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**Genetics and Responsibility: To Know the
Criminal from the Crime**

NITA A. FARAHANY
Vanderbilt University - School of Law
nita.farahany@vanderbilt.edu

~and~

JAMES COLEMAN
Duke University - School of Law
JColeman@law.duke.edu

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GENETICS AND RESPONSIBILITY: TO KNOW THE CRIMINAL FROM THE CRIME*

NITA A. FARAHANY** AND JAMES E. COLEMAN JR.***

I understand by responsibility nothing more than actual liability to legal punishment. It is common to discuss this subject as if the law itself depended upon the result of discussions as to the freedom of the will, the origin of moral distinctions, and the nature of conscience. Such discussions cannot be altogether avoided, but in legal inquiries they ought be noticed principally in order to show that the law does not really depend upon them.¹

I

INTRODUCTION

Human behavioral genetics may enhance our understanding of human behavior and yet have little relevance to assigning responsibility in the criminal law. As a scientific discipline, behavioral genetics seeks to understand the contributory roles of genetics and the environment to observed variations in human behavior. Like other sciences, it assumes that all natural phenomena have a scientific causal explanation, but focuses primarily on the correlation between genetic variation and behavioral variation among individuals in a population. Although the science is still in its infancy, stymied by disagreement over basic methodology and the definitions and metrics for measuring behavior, behavioral genetics evidence has already been introduced in criminal trials for a variety of purposes: as exculpatory evidence, to bolster preexisting legal

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* Labour is blossoming or dancing where

The body is not bruised to pleasure soul.

Nor beauty born out of its own despair,

Nor blear-eyed wisdom out of midnight oil.

O chestnut-tree, great-rooted blossomer,

Are you the leaf, the blossom or the bole?

O body swayed to music, O brightening glance,

How can we know the dancer from the dance?

William B. Yeats, *Among School Children*, pt. VIII, ll. 57–64.

** Assistant Professor of Law (effective August 2006), Vanderbilt Fellow and Instructor in Law, Vanderbilt Law School.

*** Professor of the Practice of Law, Duke University School of Law.

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1. 2 JAMES F. STEPHEN, *A HISTORY OF THE CRIMINAL LAW OF ENGLAND* 96 (LONDON, MACMILLAN 1883).

defenses, and as mitigating evidence during sentencing. As the science progresses and gains credibility, scientific results demonstrating a genetic contribution to behavioral differences in violence, aggression, hyperactivity, impulsivity, drug and alcohol abuse, antisocial personality disorder, and other related traits will continue to be introduced into the criminal law. This article discusses practitioners' attempts to use behavioral genetics evidence in U.S. criminal law cases, and explores the relationship between behavioral genetics and the theoretical concept of criminal responsibility as it operates in the U.S. criminal justice system. It argues that irrespective of the scientific progress in the field of behavioral genetics, as a matter of criminal law theory, such evidence has little utility in assessing criminal responsibility.

Several observations about the science of behavioral genetics inform the arguments presented in this article. First, behavioral genetics does not support the perspective that human actions are fixed or caused by genes. In other words, behavioral genetics does not support genetic determinism. To the contrary, the science elucidates a complex interaction of biology and the environment that gives rise to behavioral differences between individuals. The conceptual conflict between behavioral genetics research and genetic determinism is evident both from the nature of the studies and from the scientific results.

Second, studies in behavioral genetics are designed to generate a population statistic about the correlation between behavioral variation and genetic variation in a population, termed an estimate of "heritability."² Heritability provides a statistical approximation of the relative contribution of genetic differences versus environmental differences to observed behavioral differences among individuals in a population.³ In contrast, it does not explain the relationship between the genetic profile of an individual and his behavior, nor does it explain the causes of any particular act by an individual.⁴ As a population statistic, heritability may vary by the age, culture, and environment of the population under study.⁵ Moreover, the old adage in statistics rings true here as well: correlation does not imply causation. A statistical correlation between genetic differences and behavioral variation in a population does not translate into a causal explanation about the behavior of interest.⁶ In short,

2. This is explained in considerable detail in Laura A. Baker, Serena Bezdjian & Adrian Raine, *Behavioral Genetics: The Science of Antisocial Behavior*, 69 LAW & CONTEMP. PROBS. 7 (Winter/Spring 2006), and separately by Jonathan Kaplan, 69 LAW & CONTEMP. PROBS. 47, 55-67 (Winter/Spring 2006).

3. Kaplan, *supra* note 2, at 55-58.

4. *Id.*

5. *Id.*

6. Thus, if a study of aggression in a population generated a heritability estimate of 0.2, one could not say that twenty percent of the behavior is explained by genetics, only that the differences in observed aggression between the individuals in that population were twenty percent correlated with genetic differences in that population.

heritability does not explain the *causes* of an individual's behavior, or the causes of any specific act by an individual.⁷

Third, behavioral genetics studies reveal that even if genetic differences provide insight into why individuals behave as they do, genetic differences contribute only one part to the overall story.⁸ In studies of antisocial or criminal behavior, behavioral geneticists report heritability estimates between 0.12 and a high of 0.62, meaning the genetic differences in the study population correlated with twelve to sixty-two percent of the differences in observed antisocial or criminal behavior in that population. Thus, genetic differences failed to account for thirty-eight to eighty-eight percent of the observed behavioral variation in the population.

These observations—that behavior is not deterministic, that heritability estimates refer to population rather than individual differences, and that genetic differences alone do not explain behavioral differences between individuals—would alone support limiting the introduction of behavioral genetics evidence in criminal cases. Nonetheless, practitioners continue to introduce behavioral genetics evidence in criminal cases. Thus, rather than focusing on the ever-changing scientific limitations of behavioral genetics, this article instead demonstrates why, as a matter of criminal law theory, behavioral genetics should not meaningfully inform the assessment of criminal responsibility.

Part II reviews the introduction by practitioners of behavioral genetics in recent U.S. criminal cases and the corresponding response by courts. This review illustrates that the present use of behavioral genetics evidence in criminal cases remains limited, and judges have by and large rejected its use. The rationales stated in both majority and dissenting opinions, however, leave the door open for future use of behavioral genetics evidence in the criminal law. This is of particular concern because progress in the field of behavioral genetics promises more specific results regarding the link between gene variants and behavior, such that practitioners' use of and courts' receptiveness to behavioral genetics evidence in criminal cases will likely increase.

Parts III and IV discuss the relevance of behavioral genetics to assigning criminal responsibility. "Criminal responsibility," as that term is used in this article, encompasses two distinct processes in the criminal law: the determination of liability and the evasion or diminution of responsibility.

Criminal liability, discussed in Part III, follows from the determination that an actor engaged in criminal conduct by inquiring (1) whether the defendant

7. See Baker, Bezdjian & Raine, *supra* note 2.

8. A criminal defense claiming a 1:1 correlation between genetic differences and behavior would be unsupported. See *supra* note 7. However, if new scientific discoveries emerged demonstrating that humans in fact operate as automatons, acting solely in reaction to their biological programming, the foundations of criminal law doctrine discussed in this article would naturally be challenged. Setting aside such an extreme improbability, this article assumes behavioral genetics will not support strong genetic determinism.

voluntarily engaged in proscribed conduct (voluntary act), and (2) if he did, whether he was aware of the circumstances that made his conduct criminal (mens rea).⁹ We conclude that behavioral genetics should have no bearing on the determination of whether an act is voluntary or whether the defendant acted with the requisite mens rea.

Part IV analyzes justifications and excuses to criminal responsibility, by which a criminal defendant may evade or mitigate criminal liability. This part explains how justifications and excuses serve as a societal check on liability by comparing the defendant's conduct with that expected of the reasonable person—the embodiment of societal norms of conduct.¹⁰ As a result, a defendant's behavioral predispositions—while potentially relevant to the motivations underlying his conduct—lack probative value. Because behavioral genetics does not inform either liability or justifications and excuses, behavioral genetics should have little use in determining criminal responsibility.

Criminal responsibility, as discussed herein, is distinct from criminal punishment, although they are naturally interrelated. A defendant's criminal responsibility corresponds with whether and to what extent he will be punished. And punishment depends upon a defendant's personal culpability, which turns in part on criminal responsibility and potentially according to the individual characteristics of the defendant. The rigidity of the present sentencing schemes, however, may limit the extent to which both the criminal and the crime receive consideration. In spite of these limitations, this article proposes that the present system of U.S. criminal law limits the relevance of individual characteristics (such as behavioral predispositions) to questions of culpability, rather than responsibility.

II

CURRENT USE OF BEHAVIORAL GENETICS IN CRIMINAL CASES

Courts have so far been skeptical of practitioners' attempts to introduce evidence of genetic predispositions as grounds for obviating criminal responsibility or mitigating punishment. The decisions in these cases have

9. GEORGE P. FLETCHER, *RETHINKING CRIMINAL LAW* 454–58 (1978). Fletcher describes the distinction as wrongdoing and attribution. He explains that there is a distinction between objective wrongdoing, and the subjective attribution of wrongdoing. We adopt similar reasoning, such that liability, as described in this article, is analogous to Fletcher's concept of wrongdoing, while the discussion of justification and excuse parallels Fletcher's discussion of attribution of wrongdoing. Unlike Fletcher, this article presents the attribution of wrongdoing as an objective determination, governed by the juror's assessment of whether the defendant's conduct deviated from social norms. Nonetheless, Fletcher points out two individualized characteristics relevant to criminal responsibility that this article does not discuss: infancy and insanity. These two characteristics may exempt an individual from wrongdoing, but do so as narrowly circumscribed anomalies. Neither exemption should afford inroads for behavioral genetics in defenses to criminal responsibility.

10. *Id.* at 459. Fletcher describes this inquiry slightly differently: He explains that justifications and excuses may negate liability for a defendant, but those justifications do so by negating the wrongfulness of the act, while excuses suggest an absence of personal accountability on the part of the actor. This article proposes that the reason an actor lacks personal culpability in the case of excuses is because social norms suggest the circumstances negate the extent of wrongdoing by an actor—that actor.

sometimes provoked dissents, however, and even the majority opinions (perhaps reflecting a healthy instinct for incrementalism) have not closed the door on such arguments in future cases. This article is one of two that together will show that as a matter of criminal law theory, courts' initial instincts are correct. At least as to criminal responsibility, the door should be kept closed.

A. Behavioral Genetics and Involuntariness

To evade criminal liability, a handful of criminal defendants claimed to have committed a criminal act because of a genetic predisposition to addiction, violence, impulsivity, or other behavioral traits, as if they were moved by reflex or convulsion, rather than by free will.¹¹ Most courts considering the claim that a defendant's genetically based "overpowering compulsion" excuses him from criminal liability have rejected it.¹² Yet practitioners continue to introduce these claims and scholars persist in supporting their attempts.

The defense of "involuntariness" based on a genetic predisposition to compulsion has been most prevalent in the context of drug or alcohol addiction.¹³ As a general rule, voluntary intoxication is not an excuse to criminal liability. But in these cases, the defendant disavows responsibility by claiming to have acted under the control of a drug or alcohol addiction for which he had a genetic predisposition. He claims that because he labored involuntarily under the influence of drugs or alcohol, the criminal act was involuntary. The U.S. Court of Appeals for the District of Columbia Circuit summarized this defense in *United States v. Moore*:

Appellant's position seems to be that if a defendant is compelled to use narcotics due to a serious physical craving (addiction) . . . the court can find no free will on the part of the defendant, since he acts as a result of compulsion, not from choice. Indeed, so the argument goes . . . there is really no guilt involved, merely disease.¹⁴

In response to this defense, the court posited that an individual's self-control is guided by two factors with respect to drug addiction:¹⁵ the physical craving for the drug and the moral standards of the defendant.¹⁶ Against this backdrop, "[i]n any case where the addict's moral standards are overcome by his physical

11. Some commentators argue an individual with a genetic defect may be "so emotionally distressed and out of touch with his surroundings that he is unable to refrain from the act that results in a crime, and therefore, may not satisfy the voluntary act requirement. If so, the man would be entitled to acquittal on that ground." Susan Horan, Comment, *The XYY Supermale and the Criminal Justice System: A Square Peg in a Round Hole*, 25 LOY. L.A. L. REV. 1343, 1372 (1992).

12. See, e.g., *United States v. Moore*, 486 F.2d 1139 (D.C. Cir. 1973).

13. See, e.g., *id.*; *State v. Boushach*, No. 94-1389-CR, 1995 Wisc. App. LEXIS 378, at *4-*8 (Wis. Ct. App. Mar. 21, 1995) (rejecting defendant's argument that his genetic defect limited his self control generally and made his intoxication involuntary); see also Stephen J. Morse, *Addiction, Genetics, and Criminal Responsibility*, 69 LAW & CONTEMP. PROBS. 165 (Winter/Spring 2006).

14. 486 F.2d at 1150. Although this case did not specifically address addiction from the perspective of behavioral genetics, an expert on drug addiction testified the defendant "was an addict of long standing, that appellant's addiction had the characteristics of a disease, and that as a consequence appellant was helpless to control his compulsion to obtain and use heroin." *Id.* at 1143.

15. *Id.* at 1145.

16. *Id.*

craving for the drug, he may be said to lose ‘self-control,’ and it is at this point, and not until this point, that an addict will commit acts that violate his moral standards.”¹⁷ From this perspective of the defense, every criminal defendant who could demonstrate a predisposition to drug or alcohol addiction could claim that his will succumbed to his addiction. Consequently, every criminal defendant with a genetic predisposition to drug or alcohol addiction could claim to have acted involuntarily and so evade criminal liability. The court found it unwise to recognize such an expansive defense.¹⁸

In essence, defendants who raise a genetic predisposition to drug or alcohol addiction challenge the temporal principle articulated in *People v. Decina*,¹⁹ that the defendant who causes harm while unconscious may be considered to have acted voluntarily by reason of his earlier conduct. In *Decina*, the defendant suffered an epileptic seizure while driving his car and killed four children.²⁰ The court, viewing the timeframe of the culpable conduct broadly, held the defendant responsible for the homicide because he was aware of the likelihood that he could suffer an epileptic seizure and he still chose (voluntarily) to drive.²¹ By contrast, the defendant with a genetic predisposition to addiction claims that he at no point made a voluntary choice. A defendant who raises the defense of a genetic predisposition to drug or alcohol addiction must overcome the rationale of the *Decina* line of cases; that is, if he is aware of his genetic predisposition, then the choice to take drugs or alcohol could itself be treated as the relevant voluntary act in committing the separate criminal offense.

In contexts other than addiction, courts’ receptiveness to claims that a defendant’s biological predisposition negates the actus reus required for criminal liability has been mixed. For example, the Supreme Court of South Carolina was persuaded by the argument that the defendant’s mental disease—severe depression arising from a genetic predisposition—rendered the homicide a product of disease, disassociated from the will, rather than a voluntary criminal act by the defendant. In *Von Dohlen v. State*,²² the defendant was initially convicted and sentenced to death for the armed robbery and murder of a shop employee he shot in the back of the head.²³ His conviction and sentence were affirmed on direct appeal, and his subsequent application for post-conviction relief was denied.²⁴ In support of Von Dohlen’s application for post-conviction relief, a psychologist testified on his behalf that as a result of “his altered mental state [the murder] was not a volitional thing but out of his conscious awareness or control.”²⁵ On appeal, the court reversed the denial of

17. *Id.*

18. *Id.* at 1146–48.

