

Nature versus Nurture: A Criminological Perspective.

Erin van Zinderen Bakker

November 16, 2004

Criminology 360

Dr. John Anderson

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Nature versus Nurture: A Criminological Perspective.

Criminological theory has rarely incorporated both biological and structural factors into the process theories on why individuals become criminal. These process theories, however, must include all possible causes of antisocial behaviour, and I would thereby argue that theorists who neglect genetic factors are misinformed regarding the nature of biological determinism. Although I believe that inherited traits directly affect an individual's predisposition towards antisocial behaviour, I do not believe that all biological traits are unmanageable. I therefore suggest that process theories should incorporate inherited traits since these biological factors may, in the presence of a poor social environment, be a major factor in later antisocial behaviour. Without recognizing the early social and structural influences that may directly override biological tendencies, theorists will be unable to establish a complete theory regarding the causes of crime. Furthermore, it is imperative that biological theories acknowledge structural factors and their interaction with an individual's genes to avoid the potential for human rights violations based purely on the presence of a biological trait.

It is important for theories to incorporate both biological and structural perspectives in order to establish comprehensive crime control and prevention policies. Once policy makers incorporate biological findings into their mandates, social programs can be developed with a focus on accepting, educating, and nurturing individuals who are born with genetic differences. With these modified programs in place criminal activity will be reduced over a long-term basis.

Before I can argue for the integration of biological and structural factors into process theories, it is necessary to explain the background and history of both types of

theories in order to better understand the gap between the two paradigms in criminological theory.

Biological Criminology

Biological theories in criminology deal with evolutionary and genetic influences on criminal behaviour. These theories attribute human and societal change to genes that are passed on from generation to generation. Ernest Mayr (1963), a leader in 20th century evolutionary theory, makes the distinction between genetics and evolution quite clear: geneticists focus on individual traits and the interaction of genes with the environment, while evolution deals with the larger scale, and the change of an entire species over time (p. 10-11).

Some earlier theorists have introduced the idea that there is a specific gene that may lead to criminal behaviour. This belief would be considered both deterministic and positivistic. Determinism is the idea that humans are born with unmanageable traits, and that people are compelled to act rather than act out of free choice. This principle can lead to disastrous outcomes in crime control policy, such as eugenics movements to “purify” a population. Positivism is the concept that scientific method could be used to explain all human behavior, and assumes that these behaviors are the function of forces that are beyond an individual’s control (Siegal & McCormick, 2003: 9). These forces can include both biological and structural factors, making positivism a study that triggers scientific research to find both internal and external causes of crime. Biological theories are positivistic since they attribute criminal behaviour to internal factors that are beyond individual control, however positivism does not argue that these factors are unmanageable. Rather, positivism argues that behaviour is caused, which leaves theories open to the

possibility of intervention. Public policy resulting from positivistic theory is therefore more likely to adopt a rehabilitative approach than deterministic-based policy, where the focus might turn to sterilization and institutionalization. If biological theories had remained positivistic but not deterministic it is possible that structural theories would have included genetic factors a long time ago.

History of biological theories:

There were two main scientific breakthroughs that initiated research into the biological components of both the individual and society: Charles Darwin's book *The Origin of Species*, and Gregor Mendel's discovery of genetically inheritable traits.

Darwin's book, first published in 1859, included his theory of evolution and natural selection, and contained some of the most controversial information to challenge the idea of spontaneous generation: a widely held belief that living things could arise from non-living things (Feldkamp et al., 2002: 261, 286). Darwin's (1859) theory hypothesized that animal species were continuously modified by a process of "natural selection", where those best suited to their environment would be able to reproduce more successfully than others (in Feldkamp et al., 2002: 284). Darwin's book triggered a scientific revolution, which had immediate implications regarding the study of biology and heredity (Bowler, 1989: 46). Darwin (1871) later expanded his theory to include human evolution.

Gregor Mendel's work in genetics was the next significant finding that contributed to biological theory. Through breeding pea plants with different characteristics and tracking their presence in future generations, Mendel (1866) essentially defined the concept of genetically inherited traits (in Feldkamp et al., 2002). This inspired further biological study and later led to various theories around the cause of deviant behaviour.

