PEARSON NEW INTERNATIONAL EDITION

Criminology
A Sociological Understanding

Steven E. Barkan

Fifth Edition

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Nineteenth-Century Views

PHRENOLOGY

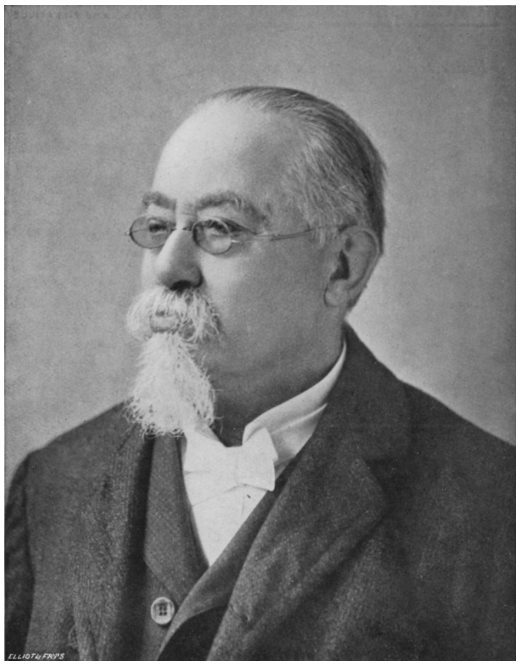
One of earliest biological explanations of crime, **phrenology,** concerned the size and shape of the skull and was popular from the mid-1700s to the mid-1800s (Rafter 2008). An Austrian physician, Franz Gall (1758–1828), was its major proponent. Gall thought that three major regions of the brain govern three types of behavior and personality characteristics: intellectual, moral, and lower. The lower type was associated with criminal behavior and would be largest in criminals. Because phrenologists could not directly measure the three brain regions, they reasoned that the size and shape of the skull corresponded to the brain's size and shape. They thus thought that skull dimensions provided good evidence of criminal tendencies.

Phrenology was popular initially but never really caught on. We now know, of course, that the brain cannot be measured by measuring the skull. But perhaps the most important reason phrenology faded was that its biological determinism clashed with the Enlightenment emphasis on free will, still popular in the early 1800s. The determinism of positivism did not become widely accepted until decades later.

CESARE LOMBROSO: ATAVISM

If Cesare Beccaria was the founder of the classical school of criminology, then Cesare Lombroso (1835–1909), an Italian physician, was the founder of the positivist school of criminology. Influenced by Darwin's work on evolution, Lombroso thought criminals were *atavists*, or throwbacks to an earlier stage of evolution, and said criminal behavior stemmed from **atavism.** In essence, criminals were evolutionary accidents who resembled primitive people more than modern (i.e., nineteenth-century) people. Lombroso's evidence for his theory came from his extensive measurements of the bodies of men in Italian prisons that he compared to his measurements of the bodies of Italian soldiers, his control group. He concluded that the prisoners looked more like primitive men than modern men, because, among other measurements, their arms were abnormally long, their skulls and jaws abnormally large, and their bodies very hairy. Lombroso published his atavist theory in 1876 in his famous book, *L'Uomo Delinquent (The Criminal Man)* (Lombroso 1876).

Cesare Lombroso is considered the founder of the positive school of criminology.



Given the intense interest in evolution from Darwin's work, Lombroso's discovery attracted much attention and his atavist theory of crime became very popular. However, Lombroso's research was methodologically flawed (Bernard, Snipes, and Gerould 2009). Because the Italian criminal justice system then was hardly a fair one, many of the prisoners he measured probably had not actually committed crimes. His control group probably included people who had committed crimes without being imprisoned, as is still true today. Many differences he found between his prisoners and control group subjects were too small to be statistically significant. Lombroso may have also unconsciously measured his subjects in ways that fit his theory. Even if we assume for the sake of argument that his prisoners did look different, it is possible that their imprisonment resulted more from reactions to their unusual appearance than from their criminality. Finally, some of the traits Lombroso described characterize Sicilians, who have long been at the bottom of Italy's socioeconomic ladder. Lombroso's prisoners

might have looked like atavists not because his theory made any sense, but because the traits he identified as atavistic happened to be ones belonging to Sicilians.

