BRAIN THEORY

ESSAYS IN CRITICAL NEUROPHILOSOPHY

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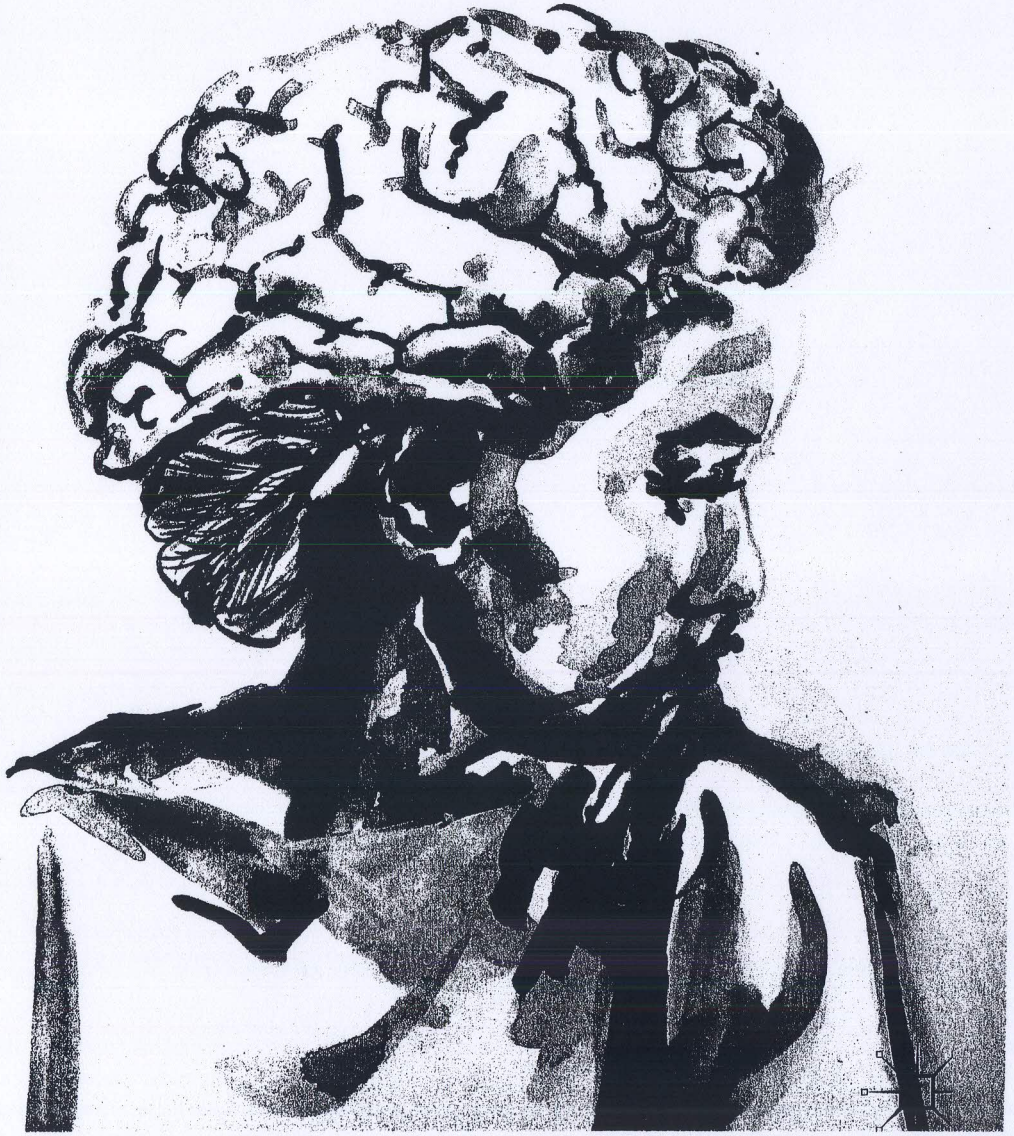

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Ethics and the Brains of Psychopaths: The Significance of Psychopathy for Our Ethical and Legal Theories

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8.1 Introduction

The first well-publicized success of the neuroscience revolution was Damasio's (1995) case history of a man referred to as EVR, who began to show signs of psychopathy following surgery to remove a brain tumor above the orbits of his eyes. Since then, the neuroscience of psychopathy and sociopathy has steadily moved forward to begin to identify what is different about their brains. Not all psychopathy is caused by environmental conditions, however. There is mounting evidence that some psychopaths are born that way. The existence of such people within a society has profound implications for our attempts to build ethical and just communities. How should we manage the psychopaths amongst us? In this chapter, we will examine this and other questions. We will begin with a description of the current method of diagnosing psychopaths. Then we will describe four competing neuropsychological theories of what is different about their brain functions. In the final sections, we will trace the implications that the existence of psychopaths has for our theories of ethics and of legal and moral responsibility.