As these scientific findings spread, social scientists began to base criminological theories around biological factors. Before Cesar Lombroso proposed his theory of the criminal man, criminological theory was dominated by Beccaria and Bentham's classical school which focused on a theory of rational choice and deterrence by means of swift, severe and certain punishment (Lilly et al., 2002: 16). Lombroso (1876) connected the criminal man with Darwin's (1871) argument that humans evolved from animals, and disagreed with the concept of free will (in Lilly et al., 2002: 16-17). In 1876 *On Criminal Man* was published and explained that physical differences and mental deficiencies caused crime (Lombroso, 1876, in Lilly et al., 2002: 17). Lombroso's main claim was that criminals "represent a peculiar physical type distinctively different from that of noncriminals" (Lilly et al., 2002: 17) and that criminal individuals were atavistic; a "throwback to an earlier form of evolutionary life" (p. 17). Lombroso (2003) noted specifically that many criminals "exhibit numerous anomalies in the face, skeleton, and various psychic and sensitive functions, so that they strongly resemble primitive races" (p. 24). Lombroso's theories were deterministic; he believed that the criminal man was born with specific unalterable traits.

Scholars such as Enrico Ferri and Raffaele Garofalo expanded on the principle of determinism as the positivist school continued to evolve (Lilly et al., 2002: 19). Although Ferri (1877) paid less attention to biological factors, his theories remained deterministic in nature (in Lilly et al., 2002: 19). Garofalo (1885), the last major Italian to contribute to the positivist school of thought, argued that since criminals were genetically determined, they would be unable to conform and should therefore be eliminated from society (in Lilly et al., 2002: 20-21). He argued for the execution of those deemed to be criminal since this

was the only measure that would allow society to survive (Barnes, 1930, in Lilly et al., 2002: 21-22).

Past policy implications:

Garofalo's crime control by execution exemplifies problematic policy implications that have been associated with deterministic theories. Such theories ignore the possibility of rehabilitation. Furthermore, the argument has been made that nature should be left to take its course: social welfare programs and other support for criminal individuals should be withdrawn, since those with good moral constraint and strong work ethics would flourish, and such programs would only perpetuate the survival of these criminal and negligent individuals (Lilly et al., 2002: 27). As stated by Lilly et al. (2002),

When social Darwinism was used to formulate crime control policies, major themes appeared. One the one hand, the "born criminal" legacy from Lombroso and his students, and especially Garofalo's policy of "elimination" for certain criminal offenders, produced a penal philosophy that stressed incapacitation. Clearly, the emphasis was on removing criminals from the community to prevent them from committing any additionally biologically determined harm. Therefore, it was inappropriate to attempt to reform or rehabilitate criminal offenders. Warehousing convicted offenders was considered a sufficient and socially responsible response to the problem of what to do with lawbreakers (p. 28).

With a movement focused on morality and purity, the "stage was set for 'scientifically justified' forms of control that would contain or eliminate crime" (Lilly et al., 2002: 28).

Eugenics movements, which included medical procedures such as sterilization and the lobotomy, are good examples of how easily bad social policy has been passed off in the name of crime intervention and prevention. In the early 1900's laws were passed in more than thirty American states to allow sterilization of individuals with 'unwanted' behavioural and physical traits deemed to be determined genetically (Beckwith, 1985, in Lilly et al., 2002: 28). These laws resulted in the sterilization of more than 64 000 individuals between 1911 and 1930 who showed a wide range of behaviours including

