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science news

A Review of *The Anatomy of Violence: The Biological Roots of Crime*

Tamara Imam

In a world chronically plagued by crime, Adrian Raine's *The Anatomy of Violence: The Biological Roots of Crime* (Vintage Books) offers a unique perspective on the causes of violence in human beings.

The book begins with a critique of nineteenth-century physician and criminologist Cesare Lombroso, whose radical anthropological and criminological theory held that criminals are born as such and can be identified by primitive physical features even before they commit any criminal acts. While Lombroso's theory has been widely rejected as racist and eugenic, Raine claims that Lombroso was not all wrong or, at least, was not pursuing a fruitless goal when he attempted to link criminal behavior and biology. Rather, Raine stakes out a position that is somewhat more nuanced: while stopping well shy of the exaggerated predictive power and coarse classifications of Lombroso, he deviates from the archetypal Freudian explanations of immorality and makes a compelling argument that human tendencies towards violence have a biological component that cannot be ignored, even if it does not tell the whole story.

In the classic nature vs. nurture argument, we have often heard that genetic inheritance influences a person's demeanor. Studies of identical twins reared in disparate environments reveal that a large number of them exhibit very similar behaviors and lead very similar lifestyles, including with respect to criminal activity. Raine advances on this common knowledge by bringing together and discussing a list of specific genes, such as monoamine oxidase A (MAOA) or the "warrior gene," that have been correlated with violent behaviors.

Raine also makes a case for a physiological basis of violence in humans. Where most criminology is focused on discrepancies in brain function between violent offenders and normal controls, Raine goes several steps further by examining other vital organs such as the heart.



The author, Adrian Raine, at his University of Pennsylvania office. Raine is the Richard Perry University Professor and Chair of the Department of Criminology and also holds appointments in the Departments of Psychology and Psychiatry.

At times, however, Raine overestimates statistical relationships when doing so is convenient and in the interest of his book. At several points, he suggests that the findings he discusses represent direct causal relationships rather than correlations, without offering any compelling data or hypotheses on a causal pathway. Low resting heart rate, according to Raine, is characteristic of psychopaths and in some way explanatory of their behavior. Such misrepresentations, while unfortunately not uncommon in popular science writing, are regrettable for the way that they cloud the public's understanding of research.

Raine concludes *The Anatomy of Violence* with a description of a hypothetical society set in 2034 that treats violence as a disease characterized by obvious biomarkers, not unlike cancer. He envisions a world in which a number of brain imaging and physiological tests are used as diagnostic tools for potential psychopaths who can then be treated proactively—before they become violent offenders. Surely this is an intriguing idea, even if its achievement by 2034 is more than a bit optimistic.

For its occasional exaggerations, *The Anatomy of Violence* is

not a book that one can read once and simply put back on the shelf to collect dust. It is fresh, controversial, and sure to spark debate among readers.

References

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2. Faculdade Unidas de Feira de Santana. [Web Photo]. Retrieved December 3, 2014 from <http://www.fufs.edu.br/noticia.php?codnoticia=359>