8.2 Diagnosing psychopaths

In the early 1800s, doctors who worked with mental patients noticed that some of them who appeared outwardly normal had what they called "moral depravity" (Rush 1812) or "moral insanity" (Pritchard 1835) in

that they seemed to possess no sense of morality or of the rights of other people. The term "psychopathy" was first applied to these people around 1900. The term was changed to "sociopath" in the 1930s to emphasize the damage they do to society. Most contemporary researchers have returned to using the term "psychopath." Some of them use that term to refer to a more serious disorder, linked to genetic traits, producing more dangerous individuals, while continuing to use "sociopath" to refer to less dangerous people who are believed to be more products of their environment, including their upbringing (Partridge 1930). Other researchers make a distinction between "primary psychopaths," who are thought to be genetically caused, and "secondary psychopaths," who are products of their environments.

The book that psychologists and psychiatrists use to categorize and diagnose mental illness, the DSM version IV, contains a category called "antisocial personality disorder" (APD).[1] This is a much broader category, which is behaviorally defined, and which includes both sociopathy and psychopathy. Roughly 1 in 5 people with APD is a psychopath (Kiehl and Buckholtz 2010). The percentage of psychopaths in the population as a whole is not known, but Kiehl estimates that between 15 and 35 percent of prisoners in the US are psychopaths (Kiehl and Buckholtz 2010).

The current approach to defining psychopathy and its related concepts is to use a list of criteria. The first such list was developed by Hervey Cleckley, who is known as the first person to investigate psychopaths using modern research techniques (Cleckley and Cleckley 1982). Anyone fitting enough of these criteria counts as a psychopath. There are several such lists in use. The most commonly used is called the Psychopathy Checklist Revised (PCL-R), which contains 20 questions (Hare 1991). An alternative version was developed in 1996 by Lilienfeld and Andrews, called the Psychopathic Personality Inventory (PPI) (Lilienfeld and Andrews 1996). In addition, the World Health Organization delineates a similar category it calls "dissocial personality disorder." The questions on these tests and their associated criteria pertain to both the behavior and personality of the interviewee. One future issue will be whether we want to shift the criteria for psychopathy from the more behaviorally oriented ones currently used to a brain-based definition: a psychopath is someone with this sort of brain. This assumes that the neuroscience of psychopathy establishes that a single type of brain is responsible for psychopathic behaviors, and that there are not several different variants.

While each of the inventories is different, there are significant areas of overlap, including the following criteria:

- *Uncaring*

  The PCL describes psychopaths as being callous and showing a lack of empathy, a trait which the PPI describes as "cold-heartedness." The criteria for dissocial personality disorder include a "callous unconcern for the feelings of others."

- *Shallow emotions*

  Psychopaths, and to a degree sociopaths, show a lack of emotion, especially the social emotions, such as shame, guilt, and embarrassment. Cleckley said that the psychopaths he came into contact with showed a "general poverty in major affective reactions," and a "lack of remorse or shame." The PCL describes psychopaths as "emotionally shallow" and showing a lack of guilt.

  There are now several lines of evidence that point to the biological grounding for the uncaring nature of the psychopath. For us, caring is a largely emotion-driven enterprise. The brains of psychopaths have been found to have weak connections among the components of the brain's emotional systems. These disconnects are responsible for the psychopath's inability to feel emotions deeply. They are also not good at detecting emotions in voices of other people, especially fear (Blair et al. 2002). They score poorly on tasks involving identifying emotions in faces. In consonance with their public image, psychopaths have reduced fear reactions: they show smaller reactions to the threat of impending electric shock. The emotion of disgust also plays an important role for our ethical sense. But psychopaths have extremely high thresholds for disgust. They show smaller reactions to the gruesome sight of mutilated faces, and to foul odors.

- *Irresponsibility*

  According to Cleckley, psychopaths are unreliable, while the PCL mentions "irresponsibility" and the PPI describes psychopaths as showing "blame externalization." The criteria for dissocial personality disorder include a disregard for social norms, rules, and obligations.

- *Insincere speech*

  Ranging from what the PCL describes as "glibness" and "superficial charm" to Cleckley's "untruthfulness" and "insincerity," all the way to "pathological lying," psychopaths devalue speech by inflating and distorting it toward selfish ends. The criteria for APD include "conning

others for personal profit or pleasure." This casual use of words may be attributable to what some researchers call a "shallow sense of word meaning." Psychopaths do not show a differential brain response to emotional terms that normal people do (Williamson et al. 1991). They also have trouble understanding metaphors and abstract words.

- *Overconfidence*

  The PCL describes sociopaths as possessing a "grandiose sense of self worth."

- *Selfishness*

  Cleckley spoke of his psychopaths showing a "pathologic egocentricity [and incapacity for love]," which is affirmed in the PPI by its inclusion of egocentricity among its criteria. The PCL also mentions a "parasitic lifestyle."

- *Inability to plan for the future*

  Cleckley said that his psychopaths showed a "failure to follow any life plan." According to the PCL, psychopaths have a "lack of realistic long-term goals," while the PPI describes them as showing a "carefree nonplanness."

- *Violence*

  The criteria for dissocial personality include, a "very low tolerance to frustration and a low threshold for discharge of aggression, including violence." The criteria for antisocial personality disorder include "irritability and aggressiveness, as indicated by repeated physical fights or assaults." The PCL also describes psychopaths as having a need for stimulation and a proneness to boredom, which may be causal factors behind the violence.