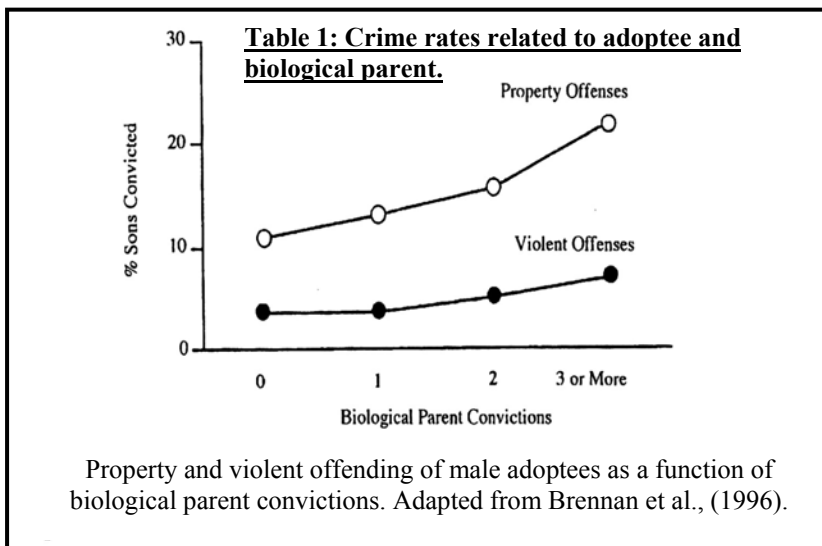
feeble-mindedness and alcoholic or criminal tendencies (Lilly et al., 2002: 28). Other targeted individuals were subjected to psychosurgeries including lobotomies: a procedure that involved massive destruction of brain tissue, and “candidates for lobotomy were seen simply as people with a biological disease that required a biological solution” (Braslow, 1999: 8). Not only was the lobotomy widely used, it was viewed to be so significant to society that Egas Moniz won a Nobel Prize in 1949 for pioneering the procedure (Kopell & Greenberg, 2004: 15).

Widespread reinforcement of racism was yet another result of deterministic theory. For example, studies such as craniometry, the physical measurement of skulls, and phrenology, measuring bumps on skulls, quantified intelligence, and numerical results were used to “rank people in a single series of worthiness, invariably to find that oppressed and disadvantaged groups—races, classes, or sexes, are innately inferior and deserve their status” (Gould, 1996: 57). The result of such studies included laws which prevented interracial marriage with the intention of preventing the spread of “inferior” genes through a “superior” population (Lilly et al., 2002: 29).

Although deterministic policies and theories declined substantially in popularity as the policy implications were clearly identified as being repressive to specific target groups, “the practice of sterilization and psychosurgery continued in the United States until well into the 1970’s” (Lilly et al., 2002: 29).

Scientific reasons to link biology and behaviour:

Although past policy implications present a strong reason to stray from biological theory in criminology, findings that support genetic influence cannot be ignored. Adoption studies have been one of the major focuses in research that relates to criminal behaviour



and genetic influence. Adoption studies test the hypothesis that parents with a genetic predisposition to antisocial behaviour may pass on these genes to their offspring, and

these offspring would then have an increased risk in developing similar antisocial tendencies regardless of social factors (Brennan et al., 1996: 116). Table 1 shows how adoption studies have consistently shown a relationship between a biological parent and their child who was raised by another family, with regards to criminal behaviour regardless of the environment in which the adopted child is raised (Brennan et al., 1996: 115). These findings directly indicate that further research is necessary with regards to genetic influence and criminality.

Structural Criminology

The premise of structural theories, as power-control theorist John Hagan (1988) says, is “that the meaning and explanation of crime is found in its social structure” (p. 1). Social structure includes how society is organized by a variety of social institutions such as family, education, and religion (Walsh, 2002: 97). Structural theories are positivistic in the sense that they blame external factors that are beyond individual control for criminal behaviour. Furthermore, structural criminology incorporates other prominent criminological paradigms such as labeling, strain, and social control theories into its

processes. Structural theories acknowledge that while each of the aforementioned concepts may seem unrelated to one another, they all “call attention to the role of social structure in defining and explaining crime” (Hagan, 1988: 3).

Roots of structural criminology:

Structural criminology can be traced back to the works of Adolphe Quetelet and Emile Durkheim, two prominent early social scientists. Quetelet (1969) found “that social forces were significantly correlated with crime rates” (in Siegal & McCormick, 2003: 11). Durkheim (1951) identified the concept of anomie or normlessness within society which was strongly correlated with high suicide rates (in Siegal & McCormick, 2003: 12). The structural movement in criminology began just as deterministic criminological theory declined in popularity. Structural theories offered a new way of dealing with antisocial behaviour and this “competing and powerful vision of crime emerged – a vision suggesting that crime, like other behavior, was a social product” (Lilly et al., 2002: 31). Two theoretical platforms emerged within structural criminology: the Chicago school of criminology, and strain theory (Lilly et al., 2002: 31).

