

Is Criminal Law Both Redundant and Inconsistent?: Crime and Consciousness in Light of Developments in Neuroscience

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Continued advances in neuroscience research—as described in Vukov (2018), even with the inconsistencies and uncertainties illustrated by Saigle and colleagues (Saigle, Dubljevic, and Racine 2018)—have substantially changed our understanding of consciousness and our perception of free will. While such research may seem to have few practical day-to-day applications, apparently affecting only the abstract philosophical conception of self, in actuality it could potentially effect paradigm-shifting changes on society and law, principally criminal law. How so?

Most foundational theories of criminal law assess criminal and moral culpability based on whether the suspect possessed both *mens rea* and *actus reus*: the conscious evil mind of the corresponding voluntary criminal act. The terms are associated with the phrase, *actus reus non facit reum nisi mens sit rea*, that is, the act is not culpable unless the mind is guilty (*Elonis v. US* 2015).

In the Model Penal Code, a comprehensive set of guidelines for statutory construction of penal law in the United States, the *mens rea* component of the law requires evil intent: “a person is not guilty of an offense unless he acted purposely, knowingly, recklessly or negligently, as the law may require, with respect to each material element of the offense” (Model Penal Code 2.02 (1) 1962).

The doctrinally younger component, the *actus reus* element, has been construed to require that the action be voluntary: “A person is not guilty of an offense unless his liability is based on conduct which includes a voluntary act or the omission to perform an act of which he is physically capable” (Model Penal Code 2.01 (1) 1962).

Although both components have been described as distinct elements to be proven by the prosecution in criminal cases, often the two elements are conflated vis-à-vis the court’s determination of the necessary level of conscious intent for culpability. In other instances, courts have found that claiming that a purported criminal act was involuntary can be construed to be an affirmative defense to criminal charges, but not necessarily that voluntariness is an essential element to prove culpability, assign moral

blameworthiness, or mete out punishment (Farrell and Marceau 2013).

Their exact metes and bounds notwithstanding, despite the centrality of these elements within criminal law, or perhaps because of it, modern criminal law resists changes to its outdated binary distinction between criminally liable actions that result from consciousness free will, and otherwise nonconscious involuntary nonpunishable activities. However, in light of scientific advancements in neuroscience—including Libet’s embattled experiments questioning conceptions of free will (Libet et al. 1983), the underlying medical science of addiction (Volkow, Koob, and McLellan 2016), the realization that brain tumors can cause uncharacteristic criminal actions (Burns and Swerdlow 2003), or the growing area of artificial intelligence augmentation—we argue that the law needs to catch up with current scientific understandings. Current technological advancements have begun to create untenable inconsistencies between law and reality.

One such technology is the brain-machine interface. This technology can allow for the direct control of robotics, including prosthetics, via neural impulses. To optimize the use of the technology, especially for the disabled, researchers have introduced two relevant modifications. The first is to employ signals from the areas of the brain that are related to the planning of movement, that is, not the part of the brain associated with conscious movement. Further, applications of the technology have also employed artificial intelligence to predict and effect movements; this is especially necessary given the taxing mental exertions associated with controlling robotics via brain-machine interfaces. In both instances, science has created situations where technology can circumvent the conscious command-and-control elements of the brain to simplify the use of the robotics via brain machine interfaces. Unfortunately, the same circumvention would likely also relieve the user of the brain-machine interface from any criminal culpability under the current understanding of criminal law. To wit, a suspected criminal who committed a crime via a

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brain-controlled robotic device could argue that the criminal action achieved by the robotic device was either via the artificial intelligence prediction engine, and not willfully by the suspect, or via prevoluntary preconscious, and as such amoral (under the law's understanding that we are not culpable for our unconscious thoughts), direction from the brain that circumvented free will (Weinberger and Greenbaum 2016). While it is granted that such criminal acts may currently be extremely rare, as the technologies progress, they will only become more likely.

Some argue that notwithstanding the deluge of neuroscience research (Maoz and Yaffe 2016), and even our given current levels of understanding, we should avoid drawing practical conclusions and maintain the status quo within criminal law (Shen 2016). This is shortsighted: The continued reliance on these binary distinctions between criminal voluntary actions and excusable involuntary actions, or consciousness and unconsciousness, is untenable in light of the vast spectrum of possible behaviors between those poles.

Optimally, the Model Penal Code and associated statutes should be updated to entirely remove this simple but problematic distinction between voluntary and involuntary—a distinction that while some claim is constitutional (*US v. Flores-Alejo* 2013), others do not (*Jones v. City of Los Angeles* 2006)—and avoid any conclusions regarding free will when assessing the punishment of crimes. This quasi-no-fault criminal law system that assumes all criminal acts are voluntary and culpable would not have immediate practical implications, as the involuntary defense is currently rarely employed given the high burden of proof. Nevertheless, eliminating this distinction may prove to be significant as technologies progress (Slobogin 2017).

In formally conflating the mens rea and actus reus elements for criminal culpability, we relieve the criminal justice system of having to make simpleminded distinctions that are scientifically unsound, and prevent future criminals from avoiding culpability through claiming that their actions were not voluntary (i.e., culpable) under the law. This is not a permanent solution, but rather a stopgap, until advances in neuroscience research and concomitant advances in technologies force us to reassess. ■

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