

Book Review

The "Why's" of Crime and Criminality

Why Do Criminals Offend? A General Theory of Crime and Delinquency by Robert Agnew. (2005). Los Angeles: Roxbury.

Why Crime? An Integrated Systems Theory of Antisocial Behavior, by Matthew B. Robinson. (2004). Upper Saddle River, NJ: Prentice Hall.

Reviewed by

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Both Matthew Robinson's *Why Crime?* and Robert Agnew's *Why do Criminals Offend?* begin by asking the same question and both attempt to answer it by offering us a new theory. These books are the latest additions to a growing number of monographs published in the last decade taking an integrative biosocial view of criminology (see, for instance, Fishbein, 2001; Rowe, 2002; Walsh, 2002; Walsh & Ellis, 2003). What is heartening to those of us who have taken this position for most of our careers is that Robinson's previous book, *Justice Blind* (2002), marks him as a bona fide liberal, and Agnew's sociopolitical ideology appears to be left of center also. It is heartening because many social scientists hold the belief that anything but strict environmental interpretations of criminal behavior are racist, sexist, classist, or at least illiberal. If those holding such views would remove their blinders and take the time to learn something about behavior genetics, neuroscience, and evolutionary biology, as Robinson and Agnew clearly have (Robinson more so than Agnew), they may be surprised how far to the left they can be dragged by biosocial perspectives.

In the preface to Robinson's book, he writes: "I would say that the biological sciences have made more progress in our understanding about criminal behavior in the past 10 years than sociology has made over the past 50 years." I agree with his estimate, and may even raise it some, but unfortunately much of this knowledge has not seeped into mainstream criminology, as a perusal of the latest textbooks will

attest. Heaven forbid that we subject our students to a discussion of the heritability coefficients associated with criminogenic traits, the neurobiology of self-control, or the possible evolutionary origins of criminal behavior.

Robinson takes a "bottom up" look at the mechanisms underlying criminal behavior, devoting chapters to the *cell* (genes), *organ* (brain), *organism* (the phenotype), *group*, *community/organization*, and *whole society* levels of analysis. Each of these six *interacting* levels of analysis contains risk factors for criminality. His approach is that societies are systems composed of communities, which are composed of groups...and so on down the line to DNA. All sciences have only progressed when they have proceeded "down the line" like this to integrate insights from the more fundamental disciplines, such as when chemistry accepted atomic theory and biology accepted biochemical analysis (see Walsh, 2002, for a short history of the initial resistance of these and other disciplines to the "reductionist" encroachment of the more basic disciplines). Robinson's attempt to do this is admirable, and his attempt is made with full awareness that there are more levels of complexity to be navigated in the social/behavioral disciplines than there are in disciplines such as chemistry and biology.

At the cellular level Robinson discusses the role of genes in criminal behavior and the concept of heritability. As do all biosocial criminologists, Robinson takes pains to emphasize that genes do not compel us to do anything, rather they facilitate our behavior by creating hormones and neurotransmitters that produce individual *tendencies* to behave in one way rather than in another. Genes are at the beck and call of the organism in which they reside because they respond to the organism's needs as he or she is confronted by environmental challenges. When social scientists understand this very basic tenet of genetics there will be far less talk of "genetic determinism." Robinson identifies a number of other misconceptions many social scientists have about genetics (pp. 55-57).

Robinson provides a brief discussion of heritability (h^2) —the estimated percentage of variance in a phenotypic trait in a particular population at a particular time that is attributable to genes. Heritability estimates of traits related to criminality (e.g., impulsivity, ADHD, empathy, intelligence, conscientiousness, sensation-seeking, and so on) are hugely beneficial for criminological theory. Once we have a fair consensus about how much variance in a particular trait is attributable to genes, we automatically know how much is attributable to the environment because $1 - h^2 =$ the estimate of the variance attributable to the environment.

At the organ level of analysis Robinson delves into the intricacies of the human brain, the organ through which all environmental and genetic information must be channeled before the organism acts and reacts. He notes that low self-control is strongly and inversely related to the neurotransmitter/neuromodulator serotonin, and that serotonin level is heritable. This is but one example of how an

extant sociological theory (self-control theory) can be more fully understood and its conceptual basis strengthened by the integration of more basic and more sound information and measurements from the genetic and neurological sciences. Note that the estimated heritability of .60 for serotonin (Hur & Bouchard, 1997) means that at least .40 of the variance is attributable to environmental factors. Sociologists should be happy to find out that the major environmental factor influencing serotonin secretion patterns is social disorganization.