The Chicago school of criminology studied the enormous social changes within Chicago over decades, specifically focusing on changes that occurred between the 1920s and 1930s (Lilly et al., 2002: 32). The Chicago school was born when Ernest Burgess (1925/1967) concluded that Chicago’s structural growth was not disorganized, but rather patterned in a way in which social competition determined where people resided (in Lilly et al., 2002: 34). Burgess theorized that the area directly surrounding the central business district was a zone in transition, where buildings were deteriorating and tenants moved frequently (Lilly et al., 2002: 34-35). Shaw and McKay did empirical testing of Burgess’

concentric zones and determined that crime rates were high in zones of transition regardless of which racial minority resided there (p. 36). Sutherland (2003) brought his theory of differential association into the process by explaining how criminal behavior is learned through intimate interactions with others in an environment where deviancy exists. Sampson, Raudenbush and Earls (1997) asserted the notion of collective efficacy, which is “the social cohesion among neighbors combined with their willingness to intervene on behalf of the common good” (p. 918). The theories by Shaw and McKay, Sutherland, and Sampson, Raudenbush and Earls all contribute to the processes by which individuals become criminal according to Chicago school of criminology. These criminologists rejected the idea that criminals were biologically inferior, and had therefore fallen to a lower social class because of this inherent trait (Lilly et al., 2002: 33).

Merton’s theories involved anomie and strain which “detailed the social sources of strains potent enough to generate high rates of nonconformity” (Lilly et al., 2002: 51). The concept of anomie was used to describe a society in which “institutionalized norms lost their power to regulate human needs and actions” (p. 51). This notion rejected individualism and contended that American society created a substantial disjunction between social class and cultural goals (p. 52). The institutional anomie theory, proposed by Messner and Rosenfeld (1994), tied this disjunction directly to the American dream, which they defined as “a commitment to the goal of material success, to be pursued by everyone in society under conditions of open, individual competition” (in Lilly et al., 2002: 63). Similarly, Elliott Currie (1997), in an independent theoretical analysis, argued that a form of capitalism in which “the pursuit of personal economic gain becomes

increasingly the dominant organizing principle of social life” (p. 152-153) results in a high rate of serious crime.

Currie’s (1997) arguments stand out within structural criminology due to his understanding and explanation of the many factors that work together to make a “market society so volatile as a social formation” (p. 154). Currie states that a

market society is peculiarly conducive to violent crime, for reasons that are analytically separable but, in the real world, closely intertwined and mutually reinforcing – operating simultaneously on the levels of material well-being, social support, and cultural meaning (p. 166).

Currie identifies seven closely intertwined mechanisms that are “profoundly criminogenic” (p. 154) and “intrinsic to the logic of market society itself” (p. 154):

- the progressive destruction of livelihood;
- the growth of extremes of economic inequality and material deprivation;
- the withdrawal of public services and supports, especially for families and children;
- the erosion of informal and communal networks of mutual support, supervision and care;
- the spread of a materialistic, neglectful, and ‘hard’ culture;
- the unregulated marketing of the technology of violence;
- and, not least, the weakening of social and political alternatives (p. 154).

These factors are a result of the social adaptation of market principles, which might otherwise be confined to specific aspects of economy under different cultural circumstances. Currie argues that these mechanisms are instrumental in the collective efficacy of an environment, which in turn directly affects the learning patterns of youth in a specific neighbourhood. Furthermore, these factors contribute directly to causes of economic strain by increasing the gap between the wealthy and the poor, and making goals less attainable for those in poverty-stricken areas. Currie’s identification of factors influence the process by which individuals conform or deviate by essentially removing free will and replacing it with conditional free will where the goals that society holds are unrealistic for most of the population. The market society also removes social support mechanisms for those who feel economic or status strain, and this directly affects childcare

and childrearing methods. With the need for dual-income families and no proper daycare, children are neglected and problems that may have otherwise been avoidable develop and are left untreated.

Recent structural findings:

Criminologists have remained interested in structural theories and have subsequently continued to test for different variables within this construct. A recent test of Messner and Rosenfeld's (1994) institutional anomie theory supported the idea that structural factors influence criminal behaviour. The research aimed to test the "utility of institutional anomie theory for predicting crime rates across aggregate units" (Maume & Lee, 2003: 1137). It was based on the concept that economic motives and institutions in society as well as the decrease in social support as a result of "cultural economic interests" (Maume & Lee, 2003: 1137) would be relevant for explaining violence. The findings support the idea that crime rates can be predicted depending on structural factors within society.