8.3 Neuropsychological theories of psychopathy

8.3.1 The attentional model

According to Newman and his colleagues, the core deficit in psychopathy is a failure of what he calls "response modulation" (Hiatt and Newman 2006). When normal people engage in a task, we are able to alter our activity, or modulate our responses, depending on peripheral information. Psychopaths are specifically deficient in this ability, and according to Newman, this explains the impulsivity of psychopaths, as well as their problems with passive avoidance and with processing emotions.

Top-down attention tends to be under voluntary control, whereas bottom-up attention happens involuntarily. This is captured in the folk-psychological language of attention reports. In the case of top-down attention, we say "I looked for my car," whereas cases of bottom-up attention are expressed passively: "The sound drew my attention." Bottom-up attention can temporarily capture top-down attention, as when movement in the periphery of our visual field attracts our attention. Psychopaths have trouble using top-down attention to accommodate information that activates bottom-up attention during a task. In normal people, this process tends to happen automatically. When the hunter is scanning for deer, a rabbit hopping into the periphery of his visual field automatically attracts his attention.

The Stroop task is a neuropsychological test in which the subject must quickly state which color of ink a word is printed in. What makes the task difficult is that the words are themselves color words, so that for instance, the word "red" appears written in blue ink. Normal people have a slight delay as they have to inhibit the tendency to say "red" and instead answer "blue." There are now several studies indicating that psychopaths actually perform better than normal people on these tasks (Newman et al. 1997; Hiatt et al. 2004), presumably because they are not distracted in the way that normal people are. Once they have begun an activity, psychopaths are also insensitive to shifts in the pattern of rewards for their actions. In one study, psychopaths were shown a series of playing cards on a screen. They were told that they would receive one point for each face card but lose a point for each non-face card. The deck was deliberately stacked so that the first ten cards were face cards, then nine of the next ten, then eight of the next ten and so on. Subjects were told they could stop playing at any time. Non-psychopaths noticed the worsening trend and tended to stop playing after about 50 cards. Psychopaths played doggedly on, however, until the deck was almost finished and their winnings were gone.

8.3.2 The amygdala model

Blair and his colleagues have argued that the amygdala and ventromedial prefrontal cortex (vmPFC) are the core dysfunctional areas in psychopathy (Blair et al. 2005). The notorious lack of fear shown by psychopaths points to an amygdala dysfunction. In an fMRI study of fearful expression processing, Marsh and Blair reported reduced functional connectivity between the amygdalae and the vmPFC in children with psychopathic tendencies (Marsh and Blair 2008). Moreover, Birbaumer et al. (2005) reported reduced vmPFC activity as well as reduced amygdala activity in individuals with psychopathy during aversive conditioning (Birbaumer

et al. 2005). Blair, Mitchell and Blair (2005) have argued that amygdala function is impaired in psychopaths, leading to dysfunctional creation and processing of affect-laden representations, particularly of others the psychopath may harm (Blair et al. 2005). In this regard, psychopaths may be similar to patients with damage to the ventromedial prefrontal cortex who are said to be suffering from "acquired sociopathy" (Roskies 2003). In persons with normal cognition, the vmPFC tends to take emotional input from the amygdala, and plays a role in anticipating and modulating rewards and punishments (Kringelbach 2005). Motzkin et al. (2011) found reduced functional connectivity between the vmPFC and amygdala in a sample of psychopaths. They also found reduced structural integrity of the right uncinate fasciculus, the primary white-matter connection between the vmPFC and the anterior temporal lobe including the amygdala, which they suggest is the ground of the reduced functional connectivity (Motzkin et al. 2011).

Roskies claims that vmPFC patients have normal reasoning capacities, but are simply not motivated to act on moral beliefs (Roskies 2006). This may be due to their inability to experience moral emotions such as empathy. When asked to provide an answer to the famous "trolley" thought experiment – where subjects are asked to decide whether to intentionally kill one person to save five – patients with ventromedial damage are more likely to judge that intentionally killing the one person (by pushing him onto trolley tracks) is the right thing to do, despite their having an active role in the killing. Thus, it is thought that persons with ventromedial damage may be more likely to engage in antisocial or immoral behavior, precisely because they do not feel badly about such actions.

When subjects are presented with moral dilemmas having a strong emotional character, activity in a network including the amygdala, medial prefrontal cortex, posterior cingulate gyrus, and the angular gyrus is observed. This network has been found to be active during "self-referential thinking, emotional perspective taking, recalling emotional experiences to guide behavior and integrating emotion in social cognition" (Glenn et al. 2009, 6). Glenn et al. found reduced activity in the amygdalae of psychopaths during emotional decision making, and found that a subgroup of these subjects who were skilled at conning and manipulation showed reduced activity within this "moral circuit." "Dysfunction in these regions," say Glenn et al., "suggest failure to consider how one's actions affect others, failure to consider the emotional perspective of the harmed other, or a failure to integrate emotion into decision making processes" (*Ibid.*). Similarly, Blair and Cipolotti (2000) extensively tested a subject with acquired sociopathy as a result of damage to his orbitofrontal cortex and left amygdala. They found that his responses to negative emotions were diminished, and they argue that his primary problem was an inability to be sensitive to others' anger.

