

Evolutionary Psychology

www.epjournal.net – 2013. 11(5): 1062-1066

Book Review

Miswired Miscreants

A review of Adrian Raine, *The Anatomy of Violence: The Biological Roots of Crime*. Pantheon Books: New York, 2013, 478 pp., US\$35.00, ISBN #978-0-307-37884-2 (hardcover).

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Violence has been present throughout human evolutionary history. Murder, for example, is a violent human behavior that appears in all cultures. It is an extraordinarily complicated action that cannot be attributed to a single cause, and there is evidence that point to this multifaceted behavior being one that has evolved over time (Buss, 2005).

Buss (2005) notes that as we have evolved, so has our ability to kill one another. No matter how much human societies advance, murder is ever present. This is not terribly surprising since there certainly are evolutionary advantages to homicide (e.g., removing competition for reproductive resources), but there are terrible consequences as well. With full knowledge of the costs of getting caught for homicide, it is perplexing that individuals do it anyway. Some violent offenders seem unable to help themselves, killing again and again until they are imprisoned for life or killed. And it is not just the most extreme antisocial persons that slay their fellow humans (e.g., psychopaths). Is it possible that there is something wrong with the brains of those who become violent? Perhaps murderers simply have faulty wiring in their heads. Adrian Raine delivers an in-depth exploration of this in *The Anatomy of Violence: The Biological Roots of Crime*.

Raine dives into the brain to discover the causes of violence and antisocial behavior. Raine provides evidence for how genetics, socialization, environment, biology, neurodevelopment, and neural structures and functioning affect violence and are affected by violence. Just as the brain can predispose someone to become violent, so can external forces. That being said, the author convincingly argues that it is time that all scientists, particularly social scientists, acknowledge that social factors alone do not fully explain violence; the brain is a critical element. In fact, the author suggests that many violent criminals, particularly murderers, can be considered to have “broken brains.”

As commonly happens with discussions of neuroscience, or neurocriminology as Raine calls this field, the book raises questions about how much free will we have. With so

many genetic, environmental, biological, and neurodevelopmental factors influencing human behavior, are we truly able to control our actions? Do we actually make choices, or are they made for us early in life or before we are even born? Raine claims that free will ranges from having complete choice to no choice, with most people falling somewhere in between these two extremes. He says early in life the degree of free will one has is established by genetics, biology, environment, and social aspects. Raine contends that some humans have limited free will due to these and other things they cannot control, such as being physically abused during childhood.

Raine provides multiple examples of how individuals seem to be lacking free will. For example, a reportedly normal, loving, and law-abiding family man became a perverted pedophile over a short period of time. His wife discovered child pornography on his computer and that he acted sexually with his stepdaughter. After some other odd behavioral displays from this man, a neurologist called for a brain scan. There was a very large tumor in his brain.

After an operation, the man went back to normal for a short period of time, only to have the explicit sexual behavior return as before. The tumor had regrown. After a second operation, the man now appears to be back to normal. This raised a disturbing question: Should he be held responsible for his disturbingly inappropriate and illegal behavior? After all, prior to his drastic behavioral changes, the man had no history of mental illness or illegal conduct. Granted, this is an unusual and extreme situation. An equally concerning, but more accessible, topic extensively covered in the book is that of psychopathy.

Psychopaths are individuals that exemplify the most antisocial aspects of humanity. Their actions and thinking are typically cold, aggressive, impulsive, and completely devoid of empathy (Skeem, Polaschek, Patrick, and Lilienfeld, 2011). As Raine covers in detail, psychopaths' brains differ from normal brains, both in functioning and in structure. The amygdala and prefrontal cortex are two areas that brain scans have shown to be impaired in psychopaths (Glenn, Raine, and Schug, 2009). As an oversimplification, the amygdala is involved in fear processing, whereas the prefrontal cortex is related to inhibition. The structural abnormalities in psychopaths' amygdalae and prefrontal cortices are likely why they are unable to empathize. It also accounts for their ruthless and fearless conduct. Due to a complete lack of empathy, psychopaths consider other people to be pawns that they can use and then dispose of when no longer useful, with murder being one method of disposal. As Raine has noted previously (Glenn, Kurzban, and Raine, 2011), a strong argument can be made that there are benefits to psychopathy when viewed from the framework of frequency-dependent selection. That is, as long as only a few individuals exhibit the traits and behaviors of psychopathy, it can be adaptive to those individuals within a population.

Psychopaths present a myriad of difficulties to members of the legal system (Hare, 2012). Moreover, it is likely that out of all the types of criminals, Raine describes that psychopaths are the most problematic for the legal system. It is incredibly difficult to rehabilitate someone who lacks remorse and does not accept responsibility for anything. Psychopaths have a tendency to blame their victims, giving various explanations for why the victim is responsible for what happens to them. Many psychopaths even believe that being physically beaten or conned out of money is a learning experience for the victim (Fulero and Wrightsman, 2009; Ronson, 2011). Most psychopaths are hedonistic and impulsive. If they want something, they take it, which is why many of them are violent offenders.