Another recent study tested for local political variation and its effects on crime. Assuming that local political decisions greatly affect the way a community develops, it was found that different types of local institutions may directly influence crime rates (Stucky, 2003). Furthermore it was found that institutions such as libraries and recreation centers can increase collective efficacy, which directly enhances social control (Peterson et al., 2000, in Stucky, 2003: 1103). Specifically, the hypothesis that public control would directly relate to collective efficacy and the neighbourhood's ability to have influence over social programs and economic resources from the local politicians was confirmed, and it was found that "the effect of social factors such as poverty, unemployment, and family

disruption on violent crime depends on the local form of government” (Stucky, 2003: 1120).

These recent studies provide reason to incorporate structural factors into criminological study. Structural processes, however, cannot account for all criminal behaviour without taking genetic factors into account. Diana Fishbein (1990), a prominent biological criminologist, states that: “although findings from [structural theories] must not be discarded or underplayed, considered alone, they do not offer a complete assessment of the contribution to criminal behavior” (p. 27).

An Integrative Approach

An integrative approach is important in criminological theory because studies have consistently shown that there are multiple factors contributing to deviant behavior. Specifically, studies in both biological and structural criminology have resulted in ‘empirical evidence’ that seems to confirm that tested variables correlate to the likelihood of antisocial behaviour. It would therefore be reasonable to assume that both genetic and social variables interact with one another in the process by which individuals become criminal. I believe that theories must include both nature and nurture in order to establish crime control and prevention strategies that will reduce criminal activity.

The backlash against biological criminology can be directly traced to its perceived endorsement of flawed social actions such as the eugenics movement. Genetic factors were also discarded since early theorists suggested that if criminal behavior is caused by heredity it would be unmanageable (Ellis and Walsh, 1997: 48). It is also possible that social scientists have oversimplified their views of evolutionary models, which has led them to “incorrectly believe that any theory that emphasizes learning, culture or

socialization must necessarily de-emphasize evolution-based mechanisms, genes or related concepts” (Malamuth, 1996: 8). Regardless of the reasons behind the past rejection of biocriminological theories, Fishbein (1990) and other biostructural criminologists argue that a multidisciplinary approach is key to enhancing “capabilities to predict, prevent and manage antisocial behavior” (p. 27).

Social processes that influence frequency of inherited traits:

Both structural and biological factors should play an integral part in a criminological process theory. For example, structural factors can directly influence criminality by increasing or decreasing the number of children born with genetic inconsistencies such as Fetal Alcohol Syndrome (FAS), which itself directly influences the process by which individuals may become criminal. Currie (1997) argues that societies with poor social support and low employment rates encourage criminal behaviour. Stressors such as these may lead to a higher rate of excessive or binge drinking within a ‘market society’. Higher drinking rates would therefore directly influence the number of children born with FAS. As Fishbein (1990, 2001) indicates, a biological predisposition such as being born with FAS is only one of many factors that may affect a child’s propensity towards criminal behavior. This belief is indicative of the biosocial approach in which criminology is structured on an idea that “both biological and environmental conditions are powerful predictors of antisocial behaviour and drug abuse” (Fishbein, 2001: 63). Taking the above example, an individual with FAS may become an outcast in society during his or her teen years. If this individual makes friends with deviant peers, he or she may learn criminal behaviour through a structural process. As Sutherland’s (2003) theory of differential association explains, a child with deviant peers interacts in an

environment with a high number of definitions unfavorable towards the law, and the child would learn these definitions and deviant behaviour in the same manner as most other behaviour is learned (p. 132-133). Furthermore, a lack of collective efficacy (Sampson et al., 1997) may allow the deviant group to exist and engage in criminal and deviant behaviour. This lack of collective efficacy could be the result of a number of structural factors, including the mechanisms that Currie (1997) suggested in his conceptualization of a market society. Therefore, it is completely possible that it is a combination of both structural and biological factors that work in the process of becoming criminal. In this example, ignoring biological factors would take away one of the initial steps in the process of criminality.