19. 138 N.E.2d 799 (N.Y. 1956).

20. *Id.* at 801, 803.

21. *Id.* at 803–04; see JOSHUA DRESSLER, UNDERSTANDING CRIMINAL LAW 91 (3d ed. 2001).

22. *Von Dohlen v. State*, 602 S.E.2d 738, 743 (S.C. 2004), *cert. denied*, 125 S. Ct. 1645 (2005).

23. *Id.* at 740.

24. *Id.*

25. *Id.* at 742.

post-conviction relief, finding the psychological testimony created a “reasonable probability the outcome of the trial might have been different had the jury heard the available information about [the defendant’s] mental condition.”²⁶ This suggests the court’s receptivity to the view that a mental condition arising from a genetic predisposition may render the act of committing a homicide the product of disease, rather than a voluntary act attributable to the defendant.

Earlier, however, the same court cited with approval the rejection of a closely analogous claim in a case in which the defendant argued that a behavioral predisposition to overly emotional responses arising from frontal lobe brain damage rendered his act of homicide involuntary.²⁷ In *State v. Morris*,²⁸ the defendant appealed his conviction of voluntary manslaughter, arguing that psychiatric testimony at trial demonstrated that he suffered from frontal lobe damage and “a person with physical damage to the frontal brain lobes might respond with greater emotion than a normal person to any particular situation. . . . [S]uch an emotional response is not voluntary if it results from frontal lobe brain damage.”²⁹ The South Carolina Court of Appeals rejected Morris’s claim:

[T]here was no evidence that Morris involuntarily pulled his gun and shot [the victim]. The forensic psychiatrist who testified stated a person with frontal lobe brain damage could have an impaired ability to control his *emotional* reaction to stimulus. He stated . . . that he had not evaluated Morris with regard to the specific *act* involved in the [the victim’s] shooting.³⁰

The Court’s rationale in *Morris* underscores a concern courts repeatedly express regarding the implications of behavioral predispositions for criminal responsibility: the lack of an explicit causal link between behavioral predispositions in the abstract and the specific criminal act in question. In other words, courts have recognized that behavioral genetics does not explain the causal relationship between an defendant’s genetic profile and his behavior, nor does it provide a biological explanation of the defendant’s criminal act. For *Morris*, the causal disconnect between the frontal lobe damage and his specific criminal conduct bolstered the trial court’s conclusion that Morris voluntarily and intentionally engaged in criminal conduct.³¹

A more recent concurring opinion by Ninth Circuit Judge Berzon³² suggests that additional jurists are open to a claim that a defendant’s behavioral predisposition vitiated his volitional control. In *Dennis ex rel. Butko v. Budge*,

26. *Id.* at 743.

27. *State v. Pickens*, 466 S.E.2d 364, 366 (S.C. 1995) (noting that in *State v. Morris*, 415 S.E.2d 819 (S.C. Ct. App. 1991), the defendant had intentionally shot his gun and therefore could not claim involuntary manslaughter).

28. 415 S.E.2d 819 (S.C. Ct. App. 1991).

29. *Id.* at 821.

30. *Id.* at 821–22.

31. *Id.* at 822.

32. *Dennis ex rel. Butko v. Budge*, 378 F.3d 880, 895 (9th Cir. 2004) (Berzon, J., concurring).

the defendant Terry Dennis, at the time a Nevada state prisoner, pled guilty to first-degree murder and was sentenced to death.³³ During the penalty phase of his trial, a psychiatrist testified that Dennis suffered from mental illness and had a long history of suicide attempts.³⁴ The Nevada Supreme Court affirmed the conviction and sentence on direct appeal,³⁵ and the state district court dismissed his subsequent petition for writ of habeas corpus.³⁶ Before his appeal reached the Nevada Supreme Court, Dennis notified the relevant authorities that he wished to withdraw his appeal and to submit to execution.³⁷ Dennis's trial attorney then filed a next-friend petition for habeas corpus in the federal district court, arguing that Dennis could not competently waive his rights or make rational choices regarding his defense because of his mental illness.³⁸ The district court rejected that claim, and the Ninth Circuit affirmed, holding that no clear or persuasive evidence demonstrated that Dennis irrationally chose to forego his appeal or that his suicidal tendencies or mental disorder fixed his choice.³⁹

Although Circuit Judge Berzon agreed with the Ninth Circuit majority on the ultimate outcome, she rejected the rationale of their decision:

[The majority assumes] a vision of mental processes which precludes the possibility that an individual with intact cognitive capacity may, nonetheless, be unable to make a rational choice, not so much because the choice is not rational in an objective sense, or because the individual in general lacks the capacity to make rational choices, but because, for the person making the *particular* decision it is not a *choice*. Instead, the individual's mental disorder dictates the outcome.⁴⁰

In contrast to the majority view, Judge Berzon believes an individual may be competent and yet lack the capacity to make voluntary decisions:

In effect, such a prisoner, though otherwise lucid, rational and capable of making reasonable choices is, in a Manchurian Candidate-like fashion, volitionally incapable of making a choice other than death when faced with the specific question here at issue—namely, whether to pursue legal proceedings that could vacate the death penalty or to abandon them. . . . To make a “choice” means to exercise *some* measure of autonomy or free will among the available options, at least to the degree that an individual who does not suffer from a mental disorder is able to do so.⁴¹

Although *Budge* concerns the voluntariness of a decision to forego further appeals, rather than the voluntary-act requirement for criminal liability, Judge Berzon's concurring opinion signals receptiveness to a claim of involuntariness

33. *Id.* at 882.

34. *Id.*

35. *Dennis v. State*, 13 P.3d 434 (Nev. 2000).

36. *Budge*, 378 F.3d at 882.

37. *Id.* at 882–83.

38. *Id.* at 886–87.

39. *Id.* at 889–95.

40. *Id.* at 895.

41. *Id.* at 899 (explaining that, although Judge Berzon was persuaded that Dennis's biological predisposition kept him from exercising a rational choice, the finder of fact was entitled to find otherwise).

based on behavioral biology.⁴² Employing reasoning such as this, some jurists may find it persuasive that an individual may lack the capability to exercise “free will” based on a biological predisposition.⁴³

B. Behavioral Genetics and Negation of Mens Rea

So far, few defendants have offered evidence of a behavioral predisposition to negate mens rea or as a defense of diminished capacity.⁴⁴ In part, this may be due to the conceptual implausibility of such a defense, or at least the conceptual difficulty of explaining why a behavioral predisposition would negate scienter as that notion is understood in the criminal law.⁴⁵ Rather than introducing behavioral predispositions to negate or reduce the degree of scienter producing the criminal act, defendants have more often offered such evidence in support of an insanity defense.⁴⁶

*State v. Davis*⁴⁷ is one of few cases in which a defendant claimed that a mental defect, arising from his genetic predisposition to depression and mental illness, impaired his ability to form the requisite intent for his alleged criminal conduct. Davis, charged with shooting a classmate, argued at trial that his mental condition prevented him from forming the requisite intent to commit first-degree murder, reckless endangerment, or possession of a weapon on

42. Dennis’s argument was not that he had a genetic predisposition to mental infirmity, nor does Judge Berzon’s opinion rely solely on a genetic predisposition to mental infirmity. One could read the following line as recognizing a distinction between genetic predispositions and the mental disorders at issue in this case: “Indeed, how can a mental infirmity or disorder be distinguished from the myriad . . . memories, experiences and genetic predispositions that go to make up each individual’s unique personality?” *Id.* Although the opinion does not squarely address genetic predispositions, it demonstrates receptiveness to the idea that an act may be viewed as involuntary based on the subjective mental state of the actor, rather than by an objective determination of wrongdoing.

43. See generally *id.* at 902–07 (Berzon, J., concurring).

44. We discovered no case in which the defendant relied solely and specifically on a genetic predisposition to negate mens rea. Nonetheless, several defendants have made the closely analogous claim that they could not form the requisite intent for the crime because of low serotonin levels, which predispose the defendant to violence or impulsiveness. *E.g.*, *People v. Uncapher*, No. 246222, 2004 Mich. App. LEXIS 923 (Mich. Ct. App. Apr. 13, 2004) (arguing defendant’s biological problem of low serotonin diminished his ability to reason and control his impulses); *Hall v. State*, No. W2003-00669-CCA-R3-PD, 2005 Tenn. Crim. App. LEXIS 3 (Tenn. Crim. App. Jan. 5, 2005), *appeal denied*, No. W2003-00669-SC-R11-PD, 2005 Tenn. LEXIS 590 (Tenn. June 20, 2005) (presenting expert testimony that defendant’s low serotonin levels were correlated with violent acts, and as a result, the defendant was “unable . . . to achieve the mental state . . . [of] the absence of passion and excitement” necessary for a finding of criminal liability); *State v. Payne*, No. W2001-00532-CCA-R3-CD, 2002 Tenn. Crim. App. LEXIS 998 (Tenn. Crim. App. Nov. 20, 2002) (arguing that defendant’s low serotonin level rendered the defendant unable to form the requisite mental state required for second-degree murder); *State v. Godsey*, No. E2000-01944-CCA-R3-CD, 2001 Tenn. Crim. App. LEXIS 926 (Tenn. Crim. App. Dec. 4, 2001) (introducing evidence that because of defendant’s low serotonin levels and resultant aggressive impulses, he could not form the requisite mental state required for second-degree murder). Moreover, although we do not address separately the defense of diminished capacity, a more detailed discussion of the issue is available in Nita Farahany, *Rediscovering Criminal Responsibility Through Behavioral Genetics* (2006) (unpublished Ph.D. dissertation, Duke University) (on file with author).

45. See WAYNE R. LAFAVE, *CRIMINAL LAW* § 5.1 (4th ed. 2003).

46. See *infra* Part II.C.

47. No. M1999-02496-CCA-R3-CD, 2001 Tenn. Crim. App. LEXIS 341 (Tenn. Crim. App. May 8, 2001).

school property.⁴⁸ He presented psychiatric testimony that, at the time he committed the alleged crimes, he suffered from a depressive disorder that severely impaired his capacity to deliberately commit homicide.⁴⁹ The psychiatrist testified that Davis had a “genetic predisposition” for depression and mental illness, as shown by the history of severe depression in his family.⁵⁰ The jury rejected his claim,⁵¹ and the court affirmed on appeal, noting the perceived manifestations of Davis’s intent prior to and during the commission of the alleged crime had properly informed the jury’s determination of his mental state.⁵²

In *People v. Bobo*,⁵³ the California Court of Appeal rejected an insanity defense that turned into a mens rea challenge by drawing a distinction between the defendant’s motive for killing her children and the determination of whether she acted with the requisite legal intent required for first-degree murder. Diane Rochelle Bobo methodically stabbed and then drowned her three children.⁵⁴ The jury convicted her of three counts of first-degree murder.⁵⁵ During the guilt phase of her trial, a psychiatric expert testified that Bobo suffered from delusions,⁵⁶ and a court-appointed psychologist testified that he believed Bobo suffered from paranoid schizophrenia, onset by genetic factors, biochemical elements, and developmental experiences.⁵⁷ These delusions and psychological conditions were introduced to inform her motive for killing her children. The jury nevertheless found Bobo to have been legally sane when she committed the crimes.⁵⁸ On appeal, Bobo challenged the sufficiency of the evidence to prove that she harbored malice or deliberately killed her children.⁵⁹ The California Court of Appeal rejected her claim,⁶⁰ noting, with regard to defendant’s alleged lack of malice, the distinction between an intention to kill and the motivation to kill. Because the evidence sufficiently demonstrated that Bobo planned and deliberately killed her children, her reasons for doing so were irrelevant to whether she acted with mens rea.⁶¹

Finally, the XYY cases of the late 1960s and early 1970s represent the mixed use of biological predisposition both to negate mens rea and, alternatively, to support an insanity defense. This parallels the use of mental illness to support a claim of insanity and to prove the lack of capacity to form a requisite mental

48. *Id.* at *18.

49. *Id.*

50. *Id.* at *12.

51. *Id.* at *19.

52. *Id.* at *19–*26.

53. 3 Cal. Rptr. 2d 747 (Cal. Ct. App. 1990).

54. *Id.* at 749–50.

55. *Id.* at 748.

56. *Id.* at 751–52.

57. *Id.* at 752–53.

58. *Id.* at 748.

59. *Id.* at 755.

60. *Id.* at 755–56.

61. *Id.* at 762.

state. In the 1969 case of *People v. Farley*,⁶² for example, a defendant with XYY chromosome and a history of antisocial behavior asserted as a defense to the vicious rape and murder of a young woman that his deviant chromosome structure, coupled with a past history of psychiatric difficulties, rendered him incapable of formulating the necessary intent to commit murder. Farley's attorney argued that "the killing was unplanned, impulsive, the product of a sick, psychotic and warped mind, while he was in a psychotic state, out of touch with reality."⁶³ Farley's defense failed, resulting in his conviction for murder.⁶⁴ The record leaves unclear the significance of the claim of incapacity for mens rea. His courtroom efforts understandably focused on a garden-variety defense of not guilty by reason of insanity.⁶⁵ A successful claim that a defendant lacks the capacity to form mens rea is hard to imagine, whatever the alleged basis claimed for incapacity.

C. Behavioral Genetics and the Insanity Defense⁶⁶

In most jurisdictions, insanity may be asserted as an affirmative defense to criminal liability,⁶⁷ requiring proof that the defendant suffered a disease of the mind, lacked awareness of his actions, could not appreciate the nature and quality of his actions, or lacked the ability to distinguish right from wrong.⁶⁸ Due in large part to the mental illness or defect element of the insanity defense, the majority of defendants who have asserted a genetic theory of insanity have failed to reach a jury with their claim. Courts have almost summarily rejected theories of mental illness based solely on a behavioral predisposition by differentiating between a genetic predisposition and the traditional diagnoses of mental disease, such as mental illnesses including schizophrenia or bi-polar

62. The case is unpublished, but its facts and outcome are described in *People v. Yukl*, 372 N.Y.S.2d 313, 320 (N.Y. Sup. Ct. 1975); see also David B. Saxe, *Psychiatry, Sociopathy, and the XYY Chromosome Syndrome*, 6 TULSA L.J. 243, 243 (1970).

63. See Edith Evans Asbury, "Chromosome Slaying Trial" Begins in Queens, N.Y. TIMES, April 16, 1969, at 54 (quoting the opening statement by Farley's defense attorney Marvyn Kornberg).

64. Saxe, *supra* note 62, at 244.

65. Edward C. Burks, *Genetic Defense Sought in Slayings*, N.Y. TIMES, Feb. 15, 1969, at 12; Telephone Interview with Marvyn Kornberg, Defense Attorney for Farley (Sept. 9, 2005). Nevertheless, previous articles have mistakenly characterized the defense as negating mens rea rather than a presentation of the insanity defense. E.g., Saxe, *supra* note 62, at 243-44 ("For the first time in the United States, the defense attempted at the trial stage to prove that this deviant chromosome structure coupled with a past history of psychiatric difficulties made the defendant incapable of formulating the necessary mens rea to commit murder.").

66. We introduce the empirical use of behavioral genetics in cases of insanity but do not explore the theoretical role of insanity in the criminal law. Farahany's dissertation, *supra* note 44, explores the complicated relationship between insanity, criminal liability, and criminal responsibility in further depth.

