

CHAPTER 5

Contributions from Biology: 'Body and Temperament'

OVERVIEW

This chapter starts Part II, which is devoted to laying out a broad range of criminological knowledge that has withstood the test of time and will be integrated. Barak rejects the 'older' tradition of biology that sees criminals as inferior and reviews the newer tradition, whose knowledge he divides into genetic, biochemical and temperament. The works of naturalist E.O. Wilson furnish support for looking at the influence genes have in shaping behavior. Twin and adoption studies add more evidence linking genes to behavior, but Barak does not suggest there are born criminals or criminal propensities.

Biochemical factors may include testosterone, although the interaction with gender roles makes it difficult to tell. More attention is paid to neurotransmitters that link neurons together. Low levels of serotonin and catecholamines can result in underarousal/boredom that is compensated for by sensation seeking. Temperament is the biological and more enduring aspect of personality that is expressed in traits such as inhibition, stability, and irritability. Temperament has a biological substrate ('predispositions to respond to paradigmatic human situations of pleasure, opportunity, danger and loss') and a learned component ('learned what s/he has to be to be loved').

OUTLINE

I Introduction to Part II

- A. Aim is to pursue breadth in reviewing criminological knowledge that has stood the test of time and been granted, however temporarily, the status of truth

* The Instructor's Manual for *Integrating Criminologies* is available as a downloadable Adobe .pdf file by chapter or in complete form through <http://paulsjusticepage.com/IntegratingCrim/index.htm>. The author's website is <http://greggbarak.com>. The website for [Amazon.com](#) has additional information about the book, and the [publisher's website](#) accepts requests for academic desk copies.

- B. Various levels of analysis are related to each other and the integrated product promises better policies to prevent crime

II Contextualizing Biological Contributions

- A. 'Older' tradition (19th century) tried to establish that criminals were physiologically different/inferior
 - 1. Cannot judge criminality by facial features, skull shape, or body type
- B. 'Newer' tradition (1960s and 1970s) examines how biochemical factors influence the range, form, intensity, thresholds and conditionability of emotional responses -- look at how brains behave and how they interact with sociocultural environment
- C. History and respectability given by E.O. Wilson
 - 1. *Sociobiology*: argued that human behaviors, including altruism and tribalism, have biological/genetic underpinnings [1975]
 - a. Critics: genetic rationale for status quo
 - 2. *Genes, Mind and Culture*: cultural universals suggest brain learns in specific ways determined by genes; cultures select certain brains and genes to reproduce
 - 3. *On Human Nature*: starting point for understanding the human condition is Darwinian evolution and natural selection (of traits that promote survival and multiplication of genes)
 - 4. Inherited temperamental traits may be based on inherited brain physiology and/or neurochemistry
 - a. Not to suggest 'born criminal' or 'criminal propensities'
 - b. From an evolutionary perspective 'criminal' and 'noncriminal' come out of same genetic and cultural pools (but there can be biochemical variations)

III Genetic Factors

- A. Twin studies (strongest evidence)
 - 1. Rate of criminal concordance 3 times higher with identical as opposed to fraternal twins
 - 2. Adoptees have greater concordance with biological parents
 - 3. Problem that studies cannot control for environment
- B. Deviant chromosomal complements (XXY and XYY) not related to crime

IV Biochemical Factors

- A. Glucose, cholesterol, carbohydrates, general diet, premenstrual syndrome not significantly related to crime¹

¹ Students may remember 'the twinkie defense' where a jury mitigated Dan White's murder charge because of high blood sugar levels, but this case involved the killing of Harvey Milk -- the first openly gay elected official.

- B. Mixed evidence on testosterone; greater amount of male violence may be genetically linked to hormone, interaction with gender roles and socio-cultural development
- C. Neurotransmitters
 - 1. Low serotonin seems associated with violence
 - 2. In reticular formation (brain stem to limbic/emotion control system): catecholamines (dopamine, epinephrine and norepinephrine)
 - a. Low levels associated with suboptimal arousal (hyperactivity, impulsivity, resistance to punishment)
 - 3. Arousal/optimal stimulation theory: suboptimal arousal creates excitement or sensation seeking behaviors (but can be satisfied by skydiving as well as crime, so they can be necessary -- but not sufficient -- conditions of criminality)
 - a. Can be applied to crimes in the suites as well as the streets