8.3.3 The paralimbic model

Kiehl accepts that the amygdala is dysfunctional in psychopaths, but also implicates a much wider area of dysfunction, called the paralimbic cortex. This collection of cortical areas, which includes the anterior cingulate, posterior cingulate, superior temporal, insular and hippocampal cortex, forms a ring of inner cortical zones around the thalamus. Evidence that the insula is dysfunctional in psychopathy favors Kiehl's broadening of the areas of suspicion beyond the amygdala and ventromedial cortex. The insula, hidden in the fold that separates the temporal lobe from the lateral cortex above it, has been found to activate when the subject detects violations of social norms. It also activates when subjects experience anger, fear, empathy, and disgust (Kiehl and Buckholtz 2010). The insula also plays a role in pain perception, so dysfunction there may explain experimental findings in which psychopaths were insensitive to the threat of impending pain, in this case electric shock. The right insula and right hippocampus were also found to have smaller volumes in those scoring high on the PCL-R (Cope et al. 2012). A subsequent study on adolescents who scored highly on a version of the PCL-R adapted for younger people showed decreased gray matter volume in several paralimbic areas, including the orbitofrontal cortex, bilateral temporal poles, and the posterior cingulate (Ermer et al. 2013).

Cognition without the proper mix of emotion (or, more neutrally, autonomic activity) – whether it is too much or too little emotion – may be aimless and subject to being sidetracked by poor reasoning. The role of emotion in cognition goes beyond that of merely inhibiting us from doing harmful, illegal, or counterproductive things. It guides our reasoning, and can provide us with a sense of how strong or weak an argument is. For example, Baird and Fugelsang discovered that adolescents take longer to make moral decisions, partly because they have yet to develop the "gut" feeling which requires one to stop considering a decision when an immoral or harmful result is realized (Baird and Fugelsang 2004). Without this feeling, a strong reason to do x and a weak reason to not do x can appear to be equal. This can cause a sort of neutralizing effect, in which a weak argument and an opposing strong argument are taken to be equal in force.

8.3.4 The executive model

Morgan and Lilienfeld (2000) conducted a meta-analysis of the existing research on executive function in people diagnosed as exhibiting antisocial behavior, a large category that includes those diagnosed with antisocial personality disorder, as well as those diagnosed as psychopathic. They found that the antisocial behavior group scored .62 standard deviations worse on tests of executive function, which yielded a medium to large effect size. This included a finding of response perseveration in a group diagnosed as psychopathic (Newman et al. 1987; Yang et al. 2011). Since then, several attempts have been made to delineate subtypes within the category of psychopaths, partly in order to discern whether certain groups might have more severe executive function deficits. Recent research has distinguished two categories of psychopath who apparently have very different executive profiles: successful psychopaths, with little or no criminal record, and unsuccessful psychopaths, currently incarcerated or with a substantial criminal record. Gao and Raine (2010) recently published a review of studies distinguishing the two populations within five different samples: a community recruited sample, individuals from temporary employment agencies, college students, psychopaths employed in business and industry, and psychopathic serial killers. Unsuccessful psychopaths showed reduced prefrontal and amygdala volumes as well as hippocampal abnormalities, resulting in reduced executive functioning, including impaired decision-making (Gao and Raine 2010). Unsuccessful psychopaths also exhibit impaired autonomic/somatic responses and fear-conditioning deficits which are thought to contribute to poor and risky decision-making (Gao and Raine 2010). In contrast, successful psychopaths do not show similar structural and functional impairments of the prefrontal cortex, amygdala and hippocampus (Gao and Raine 2010).

Ishikawa et al. (2001) found that successful psychopaths actually had greater autonomic responses than both unsuccessful psychopaths and normal controls (as measured by their heart rate reactivity) during a task designed to produce embarrassment: preparing and then delivering a two-minute speech detailing their personal faults and weaknesses. The Ishikawa et al. study also found that, compared with unsuccessful psychopaths who had at least one criminal conviction, successful psychopaths had enhanced executive functioning as measured by the Wisconsin Card Sorting Task (WCST) (Ishikawa et al. 2001). The WCST is used to assess the following frontal lobe functions: strategic planning, organized searching, shifting of cognitive sets, considered attention, and modulating responses (Ishikawa et al. 2001). Indeed, successful psychopaths showed significantly better performance on the WCST than non-psychopathic controls (Ishikawa et al. 2001). In contrast, unsuccessful psychopaths scored lower than the controls, even though the two psychopathic groups did not differ on full scale IQ compared with the controls (Ishikawa et al. 2001). Ishikawa and colleagues suggested that better executive function might play a protective role for successful psychopaths, decreasing their tendency to be caught up in the criminal justice system (Ishikawa et al. 2001). This executive profile may also make successful psychopaths more effective at manipulating people.

8.4 Psychopathy, responsibility, and punishment

There has been much written about the criminal culpability of psychopaths in the past ten years, with many scholars arguing that psychopaths are at least partially excused from criminal responsibility. However, in most cases criminal courts have continued to deem psychopaths fully responsible. By some estimates there are half a million psychopaths currently in US prisons (Kiehl and Buckholtz 2010). Juries have been known to assign psychopaths the most serious of criminal punishments: In 2010, an Illinois jury sentenced murderer James Dugan to death, despite the defense's offering of expert psychological and neuroscientific evidence that he was a psychopath (Hughs 2010).