Experiments with rhesus monkeys have shown that peer raised monkeys (read "fatherless, gang raised children" for humans) have lower concentrations of serotonin than parentally raised monkeys (Bennett, et al., 2002; Kreamer, et al., 1998).

Robinson's discussion at the organism level of analysis focuses on temperament and personality. He begins by noting that temperament is the basic building block of our personalities, and that differential temperament is largely a function of differential autonomic nervous system (ANS) functioning (p.104). Individuals with a hyperactive ANS are easily conditioned (socialized); those with a hypoactive ANS are socialized only with difficulty. The latter are risk takers and sensation-seekers, which can land them in trouble in environments lacking prosocial outlets for such behavioral proclivities. Agnew makes a similar point, stating that individuals with a hypoactive ANS will show less emotional reaction to stimuli (important in the acquisition of a conscience), have a greater need for thrills and excitement, and less fearful of punishment (p. 142). Robinson also discusses intelligence, mental illness, drug use/abuse, and diet/nutrition in this chapter.

The chapters on the group, community/organization, and society levels of analysis gets traditionally trained criminologists into the more familiar territory of the family, the school, the peer group, social disorganization, social structure, class and so forth. Robinson reminds us here that mainstream learning theories such as differential association and anomie/strain theories tend to ignore individual differences and proceed under the blank slate assumption of human nature (Agnew's general strain theory is a welcome exception to this general rule). Robinson doesn't trash familiar theories; rather he suggests how they can be actually be strengthened and made more intelligible by integrating biosocial insights. He focuses primarily on brain dysfunctions and the effects of environmental strains on the brain via the release of neuron-destroying stress hormones, as well as numerous other factors. Robinson also thoroughly evaluates each theory using criteria offered in an earlier chapter.

Robinson's ambitious agenda is to integrate information at each level of analysis in this hierarchy of systems into a general "integrated systems" theory of criminal behavior. He attempts this daunting task in the final chapter of the book. This is the weakest chapter, not because it lacks intellectual rigor but rather because

it includes too much and overwhelms. In Figure 10.2, Robinson presents the components of his theory in path analytic format that lists no less than 61 variables ranging from genetics to employment problems. While all of these variables are certainly risk factors for engaging in criminal behavior, many of them are so multicollinear that Occam's razor can be wielded freely to shave off a significant number. The subject domain of human behavior is so complex (encompassing at least Robinson's six interacting levels of analysis) that the principle of parsimony is especially important to apply to theories and models attempting to explain it. He makes the point, however, that not all risk factors have to be present for criminal behavior to occur, and that many such factors co-occur (p. 273).

Agnew's book is less ambitious, and is more devoted to explaining and defending the theory he proposes rather than exploring the vast territory containing the variables associated with biosocial criminology, as Robinson does. Agnew's theory, although relatively complex as most criminological theories go, is far more parsimonious and less overwhelming, and therefore more testable, than Robinson's.

Like Robinson, Agnew examines risk factors for crime at various levels, although he goes nowhere as deep as does Robinson in his examination of biological variables. Agnew's five levels (which he calls *life domains*) are *personality, family, school, peers, and work*. Although these levels interact and feedback on one another, personality traits tend to set individuals on a particular developmental trajectory that influences how others react to them in the family, school, peer group, and work environment. Noting that personality traits cluster together, Agnew identifies *low self-control* and *irritability* as "super traits" that encompass many of the traits Robinson identifies, such as sensation-seeking, impulsivity, poor problem-solving skills, inattentiveness, and low empathy.

Criminologists are familiar with low self-control as a variable associated with criminal activity, but irritability is a less familiar variable. From Agnew's description of it, it appears that irritability is what psychologists call *negative emotionality* (or *negative affect*), which refers to the tendency to experience many situations as aversive, and to react to them with irritation and anger more readily than with positive affective states. Negative affect has an estimated heritability of .55 (McGue, Bacon & Lykken, 1993). Previous work has shown that constraint (self-control) is inversely related to negative emotionality, and that negative emotionality is strongly related to criminality "across countries, genders, races, and methods" (Caspi, et al., 1994:163). Caspi and his colleagues state that low levels of serotonin underlie both high levels of negative emotionality and low levels of constraint (low self-control), and claim that low serotonin, "may be a heritable diathesis for a personality style involving high levels of negative affect and low levels of constraint, which generates in turn a vulnerability to criminal behavior" (Caspi, et al., 1994:188).

