

Adrian Raine is obsessed with criminal minds.

Book review on the anatomy of violence

Minority Report

Is it objectionable when a brain researcher propagates biological peculiarities as “root causes” for criminal behaviour? Not inevitably. But Adrian Raine goes wide off the mark when he outlines a prediction model for criminal phenotypes and pleads for radical measures.

I really would have liked to recommend this book. For the first ten chapters it's a pleasure to be introduced to neurocriminology by the psychiatrist and brain researcher, Adrian Raine. To have the growing knowledge about what the subtitle refers to as the “biological roots of crime” presented in an engaging way. However, the last chapter spoils it for me. If *The Anatomy of Violence* had ended one chapter earlier, I would have praised the pile of studies, that Raine, a professor at the University of Pennsylvania, gathered together. About brain defects and risk genes, about toxic metals and poor nutrition, about everything that can go wrong before and after the birth of a child and how this can contribute to the development of violent and anti-social behaviour.

Unfortunately, in the last chapter, Raine presents his own dystopian idea of crime prevention: to imprison people before they can do something wrong. In his imaginings of a future world, teenagers with unfavourable risk profiles and others that lack self control and the ability to make good decisions should be locked up. They should only be allowed to lead a normal life when treatment demonstrably enhances their social and emotional skills to a level defined as harmless.

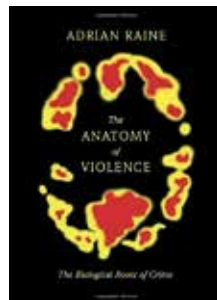
Pre-crime becomes a reality

You heard right. This is not a 50-year jubilee appraisal of Philip K. Dick's 1954 short story, *Minority Report*, in which a futuristic “PreCrime” police unit imprisoned future offenders. No, this is an up-to-date review of a recently published work of non-fiction, written by a renowned brain scientist.

I don't know what I would suggest after working with psychopathic prisoners as Raine has done, scanning their brains and testing their abilities. Maybe it would

change my view of the world, too. From my current position, however, what I fear more than psychopaths running around, is a society that is allowed to incarcerate innocent people based on a scientific test.

But let's leave conclusions aside for a while and look at the facts gleaned from the first ten chapters. Some of the risk factors that Raine writes about, I already knew. I had followed discussions about alleles of the MAOA gene infamous for their correlation with aggression. I heard before that lesions in the prefrontal cortex can result in a



lack of impulse control and exposure to heavy metals like cadmium can badly disrupt normal behaviour. Other risk factors for entering a criminal career were new to me. I was astonished to hear that antisocial behaviour correlates strongly and specifically with a below-average heart rate. People with a heart that beats more slowly are statistically more likely to become delinquent. However, there are also groups of high-functioning people that can be characterised by a low heart rate, including bomb disposal experts. And what about those millions of endurance athletes whose hearts beat significantly slower?

The origins of antisocial behaviour

What both, antisocial people and bomb disposal experts, apparently have in common, is fearlessness, which can be explained by a kind of physiological underarousal. Sensation seeking is common to escape the unpleasant condition of underarousal. So

someone with a low heart rate will embrace risky situations much more readily than others, who experience sufficient heart throbs in the course of normal life.

It came as a surprise to me, too, that there are in fact physical signs that correlate with violence. To me this sounded dangerously reminiscent of Nazi ideology. It reminded me of the claims of the 19th century Italian doctor, Cesare Lombroso, who thought that criminality was inherited and that a born criminal could be identified by asymmetry in the skull and other atavistic stigmata. Modern epidemiological research shows that a few of the physical signs described by Lombroso do indeed correlate with violent behaviour. Contrary to his racist beliefs, though, they aren't genetically inherited traits. Today it is assumed that these so-called minor physical anomalies arise from developmental defects that also affect the brain. They can be associated with disorders of pregnancy, with anoxia, bleeding, infections and fetal exposure to alcohol.

Providing a disservice to his own cause

It's important to take a fresh look at the medical and biological aspects of the aetiology of criminal behaviour, trying to separate the facts from the devastating legacy of 20th century's worst ideologies. Unfortunately, Raine misses a chance to soothe prevailing prejudices against “biologistic” views of the world. Raine's recipe for a world without crime will repel exactly those politically and socially engaged people, that could benefit most from the research he presents.

BRYNJA ADAM-RADMANIC

The Anatomy of Violence: The Biological Roots of Crime. By Adrian Raine. Pantheon, 2013. 478 pages, €29.