One can see the tension psychopathy generates for the law in the wake of high profile murder cases, such as the Sandy Hook Elementary School shootings, where many newspaper articles and blogs asked questions such as "Was Adam Lanza Sick or Evil?"[2] On the one hand, many consider any person who could kill first graders obviously sick; on the other hand, the instinct to call an obviously dangerous person who could commit such terrible crimes "evil" and punish him harshly is extremely strong. Many psychopathic offenders generate the same response: their cruel actions must mean they are sick, which would mitigate responsibility and punishment, or they are viewed as evil, which means they are more deserving of punishment. This tension is buoyed by the use of antisocial and criminal behavior in diagnoses of psychopathy, which could result in a lot of overlap between the category of "people who do really bad things" and "psychopath." For psychopathy to be an excuse under the law, it is not enough to recognize that psychopaths' behavior indicates they are abnormally antisocial and dangerous, for many dangerous people should be held fully responsible for their acts. Instead, to qualify for an excuse under the law, psychopaths must suffer from cognitive

impairments significant enough to distinguish their decision-making and action from those of the normal responsible agent.

The disagreement among scholars regarding the responsibility of psychopaths appears to be related to a dispute about the decision-making capacities necessary for culpability. In turn, this dispute about mental capacity further reflects differences regarding the ultimate justification for criminal law and punishment, because the reasons why we punish affect our views of who should be punished.

8.4.1 The functions and justification of punishment

Criminal sanctions, including incarceration, are designed to serve particular functions. These are often called the principles of punishment, and there are four that are referred to most often: retribution, deterrence, incapacitation, and rehabilitation. According to the principle of retribution, violators of the law should get their "just deserts": punishment should serve to provide harmful consequences in response to a harmful act. The principle of deterrence attempts to influence an offender's decision-making with the threat of punishment. Both the general population and the specific offender who is punished are thought to be deterred from criminal acts by punishment. The principle of incapacitation also aims to stop defendants from offending, but there is no attempt to influence decision-making; instead the offender's environment is manipulated to make reoffending impossible, typically via incarceration. Finally, rehabilitation is the idea that offenders can be reformed so that they won't reoffend.

These *functions* of punishment are generally thought to fall into two broad categories of *justification* for punishment. A justification for punishment provides good reasons why society is warranted in denying offenders' liberties based upon their performance of certain acts. Traditionally deterrence, incapacitation, and rehabilitation were seen as *utilitarian* functions of punishment best understood and justified using a consequentialist theory. All three of these functions of punishment can be explained in terms of their consequences and an offender's rational tendency to maximize utility; or lack thereof (e.g. their failure to take into consideration societal-level utility). *Deontological moralism*, on the other hand, is clearly reflected in the principle of retribution, which states that violators of the law should get their "just deserts" in the name of moral notions of justice. This means that punishment should serve to provide harmful consequences in a response to a harmful act. Offenders ought to act out of duty to the moral law, and when they do not, they deserve moral condemnation and punishment proportional to the moral harm caused by their action.

Virtue theory represents a less popular third way punishment can be justified, by emphasizing the criminal law's obligation to "promote human flourishing by instilling and cultivating the moral virtues, promoting sound practical reasoning and punishing those who display vice" (Yankah 2009). Virtue theory is most obviously tied to punishment's function of rehabilitation, which aims to reform offender's characters such that they won't recidivate. However, the other functions of punishment can also be seen through the lens of virtue theory: as attempts to influence choices and character in the case of deterrence, incapacitation, and rehabilitation, or as moral judgment which refers to, and should be respectful of, character in the case of retribution.

As one legal scholar has noted, one of the central problems in the criminal law is that it cannot be justified by a single theory (Brown 2002). Because of this, attempts to make utilitarianism, or deontological theory, the sole justification for criminal law have been unsuccessful (Brown 2002). Despite recent changes to the Model Penal Code which seem to reflect an emphasis on retribution as the primary function of punishment, the current US criminal justice system seems to embrace multiple functions of punishment, and thus seems to require multiple justifications for its structure. Indeed, one might argue that the best version of the criminal justice system may be informed by all three and attempts to balance the four functions of punishment so as to produce social order and moral justice, and to promote good moral character.

8.4.2 The mental capacities necessary for criminal culpability

Many legal scholars pose questions of criminal culpability in terms of legal rationality expressed in the language of folk psychology. For example, Stephen Morse argues that the law's conception of the person as a practical reasoner is inevitable given the nature of the legal system: the law is meant to give people reasons to act, or refrain from acting, and hence requires that people be capable of acting for reasons. According to Morse, "It is sufficient for responsibility that the agent has the general capacity for rationality, even if the capacity is not exercised on a particular occasion" (Morse 2000, 253). In turn, the lack of a general capacity for rationality explains those cases where the law excuses persons from responsibility. Morse defines this general capacity as an underlying ability to engage in certain behavior. If a person is capable of certain conduct, it is fair to hold her responsible for failing to engage in such conduct.