By the end of his career, Lombroso had modified his view of atavism. Although he continued to think the most serious criminals were atavists, he reasoned that this group comprised only about one-third of all offenders. The remainder were criminals who developed brain problems long after birth and occasional criminals whose behavior stemmed from problems in their social environment. Two of Lombroso's students, Raffaele Garofalo (1852–1934) and Enrico Ferri (1856–1929), carried on his views and made their own contributions to the development of criminology. Garofalo continued to emphasize biological bases for crime, while Ferri stressed that social conditions also play a role. Both scholars attacked the classical view of free will and crime and argued for a more positivist, determinist view of crime causation.

As the founder of modern positive criminology, Lombroso left a lasting legacy; his assumption that criminals are biologically different continues to guide today's biological research on crime. It should come as no surprise, however, that his atavist theory has long been discredited. In 1913, English psychiatrist Charles Goring (1870–1919) published his book *The English Convict*. Goring measured the body dimensions of 3,000 English prisoners and of the members of a large control group. He did not find the differences that Lombroso found and thus found no support for atavism. This latter conclusion prompted Lombroso's theory to fall out of favor.

Lombroso on Women

Few criminologists studied women criminals until fairly recently. Lombroso was one of these few. That is the good news. The bad news is that his explanation of female criminality, reflecting the sexism of his time, rested on antiquated notions of women's biology and physiology. Lombroso published *The Female Offender* in 1895. In it he wrote that women were more likely than men to be atavists and that "even the female criminal is monotonous and uniform compared with her male companion, just as in general woman is inferior to man" (Lombroso 1920 [1903]). He also thought that women "have many traits in common with children," that their "moral sense is deficient," and that "they are revengeful, jealous."

In view of these terrible qualities, how did Lombroso explain why women commit so little crime? He reasoned that women were naturally passive and viewed their "defects (as) neutralized by piety, maternity, want of passion, sexual coldness, weakness and an undeveloped intelligence." A woman who managed to commit crime despite these crime-reducing traits must be, thought Lombroso, "a born criminal more terrible than any man," as her "wickedness must have been enormous before it could triumph over so many obstacles" (Lombroso 1920[1903]: 150–152). Although most modern criminologists consider Lombroso's views hopelessly outdated, his emphasis on women's physiology and supposed biological nature remained influential in the study of women's crime for many years (Chesney-Lind and Jones 2010).

EARLY TWENTIETH-CENTURY VIEWS

Earnest Hooton: Biological Inferiority

After Goring's 1913 refutation of Lombroso's atavism theory, criminologists temporarily abandoned the idea that criminals were physiologically different. Then in 1939, Harvard University anthropologist Earnest Hooton (1887–1954) revived interest in physiological explanations with the publication of two books that reported the results of his measurement of 14,000 male prisoners and 3,200 control group subjects (Hooton 1939a; Hooton 1939b).

Compared to the control group, prisoners tended to have, among other things, low foreheads, crooked noses, narrow jaws, small ears, long necks, and stooped shoulders. Not one to mince words, Hooton labeled criminals "organically inferior" and "low-grade human organisms" and concluded that the "primary cause of crime is biological inferiority. . . . The penitentiaries of our society are built upon the shifting sands and quaking bogs of inferior human organisms" (Hooton 1939b: 130). He further concluded that criminals' body shapes influenced the types of crime they committed. Murderers tended to be tall and thin, for example, whereas rapists were short and heavy. Men with average builds did not specialize in any particular crime because they, like their physical shape, had no specific orientation.