V Body Physique and Temperament Factors

- A. Lombroso's born criminal [1876]: criminals look like blacks and savages
- B. Modern Study of Body Types
 - 1. Anthropologist Hooten [1939]: criminals sociologically and biologically inferior
 - 2. Psychiatrist Sheldon [1949]
 - a. Endomorph: short, soft, round-bodied; relaxed, convivial, emotionally constant
 - b. Mesomorph: lean, muscular, thick skinned; assertive, dominating, competitive and ruthless
 - c. Ectomorphs: skinny, fragile; secretive, restrained and unpredictable
 - d. Delinquency product of mesomorph and associated with inferiority
 - 3. Gluecks: mesomorphs criminal because they are strong, insensitive and tend to express frustrations in actions
- C. Exploration of Temperament
 - 1. Enduring aspect of personality with physiological substrates and experiential components
 - 2. Distinguished by traits like anxiety, irritability and impulsivity
 - 3. Shape how people react to stresses like intimidation and danger (with fear/flight, aggression/fight or sociability)
 - 4. Perspective
 - a. Most temperaments are blends
 - b. Nature and nurture: temperament = what one has learned to be in order to be loved + biological/genetic predispositions to respond to paradigmatic human situations of pleasure, opportunity, danger and loss

5. Inhibited/uninhibited differences may be associated with neurochemical differences in the amygdala (brain structure that assigns emotions to experience)
6. Irritability part of aggressiveness, but the latter is more complex (manifesting itself in impulsive and premeditated actions)

LEARNING OBJECTIVES

- 1] Review of behavioral influences that are not learned and go to the basic functioning of our brains: natural selection, genes, biochemistry, brain physiology and temperament
- 2] Highlight limits: biological knowledge is not the search for (inferior) criminal type; at best genes, biochemistry and physiology are necessary (not sufficient) conditions for crime

IDEAS FOR LECTURES & DISCUSSION

For those whose perspective is sociological (or psychological), much of this material could be new and will be an interesting test of multidisciplinary in practice. Some will be least interested in this material and feel that it is not 'really' as important as other topics. Even instructors who have the best intention of being more multidisciplinary can run into time problems and other structural constraints that prevent them from researching biochemistry. Such is the process that perpetuates disciplines.

My own approach to teaching this material would fall into this category. My interest/prejudice is in the politics of this research. Questions about class, race and the policy implications of biological research certainly are part of integrating criminological knowledges, but they are a sociological examination of this body of research. Instructors who implement the following ideas -- or any others that are not based in a biological paradigm -- may wish to discuss their disciplinary preferences with the class.

The old tradition that assumed biological inferiority had classist and racist assumptions worked into it, as noted by Lombroso equating delinquents with blacks and savages. The question is over the extent to which this perception still exists and/or is used to justify such a position (i.e. blacks are criminals, less intelligent and uncivilized brutes). While it is not inevitable that genetic research gives a scientific basis to racist eugenics policies, the relationship has been problematic (Kuhl 1994; Miller 1996, Ch 5*). Certain historical conditions may also produce

greater interest in biological explanations that by their nature turn attention from the social structure.

While Barak notes that research on temperament and biology could help explain white collar crime, no one even considers such issues. High flying swindlers and corporate administrative mass murders seem to be exempt from scrutiny that their brain or genes do not work right. Meanwhile, inner city residents fear that the policy implications of this research will involve genetic screening or medical 'treatments' to pacify young black men who face decreasing employment opportunities and increased marginalization.

Integrating Criminologies obviously is not using the biological paradigm to recreate social inequalities. The notion of inferiority is rejected, as is a 'criminal type' of gene or personality; criminal and noncriminal behaviors are cut from the same cloth, notes Barak. But the affirmative deconstructionist, concerned about the underlying assumptions and institutionalized status quo, notes that genes and brains are part of the discourse about bodies. It is a good example of the power/knowledge relationship and has been used as a site for the rationalization of social inequalities. Criminology is involved in this practice, and at times is deeply implicated in the discriminatory control of minorities and its rationalization (Oshlanski 1996).

REFERENCES

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- Oshlanski, David. 1996. *'Worse Than Slavery': Parchman Farm and the Ordeal of Jim Crow Justice*. New York: Free Press.