Morse fleshes out his account by including the following capacities as constitutive of rationality: (1) the ability to perceive the world accurately,

form true and justifiable beliefs; and (2) the ability to reason "instrumentally, including weighing the facts appropriately and according to minimally coherent preference-ordering" (Morse 2000, 255). Weird or abnormal desires themselves don't make a person irrational unless she lacks the rational capacities to weigh and order her desires. Therefore a person with disorders of desire is excused only where a desire is so strong and overwhelming that he loses the capacity to be guided by reason. Overall, the law's standard for rationality is set fairly low, according to Morse, because our legal system "has a preference for maximizing liberty and autonomy" (Morse 2000, 255).

H. L. A. Hart argued that the capacities necessary for responsibility may be "diminished" or "impaired," as well as wholly lacking, "and persons may be said to be 'suffering from diminished responsibility' much as a wounded man may be said to be suffering from a diminished capacity to control the movements of his limbs" (Hart 1968, 228). The defense of diminished capacity recognizes that some defendants may have decreased legal rationality or capacity, and allows a criminal defendant to reduce the degree of the crime for which he may be convicted, even if the defendant's conduct satisfies all the elements of a higher offense (Morse 1984; Morse 2003). Courts may also use the doctrine of diminished capacity to decrease the level of punishment. This "partial responsibility" application of diminished capacity is justified by the principle of proportionality, whereby punishment is moderated to be proportional to both the harm caused and the type of offender. Those who suffer from diminished capacity are thought to be less responsible for their acts because they do not have the capacity to form intentions in the way that normal adults do.

Interestingly, the three justifications for criminal law each seem to emphasize slightly different cognitive capacities as necessary for culpability under the law. Consequentialism highlights the need for rational capacities as a means to grasp and reflect upon the consequences of action. Virtue theorists similarly claim the practice of practical reason is necessary to develop character and exercise virtuous traits. However, also important to the practice of virtuous traits is the requirements that an actor feel the right way about her actions, and the permanence of personality traits which then dictate action. Deontologists also require that a responsible actor grasp the moral reasons for or against action, where this understanding often includes possessing the appropriate emotional responses to ethical situations.

For example, Oliver Wendell Holmes is considered a proponent of the consequentialist model. Holmes famously stated that the law ought

to be understood and persuasive to the "bad man," who cared about nothing but his own interests (Holmes 1997). It seems possible that under Holmes' theory the bad man need not feel the right way about his acts, but only know they are forbidden, for him be responsible under the law. Morse, on the other hand, argues that legal rationality includes the capacity to act for moral reasons, claiming that "Unless an agent is able to understand what the victim will feel and is able to at least feel the anticipation of unpleasant guilt for unjustifiably harming another, the agent lacks the capacity to grasp and be guided by the primary rational reasons for complying with legal and moral norms" (Morse 2000). Thus Morse's theory would seem to be deontological, in that he believes a lack of emotional data regarding the potential consequences of one's act translates into a wholesale lack of legal rationality.

8.4.3 The legal capacity of psychopaths

Because of their lack of emotional data, Morse has argued that at least some psychopaths are not criminally responsible because they are thus not legally rational. Indeed, Morse argues for an extension of the current grounding conditions for legal insanity to include psychopathy (Morse 2008). Other philosophers have claimed psychopaths are not fully culpable because they lack personhood (Murphy 1972), or moral knowledge (Fields 1996). We have argued that some psychopaths' deficits in executive function mean they are not fully rational (Sifferd and Hirstein 2013). Again, these different positions on psychopathy as an excuse reflect differences of perspective on the constituents of legal rationality, which further reflect different justifying theories of criminal law.

On a traditional utilitarian theory of criminal law, the behavior of psychopaths can seem incomprehensible. Under utilitarianism, rationality was often portrayed as a "cold" process whereby an actor attempted to maximize utility. The threat of punishment, discounted by the likelihood the punishment will be imposed, was thus thought to dissuade at least some potential offenders from offending. As indicated above, this means utilitarian theories of law see social order, and thus deterrence, incapacitation, and rehabilitation, as the primary functions of punishment. The reason why some actors are not dissuaded from committing crimes may be that they discount the future (e.g. they discount the pain of punishment in light of the potential gain of the crime); they discount the likelihood of being caught; or they have nothing to lose from the crime (e.g. their current situation is as bad or worse than prison). The appropriate level of punishment is the amount necessary to outweigh the potential gains from the criminal act (Bentham 1789).

Although many psychopaths are of average or above average intelligence, they systematically fail to be persuaded by the threat of punishment such that they refrain from committing crimes. Thus if rationality is equated with intelligence, psychopaths are fully rational and yet commit crimes due to their narcissism or Machiavellianism (Paulhus and Williams 2002). According to the attentional model, some psychopaths may not be fully rational due to their deficits in attention, although it seems unlikely that attentional deficits alone, without other executive deficits, would be enough to place psychopaths beneath the very low bar of legal rationality. Similarly, dysfunction in fear or motivation are unlikely to result in a person's inability to maximize utility via something like means/end reasoning.