67. LAFAVE, *supra* note 45, § 7.1, at 369.

68. *Id.* § 7.2, at 377-85. More recently, juries also have had the option of finding a defendant guilty but mentally ill, which further obscures the determination being made. E.g., MICH. COMP. LAWS SERV. § 768.36 (2005). A successful insanity defense results in indefinite commitment to a mental institution, incarceration, or both, depending on the law of the governing jurisdiction. LAFAVE, *supra* note 45, § 7.1, at 369.

disorder, that form the foundation of the insanity defense. In *State v. Johnson*,⁶⁹ for example, the trial court rejected the defendant's attempt to introduce evidence that he could not form the mental state required for the crime because a genetic predisposition, coupled with bad nutrition, caused him to react to stress in a compulsive, abnormal fashion.⁷⁰ The appellate court concluded that although such a defense might have relevance to the unrecognized partial defense of diminished capacity, the alleged genetic predisposition did not constitute a mental defect, a threshold requirement for the insanity defense.⁷¹

The rejection of an insanity defense based on the defendant's chromosomal or behavioral predispositions has historic roots. In the XYY claims previously mentioned, several defendants argued their XYY chromosomal abnormality established the mental defect element of the insanity defense. Aside from *People v. Farley*,⁷² in no reported case⁷³ did these claims reach a jury. In *People v. Tanner*,⁷⁴ the trial court denied the defendant's motion to change his guilty plea to not guilty by reason of insanity, which he had based on the theory that his aggressive behavior was a result of his XYY chromosomal abnormality.⁷⁵ The Court of Appeal for the Second District of California affirmed, explaining that "experts [do] not suggest that all XYY individuals are by nature involuntarily aggressive. Some identified XYY individuals have not exhibited such behavior."⁷⁶ The court noted two additional deficiencies: (1) the expert testimony did not link Tanner's specific act of aggression to his chromosomal abnormality and (2) his experts did not testify that an extra Y chromosome satisfied the mental defect component of California's variation on the *M'Naghten* rule.⁷⁷ The appellate court in *Millard v. State*⁷⁸ similarly observed that the "mere fact" that the defendant had an extra Y chromosome would not satisfy the test for legal insanity because, even if individuals with XYY are more "prone to aggression, are antisocial, and continually run afoul of the criminal laws, it is hardly sufficient to rebut the presumption of sanity."⁷⁹

Two decades later, in *State v. Thompson*, the Court of Criminal Appeals of Tennessee expanded upon the rationale used by earlier courts to reject claims of insanity in the XYY cases, recognizing a distinction between evidence that an individual with a particular behavioral predisposition will likely act in a certain

69. 549 N.E.2d 565 (Ohio Ct. App. 1989).

70. *Id.* at 566.

71. *Id.*

72. *See supra* Part II.B.

73. Based on a review of cases available in Westlaw and Lexis databases.

74. 91 Cal. Rptr. 656 (Cal. Ct. App. 1970).

75. *Id.* at 659.

76. *Id.*

77. *Id.* The California variation of the *M'Naghten* rule reads as follows: "Insanity . . . means a disease or deranged condition of the mind which renders a person incapable of knowing or understanding the nature or quality of his act, or unable to distinguish right from wrong in relation to that act." *Id.* at 658 n.4. *See generally* *M'Naghten's Case*, 8 Eng.Rep. 718 (1843).

78. 261 A.2d 227 (Md. Ct. Spec. App. 1970).

79. *Id.* at 231.

manner and evidence that the particular criminal defendant committed the act in question *because* of his behavioral predisposition.⁸⁰ Essentially, the court recognized the correlation-or-causation problem inherent in behavioral genetics.⁸¹ Thompson offered expert testimony at trial that he suffered from “mild to moderate” impairment in the frontal lobe of his brain, which he claimed “could affect ‘impulse control, delay, the ability to think ahead and plan and suppress what would be an immediate reaction.’”⁸² Expert psychiatric testimony also suggested that frontal lobe impairment “would have affected [Thompson’s] ability to appreciate right from wrong . . . [and] could have prevented him from conforming his acts.”⁸³ Although the appellate court opined that the psychiatric evidence rebutted the initial presumption of Thompson’s sanity, it nevertheless held that a reasonable juror could ultimately conclude, based on Thompson’s behavior leading up to and during the crime, that his frontal lobe deficiency did not affect him in the relevant ways such an impairment *could* affect an individual.⁸⁴ Consequently, the court affirmed the jury’s finding that Thompson was sane when he committed the crimes and reinstated the verdicts for first-degree murder.⁸⁵

These cases highlight the incongruity between behavioral predispositions and the mental conditions traditionally required for legal insanity. In case after case, courts have concluded that a defendant can appreciate the wrongfulness of his conduct and conform to the law notwithstanding any behavioral predisposition to aggression.⁸⁶ On the other hand, criminal defendants have had some success using evidence of a genetic predisposition to bolster expert diagnosis of a mental condition.⁸⁷ In light of current standards for admission of scientific evidence, this use of behavioral genetics will likely be of more immediate benefit to the criminal defendant than a theory of insanity grounded solely in a genetic predisposition to violent, aggressive, or antisocial behavior.⁸⁸

80. No. E2002-02631-CCA-R3-CD, 2003 Tenn. Crim. App. LEXIS 736 (Tenn. Crim. App. Aug. 27, 2003).

81. *Id.* at *42–*43. See generally Kaplan, *supra* note 2.

82. *Thompson*, 2003 Tenn. Crim. App. LEXIS 736, at *13–*14.

83. *Id.* at *17.

84. *Id.* at *42–*43.

85. *Id.* at *43.

86. *Kenley v. State*, 759 S.W.2d 340, 344–48 (Mo. Ct. App. 1988) (rejecting defendant’s ineffective assistance of counsel claim because it was reasonable trial strategy for the attorney to exclude psychiatric testimony regarding defendant’s genetic background and childhood history of violence because it did not satisfy the legal requirements for insanity).

87. For example, in *Robison v. Johnson*, 151 F.3d 256 (5th Cir. 1998), an expert abstained from testifying at trial because he believed Robison’s behavior to be drug-induced. On appeal, the expert filed an affidavit that he now believed Robison’s behavior to be caused by schizophrenia rather than drugs, because of new evidence that Robison’s sister and other family members had been diagnosed as manic depressives and schizophrenics, demonstrating Robison’s genetic predisposition to the disease.

88. *E.g.*, *People v. Weinstein*, 591 N.Y.S.2d 715, 722, 724–25 (N.Y. App. Div. 1992) (holding that a theory of violence based on biological factors could not be introduced into evidence because a theory of behavior must have reached general acceptance to be introduced, although each factor considered in diagnosing a medical condition need not satisfy the relevant scientific admissibility standard).

D. Behavioral Genetics and Punishment

1. Behavioral Genetics as Mitigating Evidence

Criminal defendants most often offer behavioral predispositions as evidence to mitigate punishment after a finding of guilt, rather than as a defense to criminal liability.⁸⁹ The claim that a behavioral predisposition mitigates the defendant's degree of criminal responsibility for purposes of punishment often resembles claims already discussed here: the defendant's biology dictated his choices and he therefore acted involuntarily, or his behavioral predisposition prevented him from forming the requisite intent. Simplistically put, defendants claim that behavioral genetics mitigates their culpability by arguing "it's not my bad character; it's my bad genes."

Behavioral genetics, in its many variations—whether as a genetic predisposition, a family history of violence, or a cycle of violence—appears frequently as one of many mitigating factors during sentencing in criminal cases. The typical case involves introduction of expert testimony regarding the defendant's socioeconomic upbringing; childhood trauma; family history suggesting a genetic predisposition to impulsive, antisocial, or violent behavior;⁹⁰ or evidence of a genetic predisposition to drug or alcohol abuse.⁹¹ More recently, criminal defendants have introduced behavioral genetics as the principal theory of mitigation during sentencing in capital cases, rather than one of several mitigating factors.

In *Hill v. Ozmint*, defense counsel sought to demonstrate in the sentencing phase of the defendant's capital trial that the defendant suffered from serotonin deficiency, "attributable to genetics," from which his aggressive impulses arose.⁹² After his arrest and incarceration, Hill had begun prescription medication that, according to the treating physician, successfully curbed his aggressive impulses.⁹³ The theory of mitigation was that "the death penalty was not warranted because Hill's aggressive behavior was genetic (thus, beyond his control) and treatable,"⁹⁴ and that Hill in fact had been treated successfully and

89. See, e.g., *People v. Sapp*, 73 P.3d 433, 469–73 (Cal. 2003) (introducing the defendant's psychological and neurological factors contributing to the homicide as mitigating evidence).

90. E.g., *Corcoran v. State*, 774 N.E.2d 495, 502 (Ind. 2002) (opining that the defendant's genetic predisposition to being a "loner" or a "hermit" based on diagnosis of schizotypal personality disorder was outweighed by quadruple killing in imposing the death penalty); *Cauthern v. State*, 145 S.W.3d 571, 588 (Tenn. Crim. App. 2004) (noting that genetic predisposition to impulsive behavior could have been developed and introduced as mitigating evidence at the time of trial).

91. E.g., *State v. Mata*, 916 P.2d 1035, 1049 (Ariz. 1996); *State v. Hartman*, 476 S.E.2d 328, 342 (N.C. 1996) (rejecting defendant's argument that instruction to jury prevented jury from considering alcoholism as arising from genetic predisposition and "[w]ithout this focus, the fact of [defendant's] alcoholism was more likely to be viewed simply as weakness or unmitigated choice"); *State v. Scott*, 800 N.E.2d 1133, 1148–49, 1151 (Ohio 2004) (weighing genetic predisposition to drug and alcohol addiction, based on family history of drug abuse, as mitigating evidence during capital sentencing), *cert denied*, 542 U.S. 907 (2004), *application for reopening denied*, 811 N.E.2d 1148 (Ohio 2004).

92. 339 F.3d 187, 201–02 (4th Cir. 2003).

93. *Hill*, 339 F.3d at 202; Brief of Appellant at 19, *Hill v. Ozmint*, No. 03-1 (4th Cir. 2003).

94. *Hill*, 339 F.3d at 202.

now behaved appropriately. Three experts proffered testimony in support of Hill's claim: one who discussed serotonin deficiency generally, one who had diagnosed Hill's serotonin deficiency, and one who would have testified about Hill's successful treatment with Prozac.⁹⁵ The jury nevertheless sentenced Hill to death.⁹⁶ The U.S. Court of Appeals for the Fourth Circuit affirmed the death sentence on appeal⁹⁷ without addressing the merits of Hill's genetic mitigation theory.⁹⁸ This case, however, illustrates the typical attempt by defense counsel to use behavioral genetics to distinguish between defendant's choices that arise from his bad character (presumptively within his control) and choices that are the product of his genetic predisposition (presumptively outside of his control).⁹⁹

The defendant in *Crook v. State*¹⁰⁰ fared better with a similar mitigation claim. He claimed that his organic brain damage¹⁰¹ predisposed him to fits of violence. During his initial sentencing hearing, expert witnesses testified that Crook suffered from frontal lobe brain damage and impulse control disorder arising from "his organic brain dysfunction rather than any character disorder."¹⁰² The trial court sentenced Crook to death without considering the expert's testimony.¹⁰³ The Supreme Court of Florida vacated Crook's death sentence and remanded the case to the trial court: "[C]learly, the existence of brain damage is a significant mitigating factor that trial courts should consider in deciding whether a death sentence is appropriate in a particular case."¹⁰⁴ On remand, the trial court again imposed the death penalty,¹⁰⁵ and Crook appealed the proportionality of his sentence in light of the substantial evidence of the neurological and genetic basis for his behavior.¹⁰⁶ The Supreme Court of Florida again reversed, finding Crook's mental deficiencies were highly relevant to his degree of culpability for purposes of punishment and focusing on "the unrefuted testimony of the mental health experts that relate the rage and brutal

95. *Id.* Instead of testifying about Hill's favorable response to the medication, the third expert had a nervous breakdown on the stand and could not respond to questions on direct- or cross-examination; all while the jury laughed at this fiasco. *Id.*; Brief of Appellant, *supra* note 93, at 19.

96. *Hill*, 339 F.3d at 189.

97. Hill appealed to the Fourth Circuit after the denial of federal writ of habeas corpus in the district court. *Id.* at 190.

98. *Id.* at 202–03.

99. *E.g.*, *Mobley v. State*, 455 S.E.2d 61, 65–66 (Ga. 1995). That case is discussed in this volume. See Deborah W. Denno, *The Legal Link Between Genetics and Crime: Vile or Viable?*, 69 LAW & CONTEMP. PROBS. 209 (Winter/Spring 2006).

100. 813 So.2d 68 (Fla. 2002) [hereinafter *Crook I*] (vacating death sentence for failure to consider Crook's brain damage and mental retardation as mitigating factors); see also *Crook v. State*, 908 So.2d 350 (Fla. 2005) [hereinafter *Crook II*] (vacating death sentence after resentencing by finding the death sentence was disproportionate in light of evidence of extreme mitigation).

101. Experts testified that Crook's brain damage arose from his genetic background, socioeconomic deprivation, head trauma, substance abuse, and birth trauma. *Crook I*, 813 So.2d at 72.

102. *Id.* at 70–71.

103. *Crook II*, 908 So.2d at 354.

104. *Crook I*, 813 So.2d at 74–76.

105. *Crook II*, 908 So.2d at 355.

106. *Id.* at 356.

conduct in this crime to the defendant's brain damage and mental deficiencies."¹⁰⁷ Crook's resentencing is now pending.

With scientific progress, particularly in the relationship between specific genetic factors and specific behaviors, mitigation theories like Hill's and Crook's likely will become more prevalent. But whether behavioral genetics serves as the principal theory of mitigation or as only one of several proffered mitigating factors, courts currently have little guidance for interpreting or weighing this evidence, particularly in light of the complexity of showing a causal connection between a behavioral predisposition and a specific criminal act. Courts have relied on experts who have linked the defendant's general behavioral propensity and his specific criminal act in only a few cases;¹⁰⁸ the majority of defendants have failed to show such a causal link. In *Roberts v. State*,¹⁰⁹ the Arkansas Supreme Court focused on the absence of such a link in affirming the death sentence of Karl Douglas Roberts. Roberts, convicted of the capital murder of a twelve-year-old girl, had introduced psychological and neurological evidence during his pretrial competency hearing, during his trial to negate criminal liability and responsibility, and during the sentencing phase to mitigate his punishment.¹¹⁰ The court held that Roberts had failed to connect evidence of his brain damage to his ability to control his emotions and actions, or to his ability to function socially.¹¹¹ Other courts express similar concern about "how this [evidence] relates to the murder"¹¹² and what weight to assign it.¹¹³

2. Behavioral Genetics and the Double-Edged Sword

Not only have criminal defendants experienced little success by introducing behavioral genetics during sentencing; in some cases it has cut against the defendant. Courts have regarded the genetic predisposition of defendants as a potential aggravating sentencing factor or circumstance. The Ninth Circuit's opinion in *Landrigan v. Stewart*¹¹⁴ provides a stark example of how this double-

107. *Id.* at 358.

108. *E.g., id.* (finding that an expert's testimony explained how the defendant's fit of rage exhibited in the homicide was causally related to his behavioral predisposition to rage and impulse control).

109. 102 S.W.3d 482 (Ark. 2003).