Agnew states that "[B]iological factors have a direct on irritability/low self-control and an indirect effect on the other life domains through irritability/low self-control" (p. 213). His discussion of these "super traits" and how they impact later life events would have benefited from framing it in the context of the behavior genetic concept of gene/environment correlation (G/Er), which includes *passive*, *reactive*, and *active* G/Er. Passive G/Er avers that genes and the environments they find themselves in are not random with respect to one another. In this context, it means that children will inherit both genes conducive to irritability/low self-control *and* an environment (parenting practices) conducive to developing these traits. While Agnew acknowledges the role of serotonin and the ANS in the development of these traits (pp. 141-142), he appears to favor parental treatment as the primary reason children become irritable and/or lack self-control, or perhaps more correctly, why they never learn to control these natural inclinations (p.71). However, the behavior genetic literature is practically unanimous in declaring that shared environment (which includes parenting styles) contributes essentially nothing to adult personality (Rowe, 2002).

Reactive G/Er refers to the way parents, teachers, siblings, peers, and workmates react to the evocative behavior of the person. Behavior is not only shaped by how others treat us. It is shaped by our own temperaments and personalities that incline us to behave in certain ways, which, in turn, shape how others react to us. People will react quite differently to an irritable and impulsive child than they will to a pleasant and compliant child, and these reactions will serve to reinforce their respective inclinations. It is in this way that what may be small initial genetic differences among people are be magnified into quite large phenotypic differences (Dickens & Flynn, 2001).

Active G/Er refers to the way individuals seek out and structure their own environment consistent with their inclinations within the constraints imposed on them by the outside world. Individuals with high levels of irritability and low levels of self-control will structure their environments in ways that practically assure them of failing in any legitimate enterprise conducive to obtaining a stake in conformity. In other words, they are almost certain to fail in marriage and in the world of work (not to mention in school earlier in their developmental histories). Agnew provides many examples of such failures and how they feed back to render the individual even more irritable and less self-controlled.

Agnew claims that his theory can explain group (gender and racial) differences in crime rates, the age effect, and account for the differences between adolescent-limited and life-course persistent offenders. In terms of sex differences, Agnew states that males may be more likely to inherit irritability/low self-control than females, perhaps because in evolutionary terms they may have aided reproductive success by enhancing male aggressiveness and competitiveness (p.163). He also notes that females, on the whole, enjoy closer

bonds with others, are less often the recipients of harsh punishment, and are socialized more in the direction of conformity than males.

In terms of race differences in crime, Agnew notes that as a group, African Americans consistently commit far more serious crimes than other racial/ethnic groups. He argues that blacks are more likely to be poor and to receive discriminatory treatment, and that this and other factors may significantly increase irritability, or what Bernard (1990) calls "angry aggression. Perceptions about poor job prospects may also lead to the adoption of an impulsive "live-for-the-day" lifestyle among some African Americans.

Agnew cites studies of the adolescent brain that in essence show that the immaturity of adolescent behavior is mirrored by the immaturity of the adolescent brain. In other words, adolescents tend to become more irritable because their brains are undergoing a period of intense neuronal pruning and a change in the ratio of behavior facilitating dopamine to behavior modulating serotonin in favor of the former. At the same time they are experiencing massive hormonal surges of the kind that tend to facilitate aggression and competitiveness (Volavka, 2002). The neurological and endocrine changes during adolescence *temporarily* increase irritability/low self-control among adolescents who limit their offending to that period, while for life-course persistent offenders irritability/low self-control is a *stable* characteristic that haunts them across the life course.

The most interesting commonality between the two books is the emphasis on low self-control (or its synonyms; impulsiveness, low constraint). Agnew's emphasis is obvious, and Robinson writes: "The most consistent personality trait found to characterize people who commonly break the law is *impulsivity*" (p. 103). Others outside criminology have come to similar conclusions. Stating that the concept of impulse control might serve as the cornerstone of a future "Grand Unified Theory of Aggression," neuroscientist Jan Volavka asserts that: "It links criminologists' explanations of criminal propensity due to inadequate self-control or impaired 'impulse control', to the data on the role of serotonin in impulsive violence and to the animal research on the capacity to wait (delay response)" (2002:190). Others have gone further to explore the biochemical basis of impulsiveness. The relationship between low serotonin and antisocial behavior (especially for impulsive violent behavior) is consistently found (Moore, Scarpa, & Raine, 2002), and has been called "perhaps the most reliable findings in the history of psychiatry" (Fishbein, 2001:15).

In short, both works are engaging, extremely well written, and are major contributions to criminology. They constitute a growing body of work that follow in the footsteps of other sciences that have long realized that the path to progress is to integrate the concepts, methods, and theories of more fundamental disciplines. Robinson's book is a tour de force for the criminologist who wants to learn something about the biosocial perspective, while Agnew's will appeal more

to those who are more comfortable with a gentler introduction. Both authors conclude their works by suggesting ways in which their theories can be tested.

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