If one accepts the paralimbic model of psychopathy, then one might claim that psychopaths are missing correct emotional data, and then argue such data is crucial to rationality, using something like a Damasio-style somatic marker model of rationality (Damasio 1995). It may be that emotional feedback plays an important inhibitory role in ethical decisions, and without this feedback psychopaths cannot stop themselves from causing harm. From the utilitarian perspective, this would require an argument that psychopaths were so limited in their ability to go through the same rational process of weighing the costs and benefits of breaking the law that they have diminished mental capacity. It seems that the executive function model could provide a fuller account of the necessary tools for legal rationality – which are not just attentional, but involve access to memory, inhibition, use of theory of mind capacities, etc. – and also a diagnostic tool for determining what level of executive dysfunction may be excusatory.

But what about the "successful" psychopaths with intact executive functions? They have an emotional lack, but also the ability to reflect upon and inhibit their actions, despite their emotional lacks. From the utilitarian perspective, which sees persons as rational utility maximizers, and labels acts wrong when they result in harm and undermine social order, it seems that so-called successful psychopaths are fully culpable. Indeed, there is some evidence that at least certain groups of psychopaths are excellent utilitarian actors who aren't overly narcissistic: in one study psychopaths were significantly more likely to endorse harming others when commission of the harm would maximize aggregate welfare – the 'utilitarian' choice (Koenings et al. 2012). Even so, there is no question successful psychopaths are different from the average person, and that this difference requires special interventions and effort for the successful psychopath to be law-abiding. Even if successful psychopaths are rational in the eyes of the law, they are also actors who need special attention or assistance regarding their behavior. Just as a color blind motorist will need to take special rule-following precautions in order to obey traffic signals (such as memorizing the location, and not the color, of stop and go signals on traffic lights), so too do successful psychopaths need special help policing their behavior so it doesn't cause harm.

The psychopath's heightened tendency to cause harm may be more easily explained from the perspective of deontological moralism or even virtue theory, both of which emphasize the way in which an actor's moral feelings may guide their behavior as crucial to the moral quality of the act. All psychopaths fail to have normal emotional responses to cues of distress in that they lack some of the moral emotions which make salient potential harmful outcomes of behavior. While a utilitarian theory can attempt to include this information in their conception of rationality, a Kantian (deontological) moral actor, and a person with a good Aristotelian character, is required to feel the right way about an action for it to be the right action at all. Even if successful psychopaths are excellent utilitarian actors, capable of sophisticated reasoning with regard to the outcomes of their action, they still don't feel the right sorts of emotions about their actions, which results in a greater likelihood to underestimate the value of human life and interests when compared to normal actors.

Interestingly, a recent study found that participants who indicated greater endorsement of utilitarian solutions had higher scores on measures of psychopathy (Bartels and Pizarro 2011). The experimenters presented subjects with variants of the trolley problem – either watch five passengers in a runaway trolley car die, or push one bystander onto the tracks to his death to stop the car – and also asked questions to track their psychological dispositions, finding a strong link between the anti-social tendencies and willingness to kill the bystander to save the trolley passengers. The implication of the study was that appropriate moral feelings may lead one to take more seriously deontological commitments such as the categorical importance of human life or justice. Again, it seems that a deontological justification for punishment may have an easier time excusing the psychopath, given that from this perspective possessing the right sorts of moral emotions is so central to doing the right thing. In this sense, Morse's theory of psychopathy, which argues that the psychopath's lack of moral emotions such as empathy and guilt make him so irrational as to be legally insane, can be seen as compatible with a deontological theory of law and punishment.

8.4.4 The punishment of psychopaths

From a practical standpoint, if a psychopathic offender is deemed eligible for the excuse of diminished capacity, he may then qualify for a lesser crime or less severe punishment (just as a severely mentally retarded offender may be found guilty of manslaughter, instead of first degree murder, or deemed ineligible for the death penalty). If the psychopathic offender is given a shorter sentence, this result is worrying because the cognitive incapacity that qualifies the psychopath for an excuse of diminished capacity is likely to make him likely to recidivate. Indeed, this quite serious worry may be part of what motivates Morse to claim that psychopaths should be considered for the insanity plea: offenders deemed legally insane are incapacitated in a hospital for the mentally ill, often for longer than their criminal sentence would have been had they been convicted (Perlin 1994).

However, the future dangerousness of a defendant is not relevant at the guilt phase of a trial, which aims only to determine guilt regarding a particular crime. At sentencing, future dangerousness may in some cases be considered (e.g. in capital cases); but at the same time, diminished capacity may be considered as a mitigating factor, cancelling out the aggravating factor of dangerousness. In the end, however, the hard case of psychopaths does not seem to be a good reason to alter the traditional handling of the defense of diminished capacity. As legal scholars know well, hard cases make bad law. Altering the structure or application of the diminished capacity excuse to fit the psychopathic offender threatens the justice and coherence of the law. Instead, the criminal justice system might attempt to address concerns about recidivism by offering rehabilitative programming to psychopathic prisoners – intensive cognitive therapy has been shown to have some effect on antisocial behavior by psychopaths (Skeem et al. 2002) – or by subjecting psychopathic offenders to specific conditions for parole.

The latter possibility, of strict monitoring and reporting requirements for psychopaths upon release, is probably more realistic given the cost of intensive cognitive therapy. Despite worries about its ability to predict dangerousness, the PCL-R is already used in many US jurisdictions to inform parole decisions (Hare 1998). The psychopathic parolee could be subject to something like a registration program, similar to that many sexual offenders are required to undergo; although these sex offender registration programs make clear that there are significant risks in publicly tagging offenders as dangerous.