110. *Id.* at 486–88.

111. *Id.* at 496–97.

112. *Morris v. State*, 811 So.2d 661, 668 (Fla. 2002). This is similar to remarks made by courts in the XYY cases. In *State v. Roberts*, 544 P.2d 754, 758 (Wash. Ct. App. 1976), for example, the court explained that the behavioral impact of the XYY defect had not been precisely determined nor had the causal connection between the XYY defect and criminal conduct been established.

113. *See, e.g., Morris*, 811 So.2d 661. An expert testified that "people with [frontal lobe damage] typically make choices against the odds, that when they commit crimes, they are unplanned and disorganized crimes." *Id.* at 668. The court was "left with the overall impression that impulsiveness is the dominant feature. The defendant is not powerless to control his behavior, but his ability to do so may be substantially impaired." *Id.* Consequently, the court gave this evidence some weight as a mitigating factor to the death penalty but still concluded that the death penalty was proportional to the crime. *Id.* at 669.

114. 272 F.3d 1221 (9th Cir. 2001), *reh'g en banc granted, vacated*, 397 F.3d 1235 (9th Cir. 2005). The Ninth Circuit recently issued an order on this case. *See Landrigan v. Schriro*, 441 F.3d 638 (9th Cir.

edged sword might cut against a criminal defendant. Jeffrey Landrigan filed a petition for federal habeas corpus relief, claiming ineffective assistance of counsel during the penalty phase of his capital case because his attorneys, following the defendant's explicit instruction, failed to present mitigating evidence during the penalty phase of Landrigan's trial.¹¹⁵ Four years after sentencing, however, Landrigan argued that notwithstanding his instructions at trial, he would have cooperated had his attorneys attempted to offer mitigating evidence demonstrating that his "biological background made him what he is."¹¹⁶ The original Ninth Circuit panel was unpersuaded that such evidence would have helped with Landrigan's sentence:

[We find it] highly doubtful that the sentencing court would have been moved by information that Landrigan was a remorseless, violent killer because he was genetically programmed to be violent, as shown by the fact that he comes from a family of violent people, who are killers also [A]lthough Landrigan's new evidence can be called mitigating in some slight sense, it would also have shown the court that it could anticipate that he would continue to be violent As the Arizona Supreme Court so aptly put it when dealing with one of Landrigan's other claims, "[i]n his comments, defendant not only failed to show remorse or offer mitigating evidence, but he flaunted his menacing behavior." On this record, assuring the court that genetics made him the way he is could not have been very helpful.¹¹⁷

The Ninth Circuit recently reheard this case en banc, and partially reversed the district court's decision.

Although the original Ninth Circuit panel recognized the potential for behavioral genetics to cut against the defendant, some courts and defense counsel have not. In *State v. Creech*, the appellate court affirmed the trial court's finding of the statutory aggravating circumstance "propensity to commit murder,"¹¹⁸ defined as "that person who is a willing, predisposed killer, a killer who tends toward destroying the life of another, one who kills with less than the normal amount of provocation."¹¹⁹ The state had established this aggravating factor based on evidence of Creech's past history of violence—including Creech's guilty plea for the first-degree murder of a fellow inmate while serving a life sentence in the Idaho State Correctional Institute¹²⁰—supported by evidence of a genetic predisposition to violence that the defendant offered in mitigation.¹²¹

2006)(en banc)(affirming in part and reversing in part district court's denial of a capital habeas petition because Petitioner demonstrated colorable claim of ineffective assistance of counsel during penalty phase based on counsel's failure to investigate and present mitigating evidence including Petitioner's family history and mental illness, which could have resulted in sentence other than death.)

115. *Id.* at 1224.

116. *Id.* at 1228.

117. *Id.* at 1228–29 (internal citations omitted).

118. 966 P.2d 1, 11 (Idaho 1999); *see also* *Gregg v. Georgia*, 428 U.S. 153 (1976) (allowing aggravating factor of propensity to commit murder).

119. *Creech*, 966 P.2d at 11.

120. *Id.* at 5–6.

121. *Id.*

Apparently unaware of the two-sided effect of his evidence, Creech claimed the trial court had not given appropriate mitigating weight to his biological predisposition to violence.¹²² A psychologist had testified on Creech's behalf during sentencing about a probable "biological component to Creech's violent personality."¹²³ The appellate court concluded the trial court had accorded Creech's biological predisposition due weight by accepting for sentencing purposes "that the defendant may be biologically predisposed to violence."¹²⁴ Neither defense counsel's brief¹²⁵ nor the appellate court's opinion acknowledged that Creech's predisposition and history of violence were treated as mitigating at the same time they were deemed sufficiently aggravating to justify the death sentence.¹²⁶

*Baker v. State Bar of California*¹²⁷ demonstrates the double-edged nature of behavioral predisposition evidence in noncapital cases. The State Bar of California found attorney John David Baker had misappropriated client funds, failed to perform services for clients, and abandoned clients without notice.¹²⁸ As mitigating evidence, Baker introduced his drug and alcohol abuse.¹²⁹ The court posited that such evidence might be mitigating if it suggested the conduct would not recur.¹³⁰ Generally, drug use, itself illegal, and alcoholism, which adversely affects an attorney's ability to practice, could be grounds for attorney disbarment.¹³¹ By contrast, however, the court considered newly discovered evidence of Baker's "genetic predisposition" to alcoholism and drug abuse to be potentially mitigating because it gave credence to his claim that having now learned about his genetic predisposition, he would abstain from future drug and alcohol abuse.¹³² Consistent with the bad character versus bad genes distinction

122. *Id.* at 15.

123. *Id.* at 16.

124. *Id.* At the 1995 sentencing hearing, a psychologist testified Creech had a "biological component" to his problems. At the same time, the psychologist agreed that "[e]verything we do has a biological component" but noted that this was the only instance in which he had testified about a "genetic contribution." He explained:

[Such evidence] is relevant in capital sentencing. It does not mean Tom Creech is not competent to stand trial. It does not—I don't think it has any bearing on whether or not he is criminally responsible. And in normal sentencing, I don't think it is relevant. But I do think in a capital sentencing, the fact that he has a biological contribution is relevant. . . . [H]e had no choice over his genes. And that probably helped contribute to his messed-up nervous system.

Brief of Respondent, *State v. Creech*, 966 P.2d 1 (Idaho 1998) (No. 22006), 1997 WL 33769519, at 54.

125. Appellant's Brief, *State v. Creech*, 966 P.2d 1 (Idaho 1998) (No. 22006), 1997 WL 33769521.

126. Although there is no discussion about the reason this evidence could be both aggravating and mitigating, it is possible this is another case of "bad character" versus "bad genes," in which the aggravating factor addressed Creech's bad character, while the mitigating factor addressed his bad genes. But this possibility would simply underscore the point: depending on how the evidence is perceived, behavioral genetics could be used as an aggravating or mitigating factor in sentencing.

127. 781 P.2d 1344 (Cal. 1989).

128. *Id.* at 1349, 1353.

129. *Id.* at 1352–53.

130. *Id.* at 1351 n.6.

131. *Id.*

132. *Id.*

of other cases, the court distinguished between misconduct that “was the product of a physical or mental disorder, or substance abuse,” and misconduct that arose from a voluntary choice.¹³³ Without his genetic predisposition to drug and alcohol abuse, Baker likely would have been disbarred, but his discipline instead included only protracted probation with strict conditions, in part because of Baker’s “concession that he has a genetic predisposition to addiction.”¹³⁴

In a less direct way, prosecutors may use behavioral genetics to stigmatize or denigrate the character of the criminal defendant. For example, the prosecutor in *Johnston v. Love*¹³⁵ referred to the defendant’s family history of crime during his closing statement to the jury by accusing Johnston as coming from a “family of crime.”¹³⁶ Although the court acknowledged that in some contexts, “this statement might be inappropriate, as it might indicate (for instance) a genetic predisposition to crime,” in this case the court was unconcerned because it considered the statement merely hyperbolic, not grossly denigrating.¹³⁷ Because of cases like these, some defense counsel refuse to offer evidence of defendant’s genetic predisposition to violence, aggression, and related behavioral traits in fear that the evidence will backfire against the defendant.¹³⁸ Unless such evidence can be used in a way that avoids the double edge, refusing to use it may be a prudent choice: a judge and jury are much more likely to be influenced in sentencing decisions by the defendant’s antisocial conduct and the suggestion of his continued dangerousness than by a possible genetic explanation for it.

At this stage of knowledge about behavioral genetics, defense lawyers must carefully consider whether evidence of an alleged genetic defect will help or hurt the defendant. As one commentator noted, to focus on the genetic defects of the individual defendant creates the danger that “he will be punished, or treated, for what he is or is believed to be, rather than for what he has done. If his offense is minor but the possibility of his reformation is thought to be slight, the other side of the coin of mercy can be cruelty.”¹³⁹ This point seems unassailable.

133. *See id.* at 1354.

134. *Id.* at 1345.

135. 940 F. Supp. 738 (E.D. Pa. 1996).

136. *Id.* at 753 n.17.

137. *Id.*

138. *E.g.*, *State v. Ramsey*, 864 S.W.2d 320, 340 (Mo. 1993) (noting that it was not ineffective assistance of counsel to choose not to introduce psychiatric testimony regarding defendant’s potential predisposition to crime based on history of criminality in his family and past criminal acts).

139. Henry M. Hart, *The Aims of the Criminal Law*, LAW & CONTEMP. PROBS. 401, 407 (Summer 1958).

III

CRIMINAL LIABILITY AND BEHAVIORAL PREDISPOSITIONS

The above cases illustrate the varied attempts by defendants to advance claims based on behavioral genetics to negate or mitigate criminal liability. These defendants have encountered problems in showing a causal connection between a behavioral predisposition and the specific act in question, between the motivation to act and the intent to act, and in satisfying the mental illness or defect element of the insanity defense. Such obstacles, however, relate to the validity of the science and the crafting of the claim, rather than the legal relevance of behavioral genetics evidence. Parts III and IV explain instead why behavioral genetics evidence clashes with criminal responsibility theory. Although the following discussion comports with the majority of case outcomes discussed above, it challenges the rationale employed in those opinions and provides a more robust reason to reject the claims presented. Moreover, the analysis in Parts III and IV goes against the scholarly grain¹⁴⁰ by explaining why, even if one could fairly draw inferences between a genetic endowment and propensity toward criminal misconduct, that evidence has little relevance to determining a defendant's criminal liability or his justifications or excuses to such liability.

A finding of criminal liability requires the government to prove that the actor voluntarily engaged in a harmful or threatening act proscribed by criminal law and did so with the requisite mental awareness of the circumstances of fact that made the conduct criminal.¹⁴¹ These concepts are often referred to as *actus reus* and *mens rea*; both are prerequisites to a finding of criminal liability.¹⁴² Circumscribing both of these concepts is the presumption in the criminal law that individuals are responsible agents capable of making choices and intending the natural consequence of their actions. Several commentators have opined that behavioral genetics requires a retooling of this system of liability because scientific advances challenge its validity.¹⁴³ Such arguments ignore that the

140. See Brock & Buchanan, *supra* note 153, at 68 (noting that an increase in genetic knowledge might increase our propensity to believe in determinism and affect human belief in free agency; alternately, it may not affect such beliefs if individuals neither act nor feel they are unfree); Deborah W. Denno, *A Mind to Blame: New Views on Involuntary Acts*, 21 BEHAV. SCI. & L. 601, 603 (2003); Bernadette McSherry, *Voluntariness, Intention and the Defense of Mental Disorders: Toward a Rational Approach*, 21 BEHAV. SCI. & L. 581, 593 (2003).

141. See LAFAYE, *supra* note 45, §§ 5.1, 6.1(c).

142. Although some criminal offenses do not require proof of *mens rea*, those offenses are beyond the scope of this article.

143. E.g., Marcia Johnson, *Genetic Technology and Its Impact on Culpability for Criminal Actions*, 46 CLEV. ST. L. REV. 443 (1998) (equating a genetic predisposition with genetic determinism and claiming that a defense based on a genetic predisposition negates free will and the elements of criminal responsibility); John L. Hill, Note, *Freedom, Determinism, and The Externalization of Responsibility in the Law: A Philosophical Analysis*, 76 GEO. L.J. 2045 (1998) (claiming that if determinism reflects reality, then the criminal law lacks coherence when it holds individuals criminally responsible); Note, *The XYY Syndrome: A Challenge to Our System of Criminal Responsibility*, 16 N.Y.L. SCH. L. REV. 232 (1970) (using the XYY syndrome to argue that the concept of criminal responsibility rests on flawed notions of free will).

criminal law does not depend on individual capabilities: “Acts are judged by their tendency under known circumstances, not by the actual intent which accompanies them.”¹⁴⁴ Free will, actus reus, and mens rea are tools to aid in the narrow determination of a defendant’s liability for a crime.

A. Legal versus Theoretical Free Will

When discussing behavioral genetics and criminal law, some scholars apparently feel obliged¹⁴⁵ to reconcile the broad concept of free will (hereinafter “theoretical free will”) with new scientific discoveries about human behavior. These arguments miss the point. Theoretical free will, which encompasses the philosophical, metaphysical, psychiatric, and biological perspectives on this topic, does not inform the understanding and use of free will in the criminal law (hereinafter “legal free will”).¹⁴⁶ Our hope is that by articulating the limited purpose of legal free will, we may quiet claims that behavioral genetics undermines the assumption of free will underlying criminal liability.

Whatever the interrelationship may be among the psychological, biological, and environmental factors that give rise to human conduct, the criminal law presumes that individuals actively and consciously choose to engage in criminal conduct.¹⁴⁷ The criminal law views human beings as autonomous actors, not

144. OLIVER WENDELL HOLMES JR., *THE COMMON LAW* 66 (Dover Publ’ns, Inc. 1991) (1981).

145. Of course, many scholars also recognize that behavioral genetics does not change our conception of human agents in criminal law. The participants in this symposium agreed that behavioral genetics does not support a deterministic view of human behavior, and little, if any, discussion of free will took place during the conference held at Duke University School of Law on April 8–9, 2004. *But see, e.g.*, WILLIAM R. CLARK & MICHAEL GRUNSTEIN, *ARE WE HARDWIRED: THE ROLE OF GENES IN HUMAN BEHAVIOR* 265 (2000) (asking whether free will actually exists and inquiring into the biological basis of free will); Note, *The XYY Chromosome Defense*, 57 *GEO. L.J.* 892, 912 (1968–69) (“If it is shown that the XYY individual finds it more difficult to control his behavior than does a ‘normal’ individual, he obviously would not have ‘free will’ and thus could not be accommodated by an objective theory of penal law.”). Still others believe that an increased understanding of a genetic contribution to behavior could expand notions of personal responsibility. *E.g.*, Robert F. Schopp, *Natural-Born Defense Attorneys*, in *GENETICS AND CRIMINALITY: THE POTENTIAL MISUSE OF SCIENTIFIC INFORMATION IN COURT* 82, 88–90 (Jeffrey R. Botkin, William M. McMahon & Leslie Pickering Francis eds., 1999).