Robert D. Hare, the leading expert on psychopathy, believes that there is no treating psychopathy. He thinks that it is wiser to simply uncover psychopaths and make others aware of their existence. Hare also posits that psychopaths can fake improvement during treatment. That is, they pretend to become more empathetic, when really they are learning how to feign empathy so that they can become better manipulators (Ronson, 2011). This outlook paints a picture of treatment as essentially being psychopathy refinement.

Skeem et al. (2011) assert that there is some evidence that it is possible to reduce the amount of antisocial and violent behavior committed by psychopaths, but that the research on effective treatment of psychopathy is scarce. They also note that therapists do not want to treat psychopaths. Therapists prefer to work with safer, more likable, and more cooperative clients. This aversion to treating them is strengthened by the pervasive belief that psychopathy is untreatable, and the fact that it is extremely difficult to treat a person who is convinced that nothing is wrong with them. Currently, there have not been very many studies with sound methodology that assess treatment outcomes for psychopaths. Moreover, there are presently no research-based treatment programs tailored specifically to treat psychopathy (Skeem et al., 2011). Making matters even more challenging is the reality that psychopaths not only demonstrate a frequently uncontrollable urge for rewards, but also show an inability to learn from punishment, which is documented in *The Anatomy of Violence: The Biological Roots of Crime*.

Without a proven method to reform psychopaths, the remaining options are to permanently incarcerate, kill, or release them upon the completion of their prison sentence. It is unfortunate that Raine does not go into more depth on the challenges that psychopaths present to the legal system. It is possible, however, that he did not because there is currently no reliable and valid solution concerning how to treat psychopaths, as previously mentioned. Research on the nature of psychopathy is still a fairly young field, and will progress as brain-scanning technology improves.

Contrary to popular belief, most psychopaths are nonviolent and not in prison (Hare, 1999). It is true that they represent only around 1% of the population (Slater and Pozzato, 2012), but they make up approximately 10-15% of offenders (Hare, 2012). Furthermore, a single psychopath can have a huge impact on society. Examples include Ted Bundy (serial killer) and Eric Harris (one of the Columbine High School shooters) (Cullen, 2009; Dutton, 2012).

A concerning question is what if psychopaths become aware of books such as this and other evidence that shows that biology may explain and possibly excuse their behavior? Can their attorneys effectively make the argument that psychopaths have “broken brains,” even in light of the evidence that supports psychopathy as being accounted for by frequency-dependent selection? Can they really control themselves when their brains are so significantly dissimilar to normal brains? More importantly, can they convince a trier of fact that they deserve special treatment since their psychopathic brains deviate from normal brains? What about non-psychopathic violent offenders and their attorneys? They are not subject to the frequency-dependent selection account of psychopathy to argue against the broken brains.

There is already evidence that psychopaths may be able to get reduced sentences due to their abnormal biology. Aspinwall, Brown, and Tabery (2012) found that a biomechanical explanation of psychopathy reduced the length of sentences that judges gave psychopaths in a hypothetical case. Judges gave shorter sentences after reading testimony

that provided a biological account of psychopathy, such as having an abnormal amygdala. Judges that passed briefer sentences reasoned that psychopaths were less legally responsible because they were unable to control their impulses and behavior. They may not be able to control their behavior, but do we really want them set loose upon society? Not all psychopaths are violent or murderous, but the ones that murder do it in especially cruel and uncontrolled fashions (e.g., Ted Bundy).

Murder has stayed with humans as they evolved. So has psychopathy. They both deliver advantages in certain contexts, and they both show no signs of going away. In *The Anatomy of Violence*, Raine has given a good foundation for researchers to build upon. If nothing else, it may make scientists more inclined to factor in the brain when evaluating violent crime. As Raine cleverly observes, when there are easily noticeable social factors that influence a criminal (e.g., poverty, abuse), the brain is not considered. This is unfortunate since violent recidivism is common, even when the negative social influences are removed from the situation.

Some may be uncomfortable with the freedom Raine takes to suggest causality when discussing the brain, but throughout the book he is cautious to make it known that the relationships are not of a causal nature. That is, many times he says the relationship is as close to causality as can be hoped for when studying the brain with our current technology and knowledge. Additionally, his suggested treatments for preventing crime are somewhat unconvincing. For example, it is hard to believe that implementing a diet high in Omega-3 can reduce violence. However, his ideas on treating crime before it begins (i.e., focusing on improving the lives of children before birth, immediately after birth, and during development) are intriguing and worthy of discussion. And, in his defense, it is obvious that we do not have a highly successful method of treating criminals, particularly the more antisocial ones where there may be no treatments that work.

Overall, this is a fascinating book. Neuroscience is a complicated field, and Raine presents it in a way that is easy to follow. Additionally, it is an empirically based work from start to finish. Even though some of the proposed treatments seem unlikely to work, they are thoroughly explained and based on the findings of scientific research. This book would be of interest to neurocriminologists, criminologists, members of the legal system, forensic psychologists and psychiatrists, and students within these disciplines.

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