Hooton's belief in the biological inferiority of criminals led him to urge the government to reduce crime by undertaking "the extirpation of the physically, mentally, and morally unfit, or . . . their complete segregation in a socially aseptic environment" (Hooton 1939a: 309). Put more simply, Hooton was advocating that the government sterilize criminals or exile them to reservations (Rafter 2004).

His research suffered from the same methodological flaws as Lombroso's, including the assumptions that all of his prisoners had committed crimes and that all of his control group subjects had not committed crime. It is also doubtful that his control group adequately represented the general population, because a majority were either firefighters or members of the Massachusetts militia. Given their occupations, their physical fitness and size may well have differed from those of the population at large. Because of these and other weaknesses, Hooton's work did not become popular, especially with the onset of World War II and the "extirpation" of the millions of people whom the Nazis considered biologically inferior.

William Sheldon: Body Shapes

Although assumptions of biological inferiority grew less fashionable, interest in physiology and criminality continued. In 1949, William Sheldon (1898–1977) published a book that outlined his theory of **somatology,** which assumes that people's body shapes affect their personalities and hence the crimes they commit (Sheldon 1949). Sheldon identified three such body types, or *somatotypes* (see Figure 1). *Endomorphs* are heavy, with short arms and legs; they tend to be relaxed and extroverted and relatively noncriminal. *Mesomorphs* are athletic and muscular; they tend to be aggressive and particularly apt to commit violent

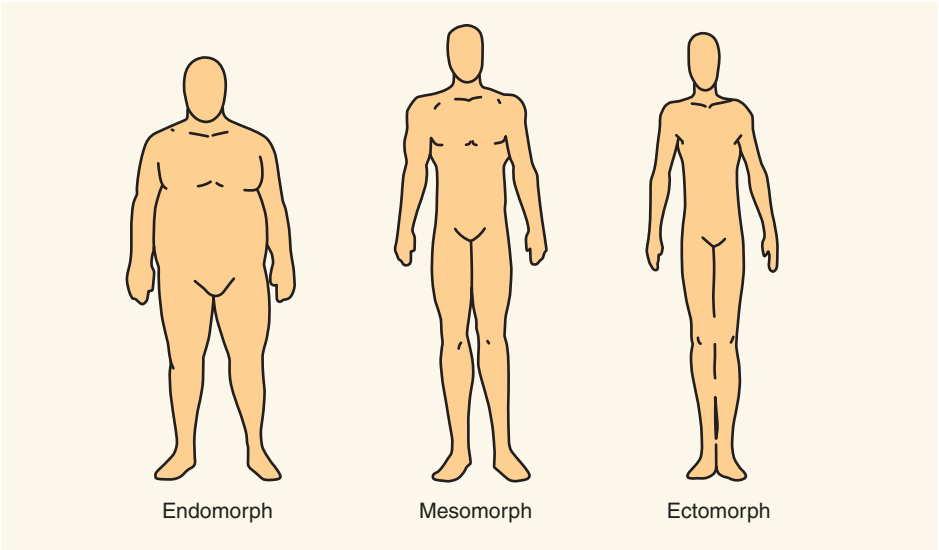


FIGURE 1 ▸ **William Sheldon's Three Body Shapes** Source: Adapted from Sheldon 1949.

crimes and other crimes requiring strength and speed. Finally, *ectomorphs* are thin, introverted, and overly sensitive. Sheldon compared 200 male delinquents in an institution to a control group of some 4,000 male college students. Compared to the students, the delinquents tended to be mesomorphic, as Sheldon predicted.

Although Sheldon's theory held some appeal, his research suffered from the same methodological flaws that characterized the work of Lombroso, Hooton, and other early biologists (Bernard, Snipes, and Gerould 2009). In addition, even if Sheldon's delinquent subjects were more mesomorphic, he could not rule out the possibility that their muscular, athletic bodies made it more probable that they worried juvenile justice officials and hence were more likely to be institutionalized. These many flaws, coupled with memories of the Holocaust, minimized the popularity of Sheldon's somatological theory of crime (Rafter 2007).