146. Scientifically speaking, one could causally describe every human action by examining the biological and environmental chain of events involved. For example, to explain the cause of raising one’s hand to ask a question, one would describe the environmental and cultural influences that compel an individual to raise his hand, the neurological and physiological pathways involved in formulating the question, the neurological and physiological pathways involved in deciding to raise one’s hand after formulating the question, and finally, the physiological description of the actual movement of the hand. Depending on the scientific instruments available, every physiological, neurological, and biochemical change in the body could be described with varying degrees of specificity in the complex pathway between deciding to raise one’s hand and the final movement of the hand. But this does not suggest that the act of hand-raising is predetermined or outside the conscious control of the individual. Similarly, even if genes or gene variants involved in the causal pathway of behavior were discovered, no behavioral geneticists could with any credibility claim that those genes predetermine or fix the expression of any complex behavior, just as no credible claim can be made that one’s environmental upbringing fixes or predetermines one’s future behavior. Because behavioral genetics does not support a deterministic view of human behavior, it should have little impact on the debate over the existence of theoretical free will.

147. HERBERT FINGARETTE, *THE MEANING OF CRIMINAL INSANITY* 72–73 (1972).

because of a preference for arguments in support of theoretical free will, compatibilism, or determinism,¹⁴⁸ or “because it is empirically verifiable.”¹⁴⁹ Instead, the criminal law recognizes the autonomy of human choice as fundamental to the operation of a modern system of laws¹⁵⁰ and a necessary presumption to foster “better social arrangements” and “greater individual liberty.”¹⁵¹ The presumption derives, in part, from the belief that “[s]ocial systems are strengthened by holding people responsible for their conduct,”¹⁵² and undermined by shifting responsibility to the many factors affecting human behavior such as environmental influences or family upbringing. The criminal law proceeds, then, by assuming that humans are responsible agents, capable of exercising control over their impulses, desires, and actions.¹⁵³ And it influences responsible conduct with both a carrot and a stick: the system obligates members of society to abstain from prohibited conduct by threatening punitive sanctions and moral stigmatization, while reflecting and reifying societal norms to encourage more law-abiding behavior.¹⁵⁴ Such an approach may strengthen the concept of criminal responsibility by preventing actors from viewing themselves as responsible actors in the “impoverished sense” that they are “responsible when [the] government concludes that it is in the public interest that I be held responsible.”¹⁵⁵

Nonetheless, some persist in arguing that the tenets of criminal law must evolve to comport with a more scientifically robust understanding of human behavior.¹⁵⁶ So the claims go, as science discovers new contributions to human behavior, the criminal law must accordingly redefine its system of criminal

148. Determinism embodies the idea that all human behavior is the “product of the broad array of causal factors that govern the choices we make,” and is thus determined by the causal factors leading to our choices. Jeffrey A. Kovnik, *Juvenile Culpability and Genetics*, in *GENETICS AND CRIMINALITY*, *supra* note 145, at 213.

149. Robert Batey, *Law and Popular Culture: Literature in a Criminal Law Course: Aeschylus, Burgess, Oates, Camus, Poe, and Melville*, 22 *LEGAL STUD. FORUM* 45, 60 (1998) (citing HERBERT PACKER, *THE LIMITS OF THE CRIMINAL SANCTION* 74–75 (1968)).

150. *Cf.* *United States v. Moore*, 486 F.2d 1139, 1241 (D.C. Cir. 1973) (Wright, J., dissenting) (“[I]n determining responsibility for crime, the law assumes ‘free will’ and then recognizes known deviations ‘where there is broad consensus that free will does not exist’ with respect to the particular condition at issue.”).

151. Batey, *supra* note 149, at 60 (citing PACKER, *supra* note 149, at 74–75 (1968)).

152. Seymour L. Halleck, M.D., *Responsibility and Excuse in Medicine and Law: A Utilitarian Perspective*, 49 *LAW & CONTEMP. PROBS.* 127, 127 (Summer 1986).

153. *See* *Gregg Cartage & Storage Co. v. United States*, 316 U.S. 74, 79–80 (1942); Dan W. Brock & Allen Buchanan, *The Genetics of Behavior and Concepts of Free Will and Determinism*, in *GENETICS AND CRIMINALITY*, *supra* note 145, at 69–75.

154. *See* Brock & Buchanan, *supra* note 153, at 69–75; *see* John C.P. Goldberg & Benjamin C. Zipursky, *Accidents of the Great Society*, 64 *MD. L. REV.* 364, 392 (2005) (making the analogous argument in tort law, by explaining that tort law is “not limited to functioning as a carrot or stick, although it can so function,” meaning that it functions not only through pricing and prohibition, but also by being connected in “an organic way to obligations already recognized in familiar forms of social interaction,” and by so doing may enjoy greater efficacy).

155. Goldberg & Zipursky, *supra* note 154, at 394.

156. *See supra* note 140.

responsibility.¹⁵⁷ Such claims subjugate the field of criminal law to metaphysics or science and presume that the foundation and objectives of the criminal justice system are and must be rooted in metaphysical or scientific explanations of human behavior.¹⁵⁸ Practitioners subscribing to the appeal of such claims attempt to defend criminal defendants by arguing that the defendant's "overwhelming compulsion" to engage in the criminal act negates the "free will" necessary to hold him criminally responsible for his action.¹⁵⁹ The erroneous association between theoretical free will and legal free will is encouraged when judges (thus far, usually in dissent) express a sympathetic view of the merits of such arguments.¹⁶⁰

In fact, criminal law adopts an entirely different concept from psychology of human behavior by assuming that

[T]here is a faculty called reason which is separate and apart from instinct, emotion, and impulse, that enables an individual to distinguish between right and wrong and endows him with moral responsibility for his acts. This ordinary sense of justice still operates in terms of punishment. To punish a man who lacks the power to reason is as undignified and unworthy as punishing an inanimate object or an animal. A man who cannot reason cannot be subject to blame. Our collective conscience does not allow punishment where it cannot impose blame.

157. Some commentators share the view that the "failure of the Anglo-American criminal justice system to consider differences in individual capacities in determining blame and punishment can be viewed as a conceptual and structural flaw, which renders it fundamentally unjust and inefficient." Halleck, *supra* note 152, at 141.

158. FINGARETTE, *supra* note 147, at 76 ("[T]here is a set of legal concepts and a different set of metaphysical concepts. . . . [T]hat the determinist or free-willist uses the word 'free' or 'compelled' should not mislead us into thinking that he is talking about the issues that are relevant in law.").

159. *Gorham v. United States*, 339 A.2d 401, 410 (D.C. Ct. App. 1975); see *United States v. Moore*, 486 F.2d 1139, 1146 (D.C. Cir. 1973) ("[I]f it is the absence of free will which excuses the mere possessor-acquirer [for possessing narcotics], the more desperate bank robber . . . has an even more demonstrable lack of free will from precisely the same factors as appellant argues should excuse the mere possessor.") (emphasis omitted).

160. See *Gorham*, 339 A.2d at 444-47 (Fickling, J., dissenting). The genesis of *mens rea* is discussed at length:

Since Congress and medical experts agree that drug dependence is characterized by "a strong compulsion" which reaches the level of loss of "the power of self-control" with reference to the individual's drug dependence, the question for us is whether this compulsion is strong enough to negate *mens rea* as to possession and PIC for the addict's own use.

...

... [W]ithout a free exercise of will, there can be no guilty mind Over the centuries the law has come to recognize a number of situations where an individual lacks "free will" and is therefore not to be held criminally liable for knowingly engaging in prohibited conduct.

...

Although some addicts may retain the ability to choose methadone maintenance rather than continued use of heroine, they should not be precluded from raising a defense of drug dependence. Sick persons, whether mentally ill, alcohol dependent, epileptic, etc., are not precluded from asserting a defense because they failed to take advantage of available treatment. The relevant inquiry is into the defendant's mental and physical condition at the time of the alleged offense, *i.e.*, the addict's "power of self-control with reference to his addiction."

Id.; see also *State v. Johnson*, 399 A.2d 469, 471 (R.I. 1979) (explaining that the law proceeds from the postulate that individuals are autonomous actors and "seeks to fashion a standard by which criminal offenders whose free will has been sufficiently impaired can be identified and treated" in a humane manner).

... Psychology [on the other hand] is concerned with diagnosis and therapeutics and not with moral judgments. It proceeds on an entirely different set of assumptions. It does not conceive that there is a separate little man in the top of one's head called reason whose functions it is to guide another unruly little man called instinct, emotion, or impulse in the way he should go. The tendency of psychiatry is to regard what ordinary men call reasoning as a rationalization of behavior rather than the real cause of behaviour.¹⁶¹

Each discipline and field operates from assumptions that best serve the needs of the field. The criminal justice system assumes human actors can choose to engage or refrain from criminal conduct and creates societal standards of conduct and responsibility by “assigning blame and imposing punishment.”¹⁶² The medical or scientific models employ a deterministic view of human behavior because human conduct, human disease, and all natural phenomena must be causally determined to allow for diagnosis and treatment.¹⁶³ To abandon the legal perspective of human behavior and shift now from a presumption of conscious control the assumption of determinism would enable defendants to introduce an endless string of diversionary defenses claiming weakness of the human spirit in order to avoid criminal responsibility.¹⁶⁴ Such defenses stand opposed to the historical rejection of theoretical free will in favor of an intentional suspension of disbelief in humans as free agents.¹⁶⁵ In short, the legal system did not rely upon a theoretical understanding of free will to begin with,¹⁶⁶ and need not do so now.

B. The Voluntary Act¹⁶⁷

Just as legal free will imputes agency to individuals, the criminal law assumes that when an individual acts, he reveals his choice to have acted. Notwithstanding the claims in *Moore*,¹⁶⁸ *Von Dohlen*,¹⁶⁹ and *Budge*,¹⁷⁰ and

161. *Holloway v. United States*, 148 F.2d 665, 666–67 (D.C. 1945).

162. Richard C. Boldt, *Construction of Responsibility in the Criminal Law*, 140 U. PA. L. REV. 2245, 2304–05 (1992).

163. *Id.* at 2304.

164. *See United States v. Moore*, 486 F.2d 1139, 1147 (D.C. Cir. 1973) (opining that to allow the defense of addiction to justify certain types of criminal conduct in furtherance of one's addiction would enable the same defense to bank robberies, street muggings, burglaries, and any other crime “which can be shown to be the product of . . . compulsion.”).

165. *See Brock & Buchanan, supra* note 153, at 69; *see also HOLMES JR.*, *supra* note 144, at 50–51 (explaining that the common law assumes “that every man is as able as every other to behave as they command,” with only a few exceptions when the “weakness is so marked as to fall into well-known exceptions, such as infancy or madness”).

166. FINGARETTE, *supra* note 147, at 67–69. Fingarette rejects the idea that the legal construct of human will must make sense from the perspective of a psychiatrist because it is not designed to make psychiatric sense but to serve the purposes of criminal law.

167. A comprehensive and principled theory is beyond the purview of this article, which instead, focuses on demonstrating why behavioral genetics does not inform the objective system of criminal responsibility. We seek here to demonstrate only that whether one adopts Austin's, Hart's, the MPC's, or the “control” theory of voluntary conduct, the behavioral predispositions of an individual do not negate the presumption of voluntary conduct.

168. 486 F.2d 1139 (D.C. Cir. 1973).

169. 602 S.E.2d 738 (S.C. 2004).

170. 378 F.3d 880 (9th Cir. 2004).

scholars claiming otherwise, behavioral genetics has nothing to say about whether an individual acted “voluntarily,” as defined by the criminal law.

As a legal term of art,¹⁷¹ actus reus embodies a deeply entrenched principle of the criminal law: Liability may not be imposed in the absence of a criminal act¹⁷² attributable to the defendant.¹⁷³ Absent evidence to the contrary, however, the criminal law presumes the defendant intended the specific act in question.¹⁷⁴ Because the criminal law presumes that an act implies a choice to have acted, actus reus focuses on the act rather than on the actor (or the crime rather than the criminal).

The criminal law does, however, enable a defendant to challenge the presumption of agency, by deeming “involuntary” bodily movements that arise from natural phenomena or external forces.¹⁷⁵ In the language of the criminal law, only a voluntary act satisfies the actus reus requirement; an involuntary act caused by natural or other phenomena will not suffice.¹⁷⁶ Part III.A demonstrates practitioners’ attempts to capitalize on these exceptions with behavioral genetics evidence.

Although definitions of “voluntary” vary, none is undercut by claims of genetic predispositions. In *Lectures on Jurisprudence*, John Austin opined that a voluntary act means an external manifestation of the will.¹⁷⁷ Commentators have criticized his approach because it presumes active deliberation prior to bodily movement, a fact his opponents argue rarely occurs.¹⁷⁸ H.L.A. Hart refuted Austin’s approach—by arguing that “voluntary” pertains to behavior that would have been otherwise had the individual willed or chosen so.¹⁷⁹ Hart introduced this alternative primarily to account for unconsciousness or epilepsy, instances in which he posited that an actor could not have chosen to act

171. LAFAYE, *supra* note 45, at 302–03; MODEL PENAL CODE § 1.13(10) (Official Draft and Revised Commentaries 1985).

172. DOUGLAS N. HUSAK, *PHILOSOPHY OF CRIMINAL LAW* 78 (1987).

173. FINBARR MCAULEY & J. PAUL MCCUTCHEON, *CRIMINAL LIABILITY: A GRAMMAR* 121 (2000).

174. In other words, a “voluntary act” in criminal law names a different concept than a “voluntary act” in other disciplines. See Kevin Jon Heller, *Beyond the Reasonable Man? A Sympathetic but Critical Assessment of the Use of Subjective Standards of Reasonableness in Self-Defense and Provocation Cases*, 26 AM. J. CRIM. L. 1, 14 (1998); Jeffrie G. Murphy, *Involuntary Acts and Criminal Liability*, 81 ETHICS 332, 333 n.3 (1971). Criminal law provides that a criminal act may be attributed to the accused (and therefore “voluntary”) by making two presuppositions: first, individuals have control over their behavior (legal free will), and second, a human agent causes the actions he performs by the exercise of his capacities and control. Thus, one can infer a defendant chose to act from proof that he engaged in the prohibited act. Because criminal law allows this inference, the question whether the defendant engaged voluntarily in an act does not usually arise.

175. See *supra* Part III.A (providing examples of practitioners attempting to capitalize on these exceptions with the use of behavioral genetics).

176. *Id.*

177. JOHN AUSTIN, *LECTURES ON JURISPRUDENCE OR THE PHILOSOPHY OF POSITIVE LAW* 411 (Robert Campbell ed., 5th ed. 1885) (1861).

