair one's ability to act either "cleverly (intelligently)" or "freely." The former contains variables like necessity, compulsion, provocation, impossibility, and self-defense, while the latter is made up of factors like minor status, mental illness, automatism, drunkenness, and error. Simply put, we pardon people who lack the necessary skills to comprehend or act. This refers to the difference between an explanation and a justification in everyday English. A defence is exculpatory if it questions the existence of mens rea. Contrarily, justification is a mitigating

factor that lessens either the offence or the punishment since it enters the picture after the actus reus and mens rea have been established.

A specific idea of the responsible agent is described in this concept of criminal liability. Mens rea expresses our expectations that those we evaluate will possess particular qualities, as does the typology of excuses. In this sense, it is possible to describe criminal law as "capacitarian". Thus, responsible agents are those who are able to actively, consciously, and largely logically direct their behaviour in a way that is consistent with the normative context in which they operate. Furthermore, they cannot be forced into going against that structure.

Based on how that person behaves, each of those criteria is assessed. The reasons for conduct are not taken into account. In other words, whether brought on by a natural or supernatural occurrence, a person is forgiven on the grounds of an automatism, for instance.

*Why Free Will Does Not Matter:* As the debate over free will continues to loom large in the field of neuroscience, we take the liberty of addressing it in this section. It's crucial to recognise this evasive query for what it is, a ghost—a apparition of the dead that reappears if it is not properly buried.

According to that discourse, free will—defined broadly as the capacity to "avoid wrongdoing" or to "act otherwise"—is the basis of responsibility. The idea of determinism advanced by neuroscience would seem to exclude the possibility of different outcomes by limiting each of our acts to their neurological and unconscious origins and considering them as basic events rather than deliberate choices. Therefore, unless another idea could be found to preserve human agency and therefore, responsibility itself, we would not be held accountable.

It is true that this is a terribly oversimplified explanation of determinism. The continual disagreement between scientists and philosophers over the fundamental concept of causation is the cause of this approximation. We shall thus use the word "determinisms" to be comprehensive. It's also important to note that discussions of free will and determinism are metaphysical, entailing disagreements over various ontologies. We intend to demonstrate that there is no need to resolve such metaphysical disagreements.

We may now discuss responsibility, which is separate from free will and has a practical focus, after outlining these safeguards. To put it another way, practical, subjective, and political reasons rather than free will serve as the foundation for criminal liability. As a result, it is immune to any deterministic truth. First off, even if determinisms were accurate, they would not eliminate our sense of agency over our own behaviour. Yes, we always have the option to refute anyone's interpretation of my actions. This "subjectivist" criticism, which Searle and others have supported, should not be seen as a critique of determinisms. It is actually more of a defence of the way we now think of a responsible agent. This argument mostly fails to address determinism, in addition to promulgating a false definition of determinism. Whether or if non-conscious antecedents, such as preparation in the sub cortical and frontal motor regions, "caused" my intents, my sense of control, my actions, and their outcomes is irrelevant. The argument consists of highlighting the fact that the ability to connect a conscious intention to an action or to its effects is what matters. Therefore, in order for our acts to be considered to be part of a conscious plan of action that is, a plan that include an explicit and unambiguous picture of the action's potential consequences they merely need to be consistent with our intentions. The institution of responsibility thus resides in the individual's capacity to feel agency, a personal sense of being causally accountable for his or her acts and the results of those actions. Furthermore, determinisms do not alter the conscience regarding what is suitable and what is not, what is judged socially acceptable or undesirable, even if they are demonstrated to be accurate and deeply ingrained in agents' views. The establishment of rules is not prohibited by determinism. Knowing that I can always behave in accordance with my intentions while still distinguishing between right and wrong, I am more likely to choose to act rightfully or at least, I think I am. In this regard, our perception of our ability to act criminally is mostly based on our subjective experience.

## **Conclusion**

Throughout our research, we have established that criminal liability is a primarily pragmatic idea that is distinct from free will and other metaphysical issues. Because of this, discussions about

determinisms and the solutions they engender have no bearing on criminal liability. We have already said that the individual has a crucial position in regard to the punishment under the present and retributivist paradigm of criminal culpability. While seeking an individual's motivations, it recognises that person as a human being who is both deserving of praise and respect. Questioning a person's motivations for taking action and sense of obligation also helps to assess how just the constraints placed on them by society when making decisions are. That approach is based on the present consensus among the general public on responsibility and the advancement of particular ideals. Traditional neuroscience fields cannot only establish facts if they aim to alter law. They are unable to significantly alter normative practises on their own, in the absence of any ideological goal. Additionally, they need to persuade people of the need for the changes while taking into account the implications that may follow. This strategy must also recognise and address the technological, interpretive, and legal barriers that prevent the universal use of neuroscience. Neuroscience is far from a revolution, but it does show greater promise when it engages in a delicate conversation with the law to support the courts' quest for the truth. In other words, neuroscience's contribution to the legal field resides less in judging an accused person's level of guilt than it does in recreating a situation and figuring out what implications there may be for the veracity of the accusations. While neurolaw often evokes the neuroscientification of law, it could more properly refer to the juridification of neuroscience, i.e., legal thinking that would integrate and apply scientific discoveries to criminal justice.

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