CONTEMPORARY EXPLANATIONS

Although the early biological explanations of crime suffered from methodological and other problems, biological theories are now experiencing a resurgence thanks to developments in molecular genetics (DeLisi et al. 2010; Walsh and Beaver 2009). We discuss some of the major explanations in this section.

Family, Heredity, and Genes

Biologists and medical researchers have long noticed that crime tends to "run in families," and they assume that criminal tendencies are inherited. To these researchers, crime is analogous to disease and illness. Just as many cancers, high cholesterol and heart disease, and other medical problems are often genetically transmitted, so, they say, is criminal behavior and, for that matter, other behavioral problems such as alcoholism and schizophrenia. Work on **heredity,** genes, and crime now occupies a central place in biology and crime research, with much of it using sophisticated techniques from the field of molecular genetics.

EARLY RESEARCH

The first notable study of family transmission of crime was Richard Dugdale's 1877 study of a rural New York family named Jukes (Dugdale 1877). Noticing that six Jukes were behind bars, Dugdale researched their family tree back 200 years and found that about 140 of 1,000 Jukes had been imprisoned. Because he had no control group, however, Dugdale could not determine whether the Jukes's level of criminality was higher than that of other families. Henry H. Goddard's 1912 study of the descendants of Martin Kallikak was somewhat sounder in this regard (Goddard 1912). Kallikak had fathered children through two different women in the late 1700s. Goddard found a higher proportion of crime and other problems in one set of Kallikak's descendants than in the other. Despite the interesting comparison, learning and environmental factors may explain Goddard's findings better than heredity. The "deviant" set of Kallikak's descendants, for example, lived in poverty, whereas the "normal" set lived in wealth.

TWIN STUDIES

The ideal way to study heredity and crime would be to take individuals at birth, clone them genetically, and randomly assign them and their clones to different families across the country living in various kinds of circumstances. You would then monitor the individuals' and clones' behavior for the next forty years or so. At regular intervals throughout this long study, you would determine whether individuals and clones tend to act alike. If crime is inherited, then individuals who commit crime should have clones that also commit crime, and vice

versa. For each individual–clone pair, you would thus determine whether (1) both members of the pair commit crime, (2) both members do not commit crime, or (3) one member commits crime and the other does not. When both members of a pair act alike, we have **concordance;** when they don't act alike, we have **discordance.** If crime is inherited, you would find a higher level of concordance than discordance in all individual–clone pairs; if crime is not inherited, you would find similar levels of concordance and discordance.

Studies of identical twins suggest that criminal tendencies are genetically transmitted, but other similarities between the twins, including the amount of time they spend together, may account for their similar behaviors. Andrey Arkusha/Shutterstock, Inc.

For better or worse, in the real world we cannot do such an "ideal" study. *Jurassic Park* and other science fiction notwithstanding, we cannot yet clone dinosaurs or humans, despite recent advances in cloning other animals. Even if we could clone humans, we would not be allowed to assign babies and their clones randomly to families across the land. The same holds true for identical twins, who are the genetic equivalent of clones. The closest we can come to this ideal study of heredity and crime, then, is to compare identical twins who continue to live with their natural parents with siblings who are not identical twins and thus not genetically the same. We can then determine whether the level of concordance for the identical twins is higher than that for the other siblings. Researchers have performed many such studies and usually find higher concordance among the identical twins than among the other siblings. This evidence is widely interpreted as supporting a strong genetic basis for crime (Arseneault et al. 2003).

However, other reasons may account for the concordance. Compared to other siblings, identical twins spend more time together, tend to have the same friends, are more attached to each other, and tend to think of themselves as alike. They are also more likely than other siblings to be treated the same by their parents, friends, and teachers. All these likenesses produce similar attitudes and behaviors between identical twins, including delinquency and crime (Guo 2005).