178. MCAULEY & MCCUTCHEON, *supra* note 173, at 124–25.

179. H.L.A. HART, *PUNISHMENT AND RESPONSIBILITY: ESSAYS IN THE PHILOSOPHY OF LAW* 105 (1968).

otherwise. Another approach is to disclaim a positive definition of a voluntary act, defining it instead by reference to the conditions rendering an act involuntary. The Model Penal Code (MPC) adopted this view¹⁸⁰ by enumerating involuntary acts without offering a positivist account of voluntary conduct.¹⁸¹

One could deduce that by defining instances of involuntary conduct, the MPC incorporates the assumptions of legal free will, such that except when otherwise enumerated, criminal law allows the inference that the operative will governed the act in question. Conceptually, the MPC creates a rebuttable presumption to legal free will by putting beyond the purview of criminal law bodily movements arising during unconsciousness (for example, sleep, coma, or reflex) and presumed unconsciousness (hypnosis). Carving out these exceptions effectively limits criminal law to punishing deliberate acts rather than all bodily movements or gratuitous thoughts. The commentary to the MPC supports this interpretation of its approach:

The term “voluntary” as used in this section does not inject into the criminal law questions about [theoretical] determinism and free will. . . . There is sufficient difference between ordinary human activity and a reflex or a convulsion to make it desirable that they be distinguished for purposes of criminal responsibility by a term like “voluntary.”¹⁸²

That a defendant should be assumed to have acted voluntarily except for a few enumerated exceptions also comports with Herbert Packer’s explanation of the voluntary/involuntary act divide:

The term [voluntary] is one that will immediately raise the hackles of the determinist, of whatever persuasion. But, once again, the law’s language should not be read as plunging into the deep waters of free will vs. determinism, Cartesian duality, or any of

180. See MODEL PENAL CODE § 2.01 (Official Draft and Revised Commentaries 1985). The relevant sections read:

Requirements of a Voluntary Act; Omission as Basis of Liability; Possession as an Act:

- (1) A person is not guilty of an offense unless his liability is based on conduct that includes a voluntary act or the omission to perform an act of which he is physically capable.
- (2) The following are not voluntary acts within the meaning of this Section:
 - (a) a reflex of convulsion;
 - (b) a bodily movement during unconsciousness or sleep;
 - (c) conduct during hypnosis or resulting from hypnotic suggestion;
 - (d) a bodily movement that otherwise is not a product of the effort or determination of the actor, either conscious or habitual.
- (3) Liability for the commission of an offense may not be based on an omission unaccompanied by action unless:
 - (a) the omission is expressly made sufficient by the law defining the offense; or
 - (b) a duty to perform the omitted act is otherwise imposed by law.
- (4) Possession is an act, within the meaning of this Section, if the possessor knowingly procured or received the thing possessed or was aware of his control thereof for a sufficient period to have been able to terminate his possession.

Id.

181. See L.A. Zaibert, *Intentionality, Voluntariness, and Culpability: A Historical-Philosophical Analysis*, 1 BUFF. CRIM. L. REV. 459, 479 (1998) (describing the confusion surrounding the definition of a voluntary act).

182. MODEL PENAL CODE § 2.01 cmt. at 216.

a half-dozen other philosophic controversies that might appear to be invoked by the use of the term “voluntary” in relation to conduct. The law is not affirming that some conduct is the product of the free exercise of conscious volition; it is excluding, in a crude kind of way, conduct that in any view is not.¹⁸³

Using the MPC’s approach, behavioral genetics must literally or conceptually explain one of the enumerated exceptions to be relevant to the voluntary act requirement.

Several commentators¹⁸⁴ have adopted the “control” theory of human agency, which posits that voluntary acts arise by exercise of “an element of control on the part of the actor.”¹⁸⁵ Its proponents claim that this theory affords the simplest and most plausible explanation of what makes an act voluntary.¹⁸⁶ This concept of voluntariness appears in the *Von Dohlen* case,¹⁸⁷ in which Von Dohlen offered expert testimony that the murder “was not a volitional thing, but out of [the defendant’s] conscious awareness or control.”¹⁸⁸ According to Finbarr McAuley and J. Paul McCutcheon, an individual need not have complete control or control of each event in the causal pathway of an action, so long as some part of the sequence lay within his control.¹⁸⁹ Much like Hart’s concept of a voluntary act, the control theory presumes some choice on the part of the actor, and “if the actor refrained from doing that which he did, a different outcome would have resulted.”¹⁹⁰ Deborah Denno takes a similar approach with a different solution. She proposes that voluntary acts “constitute conduct subject to an individual’s control.”¹⁹¹ She supports this approach as the one that best comports with new scientific discoveries of human behavior, able to “accommodate new [scientific] research on voluntariness, as well as keep the main statement of criminal liability [scientifically] accurate, even if it is incomplete.”¹⁹²

Whether voluntariness is defined according to Austin’s view,¹⁹³ Hart’s view, the MPC approach, or the control theory of human behavior, each positivist approach delineates certain acts as being beyond the purview of criminal law. Each of these approaches either implicitly or explicitly labels certain acts as

183. PACKER, *supra* note 149, at 76.

184. E.g., MCAULEY & MCCUTCHEON, *supra* note 173, at 127; Deborah W. Denno, *Crime and Consciousness: Science and Involuntary Acts*, 87 MINN. L. REV. 269 (2002).

185. MCAULEY & MCCUTCHEON, *supra* note 173, at 27.

186. *See id.*

187. *See supra* Part II.A.

188. 602 S.E.2d 738, 740 (S.C. 2004).

189. MCAULEY & MCCUTCHEON, *supra* note 173, at 127.

190. *Id.*

191. Denno, *supra* note 184, at 363.

192. *Id.* at 358.

193. In accordance with Austin’s view that acts arising from the will are voluntary, Herbert Fingarette and Ann Fingarette Hasse provide a simple answer that one could apply to determine that behavioral genetics would not render an act involuntary: “[W]hy should behavior that is willed, even though the will be ‘diseased,’ be called *involuntary*? This seems to be a corruption of language in order to achieve a desired conclusion, since it is natural and usual to hold that behavior, if *willed*, is voluntary.” HERBERT FINGARETTE & ANN FINGARETTE HASSE, *MENTAL DISABILITIES AND CRIMINAL RESPONSIBILITY* 60 (1979).

involuntary: bodily movements during coma or when arising by another's physical force, automatic reflexes in response to external stimuli, and bodily movements while unconscious, asleep, or while sleepwalking. To hold individuals accountable for "conduct that in any view is not"¹⁹⁴ voluntary would render the limit of criminal sanctions to acts meaningless.¹⁹⁵

As for what is not voluntary, Jeffrie Murphy offers this description, which unifies these various approaches:

An act . . . is involuntary if and only if the behavior . . . is explainable by factors which causally prevent the exercise of normal capacities of control or eliminate such capacities entirely. By "causally prevent" here I mean simply the following: that the factors and the incapacity can be related by subsumption under a scientific law.¹⁹⁶

If Murphy's definition incorporates the assumption of human agency, then normal human capacities include the capacity to suppress impulses or emotions arising from the many subconscious influences on human choice, including behavioral genetics. Given this unifying definition, the average person should be able to suppress behavioral predispositions arising in part from her genes.

Each theory or definition of involuntariness explicitly or implicitly includes simple reflexes and convulsions as involuntary acts, arising not from human autonomy but resulting from the body's reaction to forces external to the individual. Like the reflexive knee jerk, such involuntary acts cannot be viewed as arising from human agency because the capacity to abstain from acting cannot precede and thus cannot prevent the relevant act. Whether the knee jerks does not call into question the individual's infirmities. The same analysis applies to bodily movements during a convulsive fit.¹⁹⁷ An individual's convulsive movement during a seizure cannot realistically be imputed to an operative and deliberate will. Without adopting the deterministic perspective that humans act reflexively as a result of their genetic predispositions, the narrow exclusion of reflexes and convulsions as voluntary acts would not enable a criminal defendant to assert a parallelism between his reflexes, convulsions, and behavioral predispositions.

Another example: Person B overwhelms Person A by the use of external force, physically moving Person A's arm or physically forcing him to pull the trigger of a gun.¹⁹⁸ Under any of the voluntary act definitions described above, the criminal law would attribute the voluntary act to Person B, who compels Person A's movements, rather than to Person A. The law need not question Person A's subjective infirmities, but merely distinguish acts (in a legal sense, involving voluntariness) versus bodily movement arising by external physical force. Under any view, Person A acted involuntarily or not at all.

194. PACKER, *supra* note 149, at 76.

195. Murphy, *supra* note 174, at 340-41.

196. *Id.* at 340.

197. However, under the *Decina* temporal rule discussed in Part II.A, one could still face liability if he had previous knowledge of his predisposition to convulsions by engaging in an earlier voluntary act.

198. *United States v. Moore*, 486 F.2d 1139, 1179 (D.C. Cir. 1973).

Although behavioral genetics seems irrelevant to this exception, the *Moore* and *Von Dohlen* cases underscore how practitioners may seek to use behavioral genetics to blur this seemingly clear example of involuntary conduct. Moore claimed that because of his addiction he acted “as a result of compulsion, not from choice,”¹⁹⁹ while Von Dohlen’s defense expert testified that the murder “was not a volitional thing, but [one] out of [the defendant’s] conscious awareness or control.”²⁰⁰ To disclaim responsibility for the act, each defendant attributed his act to his disease, as a force distinct from himself as a responsible agent. But even though each defendant conceivably established a causal factor in his decision to act (as those involved in raising one’s hand to ask a question), neither proved he acted programmatically in a predetermined manner. A theory of action referencing the many subconscious factors influencing the choice to act differs in kind, then, rather than degree, from moving by the physical force of another. To accept Moore’s and Von Dohlen’s claims would require parsing the subjective thought processes of defendants to determine whether the act should be attributed to conscious choice or to subconscious influences, as if these were distinct entities. To accept otherwise—namely that a subconscious influence on behavior negates individual choice—would render all acts involuntary and therefore beyond the purview of criminal liability. The *Moore* court appropriately rejected this approach as antithetical to the system of criminal liability.²⁰¹

The defense of unconsciousness²⁰² blurs the boundaries of the voluntary act presumption, that is, presuming that every act is the result of conscious choice (albeit one affected by subconscious influences). The defense of unconsciousness was recognized in the late 1800s by the Court of Appeals of Kentucky, which stated that because an unconscious individual lacks awareness of his outward actions, his circumstances, and his surroundings, “none of his acts during the paroxysms can rightfully be imputed to him as crimes.”²⁰³ Many courts have adopted or expanded this reasoning,²⁰⁴ such that now criminal law generally recognizes that during sleep, coma, or blackout, bodily movements occur in a state of the actor’s unawareness, rather than by choice. But in certain states of physical activity, such as epileptic fugue, amnesia, extreme confusion, and equivalent conditions, individuals may not be unconscious so much as they might suffer gross impairment of self-awareness.²⁰⁵ These conditions create a gray area between consciousness and unconsciousness, promoting some to question the degree of unconsciousness sufficient to overcome a presumption of

199. *Id.* at 1150.

200. *Von Dohlen v. State*, 602 S.E.2d 738, 740 (S.C. 2004).

201. 486 F.2d at 1139.

202. Courts generally interpret unconsciousness to mean that the bodily movements of the individual are directed by an agency other than his own. *See* MCAULEY & MCCUTCHEON, *supra* note 173, at 133.

203. *Fain v. Commonwealth*, 78 Ky. 183 (1879) (quoting RAY’S MED. JUR. § 508).

204. *Denno*, *supra* note 184, at 339.

205. MODEL PENAL CODE § 2.01 cmt. at 219 (Official Draft and Revised Commentaries 1985).

individual agency.²⁰⁶ “Unconsciousness” in this sense is evocative of the notion that one is compelled to act, without conscious choice, by her genes. In actuality, the narrowness of the exception of unconsciousness in the criminal context suggests otherwise.

Unconsciousness²⁰⁷ refers to conditions including sleep, coma, blackout, and stroke, or more generally to a defendant’s lack of self-awareness or awareness of his surroundings. When an individual lacks self-awareness, his bodily movements cannot be explained by an operative will. By contrast, the individual who is grossly impaired or extremely confused has self-awareness and some understanding of his circumstances and surroundings. The presumption of voluntariness should therefore apply to his conduct.²⁰⁸ With consciousness thus understood, rarely could a defendant credibly claim that his behavioral predisposition rendered him unaware of his circumstances and surroundings.²⁰⁹ Moreover, to argue one’s behavioral predisposition influenced or overwhelmed a defendant’s choice to act could suggest that the individual acted consciously in response to his many subconscious stimuli. The Supreme Court of New Jersey has articulated this distinction:

Criminal responsibility must be judged at the level of the conscious. If a person thinks, plans and executes the plan at that level, the criminality of his act cannot be denied, wholly or partially, because although he didn’t realize it, his conscious was influenced to think, to plan and to execute the plan by unconscious influences which were the product of his genes and his lifelong environment. So . . . criminal guilt cannot be denied or confined . . . because [the defendant] was unaware that his decisions and conduct were mechanistically directed by unconscious influences²¹⁰

In short, the genetically predisposed criminal defendant acts consciously, albeit conceivably in part as a result of his genetic endowment. The logic seems inescapable that a behavioral predisposition could not satisfy this final exception to the voluntary act requirement. In practice, then, only when

206. MCAULEY & MCCUTCHEON, *supra* note 173, at 133–34.

207. We discuss unconsciousness but not automatism because of the implausibility of a court’s allowing the introduction of behavioral genetics to argue a defendant acted as an automaton as a result of his biological predispositions. Behavioral genetics has little relevance to automatism, a relatively rare defense, particularly as a failure-of-proof defense to the voluntary act requirement. Automatism describes the imprecisely defined condition of an individual who argues that his mental state prevented his mind from directing his bodily movement. *Id.* at 142. Usually, the individual is capable of action but not conscious of what he is doing. Michael Corrado, *The Theory of Action*, 39 EMORY L.J. 1191, 1191–92 (1990). Courts vary widely on its meaning and content, and its applicability to the voluntary act requirement instead of as an affirmative defense. MCAULEY & MCCUTCHEON, *supra* note 173, at 142–46.

208. *See infra* Part IV. The defendant still has available to him the full array of justifications and excuses, and determining that the defendant engaged in a voluntary act has partially satisfied one element of criminal liability.

209. Judge Berzon’s concurrence in *Dennis v. Budge*, which states that a “prisoner, though otherwise lucid, rational and capable of making choices is, in a Manchurian Candidate-like fashion, volitionally incapable of making a choice,” would suggest otherwise, but no behavioral geneticist supports the view that a behavioral predisposition would render an individual programmed like a Manchurian candidate. 378 F.3d 880, 889 (9th Cir. 2004).

210. *State v. Sikora*, 210 A.2d 193, 202-03 (N.J. 1965).

“under any view”²¹¹ a bodily movement does not arise from choice and cannot causally be explained by the operative will can the resulting conduct be said to be involuntary in criminal law.

C. Mens Rea or Mental Culpability

In addition to the requirement of a voluntary act or omission, criminal liability also requires proof of a mental state that coincides with the act or omission.²¹² This mental element is referred to as mens rea or the guilty mind.²¹³ Commentators have lamented the absence in American criminal law and in common law generally of an orderly approach to this element, “a highly complex cluster of problems for which the tag of mens rea stands as a convenient but elliptical symbol.”²¹⁴ Nevertheless, it is into this complex cluster of problems that some are tempted to introduce behavioral genetics evidence. But behavioral genetics evidence does not contribute to the determination of whether a particular defendant had the mental state required for criminal offenses.

Mens rea derives from the early notion in criminal law that an offender should be punished only if he acted with a “vicious will.”²¹⁵ To satisfy this requirement necessitated proof that either malice or an intention to engage in the legal wrongdoing actually motivated the defendant’s conduct.²¹⁶ As criminal law developed, however, the requisite mental element for criminal liability (mens rea) came to mean something quite different, and the focus shifted from

211. The “any view” analysis from Packer could serve a potential limiting function in the criminal law, such that in the unlikely scenario that behavioral genetics reveals a 1:1 correlation between a particular behavior and a particular genetic endowment, bypassing any capacity for choice or reason, one could use behavioral genetics as a defense of involuntary conduct. The emergence of such scientific evidence, particularly from the field of behavioral genetics, is highly improbable.