8.5 A sociopathic society?

According to David Lykken, one of the primary researchers of sociopathy and psychopathy, our society has become an incubator for sociopaths. They "occur in ever-increasing numbers, especially in our cities," he says, where we are producing sociopaths "with factory like efficiency and at enormous cost" (Lykken 1995, 7). These environmental influences work in conjunction with what appear to be genetic roots of psychopathy. In a study of seven-year-old twins, Viding et al. (2005) found that one of the core traits of psychopathy that manifests itself early in life, the tendency to be callous and unemotional, was under "strong genetic influence." The possibility that the human race contains members genetically programmed to sabotage our attempts to create an ethical society is disquieting. Given the unguided nature of evolution, it is plausible that a phenomenon like this could arise. Many male psychopaths are adept at seducing women, and this guarantees that they will pass on their genes. One way to prevent the percentage of psychopaths in a society from rising is to sensitize ourselves to their characteristics and their consequences. We fear that this is currently not happening, and that, at least in the US, we are creating a society that in many ways admires and nurtures psychopaths.

The psychologist Robert Hare is acknowledged as the foremost expert in the psychological characteristics of sociopaths. In recent writings with colleagues (Babiak and Hare 2009; Babiak et al. 2010), he has begun to suggest that certain corporation presidents might be considered psychopathic because of their behavior toward their consuming public. There is evidence that some businesspeople do not care about who their products hurt, as long as they are profitable. They are able to get away with this sort of behavior partly because of a social climate that is favorable toward them. A case that has become emblematic of this unconcern for human life happened in the 1970s at Ford Motor Corporation. After it became apparent that the gas tank design of the hugely popular Ford Pinto was dangerous, a calculation was made by the Ford Motor Corporation of how many people their defective gas tank would kill (after exploding due to an impact from the rear), and how much money they would lose on each lawsuit vs. how much it would cost to fix the gas tanks. The projected lawsuit losses were less than the cost of fixing the cars, so the decision was made not to fix them, and several more people burned to death as a result. The person at the head of the table during these discussions was Lee Iacocca, who later became a famous icon of business, and whose books dispensing management advice were widely read.

8.6 Conclusion

The emerging neuroscience of psychopathy will have several important implications. In this paper we reviewed four competing neuropsychological theories of psychopathic cognition. The first of these models, Newman's attentional model, locates the problem in a special type of attentional narrowing that psychopaths have shown in experiments. The second and third, Blair's amygdala model and Kiehl's paralimbic model, focus on the psychopath's emotional deficits, both in experiencing his own emotions as well as responding to the emotions of others. The fourth model locates the problem at a higher level, and may be better able to account for the heterogeneous nature of the psychopathy. This model accounts for the failure of psychopaths to notice and correct for their attentional or emotional problems using executive processes. Executive processes are a vital component of human rationality since they are responsible for planning actions, or inhibiting unwise actions, as well as allowing emotions to influence cognition in the proper way. Some successful psychopaths may have these abilities, while unsuccessful psychopaths may not.

We have evaluated psychopaths in light of the three primary theories used to justify criminal punishment: utilitarianism, deontological theory, and virtue ethics. Each emphasizes slightly different cognitive capacities as necessary for culpability under the law. Consequentialism highlights the need for rational capacities as a means to grasp and reflect upon the consequences of action. Virtue theorists similarly claim that practical reason is necessary to develop character and exercise virtuous traits. Deontologists require a responsible actor grasp the moral reasons for or against action, where this understanding often includes possessing the appropriate emotional responses to ethical situations.

The psychopath's heightened tendency to cause harm may be more easily explained from the perspective of deontological or virtue theory, precisely because they focus upon the way an actor's feelings are crucial to the moral quality of the act. All psychopaths fail to have normal emotional responses to cues of distress in that they lack some of the moral emotions which make salient potential harmful outcomes of behavior. Utilitarian theory can attempt to include this information into their conception of rationality; however, a deontological moral actor, and a person with a good character, is required to feel the right way about an action for it to be the right action at all. Thus it seems that deontological or virtue theory may have an easier time excusing the psychopath than utilitarian theory.

If a psychopathic offender is deemed eligible for a criminal excuse, he may then qualify for a lesser crime or less severe punishment. This is worrying due to the psychopath's heightened tendency to recidivate. The criminal justice system might attempt to address this problem by offering rehabilitative programs to psychopathic prisoners, or by subjecting psychopathic offenders to specific conditions for parole. We feel that it may be especially important for courts to strictly monitor psychopaths.

That old saw about whether humans are essentially good or essentially bad may be informed by our broadening knowledge of psychopaths, especially given the possibility that their condition may be at least partly genetic. Anyone defending the notion that we are basically good will need to add a rejoinder about how that generalization cannot include all of us. How the rest of us deal with the psychopathic population will determine the sort of future societies we will live in.

Notes

1. There is now a DSM version V, but it remains controversial to the point of being rejected by the US National Institute of Mental Health.
2. Kerwick (2012).

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