ADOPTION STUDIES

To rule out environmental reasons for concordance, some researchers study identical twins separated shortly after birth and raised by different sets of parents. Because the twins do not live together, any concordance must stem from genetic factors. However, identical twins separated at birth are very rare, and too few studies exist to infer a genetic basis for crime. Their results are also mixed: some find a high level of concordance and others do not. Moreover, most of the identical twins in these studies who were reared "separately" were usually raised by parents who were close family members or neighbors. The twins thus lived in roughly the same environments, with many of them even spending a lot of time with each other. Because the twins were not really raised that separately after all, any concordance found may simply reflect their similar environments and not their genetic sameness (Lewontin, Rose, and Kamin 1984).

Other researchers look at non-twin siblings who, through adoption, are raised by different sets of parents. In this kind of study, researchers determine whether natural

parents who are criminals tend to have children adopted and raised by other parents who are also criminals, and whether natural parents who are not criminals tend to have adopted children who also are not criminals. These studies usually find that the criminality of natural parents is statistically related to the criminality of their adopted children. For example, a study of about 4,000 adopted Danish males found criminal conviction rates of 24.5 percent among those with natural parents who had been convicted of a crime versus only 14.7 percent among those with natural parents who had not been convicted (Mednick, Gabrielli, and Hutchings 1987).

Although many researchers interpret such evidence as support for a genetic basis for crime, others argue that siblings in adoption studies are often adopted several months after birth and thus experience similar environmental influences before adoption at a critical stage of their development. These influences might thus account for any similarity found later between their behavior and their natural parents' behavior. Another problem is that adoption agencies usually try to find adoptive parents whose socioeconomic status and other characteristics match those of the natural parents. The resulting lack of random assignment in adoption studies creates a bias that may account for the statistical relationships found (Moffitt and Caspi 2006).

MOLECULAR GENETICS

Given the methodological problems in twin and adoption studies, the best evidence for a genetic basis for criminal behavior comes from studies in molecular genetics. Techniques in molecular genetics allow researchers to determine whether individuals possess specific genes and then to determine whether these genes are associated with a greater probability of committing violent and other antisocial behavior. Several studies have identified a number of genes in this regard (DeLisi et al. 2010; Guo, Roettger, and Cai 2008). For example, a mutation in a gene called MAOA has been implicated in high-risk behavior, including criminal behavior. This gene regulates a hormone called serotonin, which normally has a calming effect. Individuals with the mutated version of the gene are less responsive to serotonin and thus more aggressive. A recent study found that boys with the mutated version are more likely to be in juvenile gangs and also more likely to be among the most violent members of the gangs (Beaver et al. 2009).

EVOLUTIONARY BIOLOGY

An essentially genetic explanation of crime comes from the field of *evolutionary biology*, which discusses how evolutionary needs tens of thousands of years ago favored certain behavioral traits that survived through natural selection and thus may account for behavioral tendencies today. If so, these tendencies are genetically based. Several evolutionary explanations of crime exist, but a brief discussion of just one should indicate their general perspective. This explanation assumes that rape provided an evolutionary advantage to some men, called *cads*, because it helped ensure that their genes would be transmitted into future generations (Thornhill and Palmer 2000). These men practiced what is called an *r strategy* by producing many children and then spending little time with them. Men (called *dads*) who practiced a *k strategy* produced fewer children because they were married or otherwise limited themselves to consensual sex. Presumably, cads who committed rapes thousands of years ago transmitted their genetic disposition to rape (and also to commit other antisocial behavior) into some men today. Critics fault this theory for several reasons, including its oversimplification of human history and its implication that rape was evolutionarily advantageous, which gives rape a positive slant (Travis 2003). Recent anthropological evidence also finds that children of rape victims are often killed by their mothers or other individuals, which obviously prevents their father's genes from being transmitted (Begley 2009).