212. LAFAYE, *supra* note 45, § 6.3, at 322. There are some criminal offenses—not discussed here—that do not require mens rea: strict liability offenses. To the extent that behavioral genetics is relevant to strict liability offenses, the concerns, at least as they might relate to mens rea, are not distinguishable from the general concerns about making conduct that is not blameworthy criminal.

213. The MPC identifies the levels of mental culpability by the concepts of “purpose,” “knowledge,” “recklessness,” and “negligence.” See MODEL PENAL CODE § 2.02(2) (Official Draft and Revised Commentaries 1985). The higher levels of purpose and knowledge are defined such that the criminal act is the product of actor’s conscious mind. *Id.* The common law generally referred to these levels of culpability as specific intent. The MPC identifies the lower levels of recklessness and negligence to mean that the criminal act or omission is the result of a risk or peril that was created by the actor’s conduct, which the actor unreasonably ignored (recklessness) or unreasonably failed to perceive. *Id.* The common law generally referred to these levels of mental culpability as general intent.

214. Herbert L. Packer, *Mens Rea and the Supreme Court*, 1962 SUP. CT. REV. 107, 108 (1962).

215. *United States v. Freed*, 401 U.S. 601, 607 (1971).

216. See Richard Singer, *The Resurgence of Mens Rea: I – Provocation, Emotional Disturbance, and The Model Penal Code*, 27 B.C. L. REV. 243 (1986) (discussing the development of the mens rea requirement in criminal law). Singer notes:

Prior to the nineteenth century, the criminal law of England and this country took seriously the requirement that a defendant could not be found guilty of an offense unless he truly acted in a malicious and malevolent way—that he not only had “the” mental state for the crime, but that more generally, he manifested a full-blown mens rea: an “evil mind.”

Id. at 243 (citation omitted).

assessing the individual character of the defendant to the more utilitarian goal of deterring illegal conduct through the threat of moral condemnation and physical punishment.²¹⁷ Acts thus became criminal when commissioned under circumstances that likely would cause or threaten an interest that criminal law sought to protect.²¹⁸ The test of criminality was the degree of danger shown by common experience to accompany that particular act or omission under those particular circumstances.²¹⁹ This test made it unnecessary to determine the actual wickedness of the defendant; conduct could instead be judged by its “tendency [to cause a certain result] under the known circumstances.”²²⁰ “By the early twentieth century, it was possible to argue that criminal law was no longer concerned with a general ‘*mens rea*,’ but only with a more specific, constrained question of whether the defendant’s conduct reflected the specific mental state required by the statute.”²²¹ Criminal liability thus became an assessment of the defendant’s conduct measured against the conduct expected of the average law-abiding citizen aware of the relevant circumstances known to the defendant. The defendant’s mental state could be inferred from those circumstances alone, such that the criminal mind could be known from the crime.

The movement from focusing on the defendant’s general wickedness to his conduct and the circumstances of the crime nevertheless required a moral basis for finding individual fault. Otherwise, the “the actor [would be] subjected to the stigma of a criminal conviction without being morally blameworthy.”²²² This reformulated approach therefore focused on the defendant’s willingness to engage in harmful conduct, rather than his general maliciousness, to inform his criminal liability. In this move from punishment for general malice or ill will to punishment for “an intention to threaten the paradigm interests protected by the criminal law,” *mens rea* and *actus reus* were joined as the constituent elements of a criminal offense.²²³ The defendant’s awareness of, or unreasonable failure to recognize, the circumstances by which his conduct could be judged blameworthy became the primary orientation of the modern concept of *mens rea*.

Today, *mens rea* refers only to the state of mind that must accompany proof of individual elements of particular criminal offenses (such as willfulness, intention, or purposefulness), the risks created by the defendant’s conduct (recklessness or negligence), the facts and circumstances surrounding the crime,

217. Hart, *supra* note 139, at 409.

218. HOLMES JR., *supra* note 144, at 46–47, 75.

219. *Id.*

220. *Id.* at 66.

221. See Singer, *supra* note 216, at 244 (“By the early twentieth century, it was possible to argue that the criminal law was no longer concerned with a general ‘*mens rea*,’ but only with a much more specific, constrained question of whether the defendant’s conduct reflected the specific mental state required by the statute.”).

222. *Id.*

223. MCAULEY & MCCUTCHEON, *supra* note 173, at 275.

or “the middle category of ‘knowingly’ committing an offense.”²²⁴ To determine the existence of any of these mental states, the criminal law does not concern itself with the “inner posture of the actor,” but focuses on the “actual risk and knowledge of risk” created by the actor’s conduct and the circumstances known to the actor at the time he acts.²²⁵ Moreover, the mental state *intent* (mens rea) differs from the *motive* for acting, as illustrated by the *Bobo* case, in which a mother intentionally killed her children, although she harbored no malice against them.²²⁶ Thus, the trier of fact infers the relevant mental state from the circumstances under which the defendant acted, and need not inquire into the individual factors motivating the defendant’s conduct.²²⁷

Given these very general principles about mens rea, an actor’s behavioral predisposition would have little relevance to whether he acted with the requisite mental state for a criminal offense. In particular, there is an incongruity between behavioral genetics evidence and the question of whether the defendant acted with purpose, knowledge, or recklessness, as those mental states are currently understood, or, more broadly, with “intent,” as that term is understood to describe a culpable mental state. The Supreme Court has noted,

[i]t is now generally accepted that a person who acts (or omits to act) intends a result of his act (or omission) under two quite different circumstances: (1) when he consciously desires that result, whatever the likelihood of that result happening from

224. FLETCHER, *supra* note 9, at 442.

225. *Id.* at 447.

226. *People v. Bobo*, 3 Cal. Rptr. 2d 747 (Cal. Ct. App. 1990); *see supra* Part II.B.

227. If, therefore, the actor puts bullets into a gun, places the gun at his friend’s temple, and pulls the trigger, the trier of fact will infer he intended to kill his friend, not because killing was his purpose, but because that assumption is the commonly understood conclusion to be drawn from the sequence of his action. The Model Penal Code makes a distinction between mental state as an objective inquiry, independent of the actor’s actual awareness of the nature and circumstances of his conduct, and mental state as a subjective inquiry, but focusing upon the objective nature and circumstances of the actor’s conduct and the actor’s awareness of those things. MODEL PENAL CODE, *supra* note 180, at 235–36. Thus, the drafters distinguished between the Washington state code definition of “knowingly” that included the defendant’s having “information which would lead a reasonable man in the same circumstances to believe that facts exist which facts are described by a statute defining an offense” and a proposed Michigan definition of “knowingly” providing, “[i]n finding that a person acted knowingly with respect to conduct or circumstances, the finder of fact may rely upon proof that under the circumstances a reasonable person would have known of such conduct or circumstances.” The Washington standard is an objective one; the Michigan standard makes a subjective determination (the defendant’s mental state), relying upon the objective circumstances known to the individual actor. *Id.* at 236 n.12. The drafters noted that the proposed Michigan Code only permitted the jury to “draw inferences about an actor’s . . . knowledge.” *Id.* They concluded,

[e]ven without such explicit language, it will generally be true that the actual mental state of the actor in most cases will be inferred from the circumstances as they objectively appear to the jury, but the critical point is that this language [permitting the inference] should not be taken as an invitation to dispense with the need for making the inference.

Id. Another commentator noted, “it would appear that an intention to engage in certain conduct or to do so under certain attendant circumstances may likewise be said to exist on the basis of what one knows.” LAFAVE, *supra* note 45, at 246.

his conduct; and (2) when he knows that the result is practically certain to follow from his conduct, whatever his desire may be as to that result.²²⁸

The inquiry in either case is whether the defendant is “consciously behaving in a way the law prohibits” and whether “such conduct is a fitting object of criminal punishment.”²²⁹ Only the inquiry into the defendant’s conscious desires are relevant for determining whether the defendant is acting intentionally, not his genetic predispositions.

Behavioral genetics evidence likewise lacks relevance to whether a person acted recklessly or negligently, as those terms generally are used to describe culpable mental states. The drafters of the MPC noted, for example, that although its standard for negligence, as well as that for extreme emotional disturbance and duress, invites consideration of the “care that a reasonable person would observe in the actor’s situation,” this was not an invitation to make the inquiry turn on individual quirks: “The heredity, intelligence or temperament of the actor would not be held material in judging negligence, and could not be without depriving the criterion of its objectivity. The Code is not intended to displace discriminations of this kind, but to leave the issue to the courts.”²³⁰ The same can be said with respect to determining whether a person acted recklessly, the only difference being that in addition to determining whether the defendant created a criminal risk, the jury also would have to find that the defendant was aware of the risk.

The defendants in *Smith* and *Bobo* did not claim that they were not conscious of their conduct; rather, their real claim was that their conscious conduct was the product of mental illnesses, for which they alleged a genetic origin. That, however, amounts to nothing more than a claim that the defendant was unable to conform his conduct to law. But, as one commentator has noted, the obligations established by criminal law are ones that “normal members of the community will be able to comply with, given the necessary awareness of the circumstances of fact calling for compliance.”²³¹ When the actor actually lacks the ability to comply, which is what behavioral genetics evidence has been offered, as in *Bobo*,²³² to show,

the traditional law provides materials for solution of the problem when inability negatives blameworthiness The materials include doctrines . . . providing for the exculpation of those individuals who because of mental disease or defect are to be deemed incapable of acting as responsible, participating members of society.²³³

228. *United States v. United States Gypsum Co.*, 438 U.S. 422, 445 (1978) (quoting *W. LAFAVE & A. SCOTT, CRIMINAL LAW* 196 (1972)). The MPC divides “intent” into acting “purposefully” and acting “knowingly,” which corresponds to the two ways the Court identifies for acting “intentionally.”

229. *Id.*

230. MODEL PENAL CODE § 2.02 at 242 (Official Draft and Revised Commentaries 1985) (internal citations omitted).

231. Hart, *supra* note 139, at 414 (emphasis omitted).

232. *E.g.*, *People v. Bobo*, 271 Cal. Rptr. 277 (Cal. Ct. App. 1990); *State v. Davis*, 2001 Tenn. Crim. App. LEXIS 341 (Tenn. Crim. App. 2001).

233. Hart, *supra* note 139, at 414.

A claim of irresponsibility is more than just a claim that the actor cannot be deterred, “or else the more hardened the criminal, the better would be his claim of irresponsibility.”²³⁴ What also is involved “is reaching for criteria which will avoid attaching moral blame where blame cannot justly be attached, while, at the same time, avoiding a denial of moral responsibility where the denial would be personally and socially debilitating.”²³⁵ Criminal law now finds that balance by determining mental states through objective analysis. There is no place for behavioral genetics evidence in the analysis of the nature and circumstances of the actor’s conduct as informed by ordinary human experiences.²³⁶

IV

STANDARDS OF CONDUCT AND EVADING OR DIMINISHING CRIMINAL RESPONSIBILITY

The development of criminal jurisprudence has left little room for behavioral genetics evidence in negating the actus reus or mens rea requirements for criminal liability. Likewise, behavioral genetics evidence has limited potential to bolster a defendant’s attempts to evade²³⁷ or diminish the attribution of criminal responsibility to him²³⁸ by arguing that the circumstances warrant (justification)²³⁹ or partially excuse²⁴⁰ his behavior (excuse).²⁴¹

234. *Id.* at 414 n.13.

235. *Id.*

236. Unrestrained and misguided efforts to introduce behavioral genetics evidence into the analysis of culpable mental states could result in preemptive legislative or judicial action to preclude such evidence altogether, making it difficult to reconsider its relevance as scientific knowledge advances. Could the state preclude the defendant from presenting an entire available category of evidence, such as behavioral genetics, to negate proof of a requisite mental state? The answer appears to be yes. In *Montana v. Egelhoff*, 518 U.S. 37 (1996), the Supreme Court considered a state statute that precluded the jury’s consideration of the defendant’s voluntary intoxication in determining whether he “purposefully” or “knowingly” caused the death of the victim. In a concurrence Justice Ginsburg agreed with the plurality if the statute has been “simply a rule to keep out ‘relevant exculpatory evidence’ . . . Montana’s law offends due process.” *Id.* at 57. But the statute did something more: it redefined the mental element of the offense charged, which wholly eliminated any due process concern. “[A] ‘state legislature certainly has the authority to identify the elements of the offenses it wishes to punish’ . . . and to exclude evidence irrelevant to the crime it has defined.” *Id.* (Ginsburg, J., concurring) (quoting *id.* at 64 (O’Connor, J., dissenting)). Montana, she thought, had extracted “the entire subject of voluntary intoxication from the mens rea inquiry.” *Id.* at 58 (Ginsburg, J., concurring) (quoting MONT. CODE ANN. § 45-2-205 (1995)). “Defining *mens rea* to eliminate the exculpatory value of voluntary intoxication does not offend a ‘fundamental principle of justice.’” *Id.* at 59. It seems safe to assume that a statute excluding evidence of behavioral genetics as irrelevant to culpability likely would not offend the Constitution. In his dissent Justice Souter acknowledged the right of the state to “so define the mental element of an offense that evidence of a defendant’s voluntary intoxication . . . does not have exculpatory relevance.” *Id.* at 73.

237. Hart, *supra* note 139, at 414.

238. See FLETCHER, *supra* note 9, at 510; HART, *supra* note 179, at 15.

239. DRESSLER, *supra* note 21, at 202; FLETCHER, *supra* note 9, at 459 (“A justification negates the wrongfulness of the act and denies the element of wrongdoing.”).

240. FLETCHER, *supra* note 9, at 798 (“The focus of the excuse is not on the act in the abstract, but on the circumstances of the act and the actor’s personal capacity to avoid either an intentional wrong or the taking of an excessive risk.”). But it is not the actor’s personal capacity to avoid such wrongdoing or risks that matters, but the capacity of the *reasonable person* to do so.

241. George P. Fletcher, *The Right and the Reasonable*, 98 HARV. L. REV. 949, 957 (1985).

When evaluating the merits of a justification or excuse, the trier of fact compares the defendant's acts to societal norms or standards of conduct.²⁴² Put otherwise, the criminal law allows a determination of whether the circumstances warrant attributing to the actor criminal responsibility for the crime.²⁴³ Although there are exceptions to the general proposition that excuses include an invariant legal standard, these are narrowly circumscribed and remain consistent with society's expectations of the norms of human behavior.²⁴⁴ Justifications and excuses thereby serve as a check against holding a defendant to a higher standard of conduct than the average or reasonable person in society could be expected to meet under the circumstances. Because these defenses serve as an external check on liability, they rarely implicate the defendant's unique psychological characteristics and instead rely on comparison with societal expectations for norms of conduct.²⁴⁵ The criminal law enables this external check by reference to a fictitious "reasonable person," who represents the average person of society and the norms of behavior that society expects that person to meet. In the few defenses that enable the defendant to introduce his unique perspective, a separate showing of reasonableness is likewise required.²⁴⁶

As of yet, few criminal defendants have sought to introduce behavioral genetics evidence to establish a justification or excuse. Recent legal scholarship, however, reveals a growing movement to transform the objective assessment of certain defenses into a more subjective one by reformulating the

242. Dolores A. Donovan & Stephanie M. Wildman, *Is the Reasonable Man Obsolete? A Critical Perspective on Self-Defense and Provocation*, 14 LOY. L.A. L. REV. 435, 459 (1981) ("[T]he question of attribution is to be viewed in light of all relevant facts and circumstances of the individual case."). Donovan and Wildman adopt Fletcher's characterization that such facts and circumstances imply a subjective determination. Such determinations are in fact standards of general applicability, rather than inquiries into the unique infirmities of the individual defendant.