Structural processes that manage abnormal pathology:

A paradox of crime exists in the fact that although most offenders have a history of antisocial behavior, most individuals with antisocial behavior do not become criminal (Sampson, 2000: 712). This paradox suggests that criminal activity is correlated to but not caused by antisocial behaviour. Therefore, we must acknowledge the process by which people become antisocial as a factor in the process of becoming criminal. Fishbein (2001) specifically argues that research into the processes and multiple causes of criminal and antisocial behaviour requires a developmental approach which in turn is directly influenced by both environmental and biological factors (p. 60). In her 1990 article Fishbein explains that unstable, irregular and disturbed conditions may affect a child's development (p. 31). Furthermore, Fishbein (2001) then specifies that

family situations, peer interactions, school settings, and work environments are typically not static in an individual's lifetime, and produce measurable changes in biological systems and behavioural outcomes as the individual ages(p. 60).

Specifically Fishbein (1990) explains how an individual with a biological predisposition to antisocial behaviour may be directly affected by his or her surroundings and eventually become criminal as a result of a process rather than time-stable biological or structural factors (p. 31). For example, a child born with FAS may have “growth retardation, cognitive deficits, behaviour problems and learning difficulties” (Barr & Streissguth, 2001; Hamilton et al., 2003, in Barlow & Durand, 2005: 387). Such problems and characteristics may be exaggerated if the child continues to grow and develop in an unstable environment. An unstable environment may include lack of parental supervision and support, or scarce educational programs. Without this proper support the child may develop further problems and may be more prone to maladaptive behaviours as a result of being outcast within his or her school environment. Once excluded from his or her surroundings, the child has an increased probability of antisocial behaviour which Fishbein (1990) identifies as a cumulative disadvantage.

Recent findings to support an integrative approach:

The General Evolutionary Ecological Paradigm (GEEP) is a model that integrates structural and biological factors in a process approach to determine the causes of criminal behaviour (Vila, 1994, in Savage and Vila, 2002: 52). GEEP uses a multilevel approach to explain deviancy. The model focuses on childhood development including “the importance of experiences and environment early in life, especially those that affect child development and the transmission of biological traits and family management practices over generations” (Savage and Vila, 2002: 52). GEEP also stresses the influence of larger structural factors which are affected directly by public health, educational and other such problems which are often considered to be outside and irrelevant to crime control policy

(Savage and Vila, 2002: 52). The GEEP predicts that structural factors such as social programs will in turn reduce levels of crime ten to fifteen years down the road when children affected by these positive changes reach adolescence and young adulthood (Savage and Vila, 2002: 51). Specifically,

this 'lagged nurturance hypothesis' predicts that 'nurturant' factors at the aggregate level (maternal and infant health care, positive parenting, and early education, for example) will have an impact on crime rates when children exposed to a given set of 'nurturant' conditions reach their high-crime adolescent and young adult years. Better-nurtured cohorts of children are expected to commit less crime (Savage and Vila, 2002: 53).

The study ties nurture and nature together by linking measured levels of infant mortality (which are expected to display nurturance conditions in society) to a variety of "health-related biological factors associated with criminality, such as head injury, exposure to toxins, and ability to treat other sources of brain injury" (Savage and Vila, 2002: 59). Results indicate that the 'lagged nurturance hypothesis' can be supported, despite methodological difficulties often associated with cross-cultural data. Therefore, this finding essentially supports the concept that individuals born with biological deficiencies can be raised in such a way that the developmental processes overcome genetic differences, but only when the proper nurture and social support is present.

Conclusion

Both structural and biological theories have contributed significantly to advancements in criminological theory over time. Empirical studies have found links to genetic and evolutionary factors in twin and adoption studies, whereas structural and environmental factors have been found statistically significant in other studies. By taking the importance of the processes by which individuals become criminal into account, we must accept that both biology and structure have an influence over deviant behaviour. It is only once theories acknowledge both factors that proper social programs geared towards

diminishing and eliminating any genetic predisposition towards antisocial behaviour can be put forth. Simply put, an increase in collective efficacy might keep individuals who have genetically based behavioural or physical differences included in the community rather than pushing them away, which may result in antisocial and criminal behaviour.

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