243. *Id.* Insanity is the only outlier. It is either an anomaly in jurisdictions with the defense of not guilty by reason of insanity (which is theoretically inconsistent with the structure of criminal responsibility) or it represents a carefully delineated category of those individuals who are exempt from criminal responsibility. This narrow group would nevertheless not permit the introduction of subjective mental infirmities of an individual during the determination of criminal responsibility. See Saxe, *supra* note 62, at 253 ("Unless a court can make a finding of insanity, the criminal law does not seek to understand the uniqueness of the mental deficiency of the criminal defendant.").

244. PAUL H. ROBINSON, CRIMINAL LAW § 9.1, at 488-89 (1997) (explaining that insanity, involuntary acts, and involuntary intoxication do not seem to incorporate an objective standard, but that one would be mistaken "to assume that these defenses excuse without regard for whether the actor has met society's collective normative expectations for efforts to avoid a violation"). As discussed in Part II.C, behavioral genetics could bolster psychiatric testimony in insanity cases, but it should not stand alone to satisfy the mental defect element of insanity.

245. *Id.* § 9.1, at 488, § 9.4, at 532-33 (explaining that "in practice, all modern excuses hold an actor to some form of objective standard in judging his or her efforts to remain law-abiding," and that an excuse does not derive from a defendant's disability, because even if "an actor was unfairly burdened in having to resist or avoid committing an offense [this] will not excuse him or her if, with reasonable effort, he or she could have successfully avoided the violation").

246. Again, insanity serves as an outlier. Insanity is best understood as a categorical exemption from criminal responsibility when presented as "not guilty by reason of insanity." The "guilty but mentally ill" verdict has little benefit for the criminal defendant and holds him fully responsible for his criminal conduct.

reasonable person standard in criminal law.²⁴⁷ Proponents of this change support augmenting the standard with the allegedly relevant individual infirmities of the defendant, so that the defendant's unique psychological perspective may more closely govern the assessment of reasonableness.²⁴⁸ If these scholars succeed, the result would be a reasonable person standard—if one could call it a standard at all—that would enable criminal defendants to introduce behavioral genetics to support claims of justification or excuse as relevant to criminal responsibility.²⁴⁹ Properly viewed, however, behavioral genetics has limited relevance to the reasonableness inquiry governing the evasion or diminution of criminal responsibility.

A. The Reasonable Person as a Standard of Conduct

In *The Common Law*,²⁵⁰ Oliver Wendell Holmes described the standard of the “reasonable person,”²⁵¹ which embodies:

247. See, e.g., Donovan & Wildman, *supra* note 242, at 465–68 (arguing in favor of a subjective reasonable person standard because an objective standard ignores social reality and applies a false legal reality to defendant); Heller, *supra* note 174 (analyzing the problems with the juror cross-section concerns obviating the validity of the objective person test, and proposing limited subjectivization of the reasonable person standard); Eugene R. Milhizer, *Justification and Excuse: What They Were, What They Are, and What They Ought to Be*, 78 ST. JOHN'S L. REV. 725, 890-93 (2004) (distinguishing justifications from excuses and advocating a subjective standard including the actor's subjective perception of the circumstances to evaluate excuses to determine the validity of the excuse); V.F. Nourse, *Self-Defense and Subjectivity*, 68 U. CHI. L. REV. 1235 (2001) (demonstrating that the divide between an objective and subjective reasonable person standard is an artificial one); Alan Reed, *Duress and Provocation as Excuses to Murder: Salutory Lessons from Recent Anglo-American Jurisprudence*, 6 FLA. ST. J. TRANSNAT'L L. & POL'Y 51 (1996) (comparing the English and U.S. system of reasonableness, and advocating a subjectivization of the reasonable person standard to include unique mental characteristics of the defendant, such as timidity); Paul H. Robinson, *Criminal Law Scholarship: Three Illusions*, 2 THEORETICAL INQUIRIES L. 287, 308 (2001) (explaining that although there are calls for increased subjectivization of the reasonable person standard, it is unclear which characteristics of a defendant should be incorporated); Lauren E. Goldman, Note, *Nonconfrontational Killings and the Appropriate Use of Battered Child Syndrome Testimony: The Hazards of Subjective Self-Defense and the Merits of Partial Excuse*, 45 CASE W. RES. L. REV. 185 (1994) (proposing that psychological characteristics of abused children should be included in the assessment of reasonableness for purposes of an excuse when the focus is on the circumstances of the defendant, rather than the crime); Sarah McLean, Comment, *Harassment in the Workplace: When will the Reactions of Ethnic Minorities and Women be Considered Reasonable?* [Watkins v. Bowden, 105 F.3d 1344 (11th Cir. 1997)], 40 WASHBURN L.J. 593, 609 (2001) (claiming that the reasonable person standard reflects a white Anglo-Saxon male bias and should be reformulated to allow the subjective perceptions of women and ethnic minorities, particularly with respect to employment discrimination claims).

248. See generally sources cited *supra* note 247.

249. See Robinson, *supra* note 247, at 306 (noting that subjectivization of the reasonable person standard could allow criminal defendants to introduce a genetic propensity to violence as a relevant characteristic to the reasonableness inquiry).

250. HOLMES JR., *supra* note 144.

251. For a succinct discussion of the reasonable person standard, see generally Mark A. Rothstein, *The Impact of Behavioral Genetics on the Law and the Courts*, 83 JUDICATURE 116 (1999). Rothstein summarizes:

The reasonable person standard, originally expressed as the “reasonable man” standard, was first applied to negligence law in England in the middle of the nineteenth century. The concept was soon adopted in the United States. By the beginning of the twentieth century the gender-neutral “reasonable person” came into use and is now used in every state. The

an ideal being, represented by the jury when they are appealed to, and his conduct is an external or objective standard when applied to any given individual. That individual may be morally without stain, because he has less than ordinary intelligence or prudence. But he is required to have those qualities at his peril. If he has them, he will not, as a general rule, incur liability without blameworthiness.²⁵²

In Holmes's description, the individual attributes of the defendant relate only to the defendant's capacity to conform his conduct to the rules of the state. Thus the reasonable person embodies norms of behavior under the relevant circumstances against which the jury measures the defendant's conduct; in Holmes's view, there is no inquiry into what unique biological or other factors influenced the defendant's behavior. But a second and equally powerful explanation of the reasonable person emerges from the criminal law's role in reifying and codifying societal norms of conduct. As a check on liability, the reasonable person standard reflects conduct deemed justified by the state under the circumstances, while also providing a tool by which a jury may implement and codify societal norms of behavior by comparing the defendant's actions against that expected of the reasonable person under the circumstances.²⁵³ In such a way, the reasonable person standard may help "to foster, sustain, and articulate norms" of behavior in society.²⁵⁴

Holmes did not fully humanize the reasonable person by giving him a gender, age, or any other defining characteristics. Holmes describes him as an ideal being because the reasonable person also reflects societal norms of conduct, but the reasonable person standard more appropriately embodies an average or ordinary member of society—one who does not excel, who can err in his choices, and who makes mistakes, suffers fear and selfishness, and possesses

reasonable person standard is often expressed as the reasonably prudent person, or some similar terminology, all of which have the identical meaning.

Id. at 118.

252. HOLMES JR., *supra* note 144, at 51.

253. Hisham M. Ramadan, *Reconstructing Reasonableness in Criminal Law: Moderate Jury Instructions Proposal*, 29 J. LEGIS. 233, 238 (2003) (noting that some argue that reasonableness represents societal standards of conduct, and "crystallizes the norms and values of the society and incorporates them into a set of rules that govern individuals' conduct and communicates its meaning to the public frankly"). In his treatise, *Criminal Law*, Paul H. Robinson also describes the criminal law's role in shaping societal norms:

The real power in shaping people's conduct lies in the networks of interpersonal relationships in which people find themselves, the social norms and prohibitions shared among those relationships and transmitted through those social networks, and the internalized representations of those norms and moral precepts. . . . Criminal law, in particular, plays a central role in creating and maintaining the social consensus on morality necessary to sustain norms. In fact, in a society as diverse as ours, the criminal law may be the only single mechanism that is society-wide, transcending cultural and ethnic differences. Thus the criminal law's most important real-world effect can be its ability to assist in building, shaping, and maintaining these norms and moral principles. A central role for the criminal law and the criminal justice system, therefore, is to contribute to and harness the compliance-producing power of interpersonal relationships and personal morality.

ROBINSON, *supra* note 244, § 1.2, at 21.

254. Goldberg & Zipursky, *supra* note 154, at 386 (explaining that law, and negligence law in torts, may help to reduce car accidents not only through pricing and prohibition—a stick—but also by helping to reify social norms of safe driving and thereby promote "internal deterrence").

other shortcomings to the extent such shortcomings manifest normal standards of community behavior.²⁵⁵ Thus understood, the reasonable person exists in criminal law as a representation of ordinary and presumed human capacities of thought, choice, and reason, and does not have any particular physical characteristics or features.

The purposes underpinning the reasonable person standard help to illuminate why it operates without regard to the defendant's individual mental infirmities or behavioral predispositions. Proponents of the objective reasonable person standard generally rely on some combination of the following four rationales:

- (1) It creates a community standard of general applicability that affords notice to all members of society (standard of conduct);²⁵⁶
- (2) It fosters predictability of outcomes in criminal cases and more evenhanded enforcement of the criminal law (equality);²⁵⁷
- (3) It affords ease of administration of the criminal law in light of the difficulty of knowing the subjective state of mind of individual defendants (administrative ease);²⁵⁸ and
- (4) It ensures that the most dangerous criminals will not be held the least criminally responsible (collapse of responsibility).²⁵⁹

These objectives—creating standards of conduct, ensuring equality, promoting administrative ease, and preventing the collapse of responsibility—comport with other characteristics of the criminal law—safeguarding the general welfare of society while fostering responsible members of society. More importantly, these objectives comport with the limited role of criminal responsibility: to determine if a crime was committed and, if so, what crime and by which responsible agent.

255. MAYO MORAN, *RETHINKING THE REASONABLE PERSON: AN EGALITARIAN RECONSTRUCTION OF THE OBJECTIVE STANDARD* 132 (2003).

256. See HART, *supra* note 179, at 229 (explaining that the objective standard creates standards of conduct that the largest proportion of society can meet and that to require a higher standard than that achievable by a large proportion of society lacks efficacy because such a standard could neither come into nor continue in existence); HOLMES JR., *supra* note 144, at 50–51 (expressing the reasonable person as an external standard of general application that requires every person to achieve the best possible conduct and to deviate from this conduct, even if by incapacity or infirmity, at his own peril). Holmes further noted that, “it is precisely to those who are most likely to err by temperament, ignorance, or folly, that the threats of the criminal law are the most dangerous.” *Id.*

257. MORAN, *supra* note 255, at 207.

258. HART, *supra* note 179, at 175.

259. Joshua Dressler, *Why Keep the Provocation Defense?: Some Reflections on a Difficult Subject*, 86 MINN. L. REV. 959, 999–1000 (2002) (discussing which characteristics of a defendant may be properly incorporated in the reasonable person defense and noting that the objective standard excludes certain characteristics such as short-temperedness, as necessary to the function of the standard). As one of the sources of resistance to subjective determination of liability George Fletcher identified the “unresolved anxiety about sociological and psychological determinism that leads many to believe *tout comprendre, c’est tout pardonner*. If we know everything about the defendant, we will invariably excuse him.” FLETCHER, *supra* note 9, at 513; see also ABRAHAM S. GOLDSTEIN, *THE INSANITY DEFENSE* 191–92 (1967) (noting the concern that a subjective theory of judgment used for justifications or excuses other than insanity could result in more acquittals for the most dangerous defendants).

To conclude, however, that the objective reasonable person standard is the necessary legal standard in fact, two propositions must first be established: (1) justifications and excuses operate objectively in practice, and (2) a “subjective” reasonable person standard would not achieve the same stated goals. If the reasonable person operates objectively in fact, then evidence of a defendant’s behavioral predispositions does not presently inform responsibility. But if a subjective or variable standard would achieve the same four goals, the criminal law lacks a principled reason for excluding subjective evidence in assessing responsibility.

B. The Reasonable Person: Objective in Fact

In *Murder and the Reasonable Man*, Cynthia Lee frames the typical subjective versus objective debate on the reasonable person standard, opining that each extreme presents a legal fiction:

A purely objective standard of reasonableness is one that excludes consideration of any of the defendant’s particular characteristics. Under such a standard, the defendant is compared to the Reasonable Person devoid of gender, race, culture, religion and any particular strengths or weaknesses. Of course, no person is devoid of identifying characteristics. . . .

. . . .

At the other end of the reasonableness spectrum is another legal fiction—a purely subjective standard of reasonableness. Under such a standard, the Reasonable Person is imbued with the defendant’s race, gender, class, level of education, and other personal characteristics. If, however, the Reasonable Person has all the defendant’s characteristics, the reasonableness standard simply collapses. . . . Under such a standard, if the defendant thinks his beliefs and actions are reasonable, the Reasonable Person with all the defendant’s characteristics will likely feel the same.²⁶⁰

Lee’s conception of an objective standard differs from that described here: the “objective” reasonable person standard signifies reasonableness as a standard of conduct generally applicable to all members of society without regard to the defendant’s individualized *beliefs* about the circumstances of the crime or unique psychological perspective.²⁶¹ Thus, the term “objective” names the specific idea that the trier of fact should evaluate the defendant’s proffered justifications or excuses by a standard of conduct that reflects the collective expectations of society of how law-abiding members of society can and should

260. CYNTHIA LEE, *MURDER AND THE REASONABLE MAN: PASSION AND FEAR IN THE CRIMINAL COURTROOM* 206–07 (2003).

261. George Fletcher offers four conceptions of the difference between objective and subjective:

- (1) ‘Objective standards’ are ‘standards of general application.’ ‘Subjective’ standards by implication take ‘account of the infinite varieties of temperament, intellect and education which make the internal character of a given act so different.
- (2) ‘Objective standards’ are external; they apply regardless of whether the actor thinks he is doing the right thing; ‘subjective’ standards focus on the actor’s state of mind.
- (3) The question of wrongdoing is an objective standard, for it focuses on the act in abstraction from the actor; the issue of attribution is subjective in the sense that it focus[es] on the actor’s personal accountability for wrongdoing.
- (4) Standards are objective if they are factual; subjective if they require a value judgment.

FLETCHER, *supra* note 9, at 506.

behave under the circumstances that confronted the defendant. The personal beliefs, impulses, and desires of the defendant have little practical relevance to how law-abiding citizens can and should act under a given set of circumstances. To give an obvious example, irrespective of whether an individual defendant believes it moral to kill others for pleasure, society still expects that he will refrain from doing so precisely because an ordinary member of society can and should refrain from doing so. Thus, the defendant's belief will not excuse his behavior if he kills another individual.

The criminal law, however, has determined that certain physical characteristics of the defendant may inform how a reasonable person in society would be expected to act under the relevant external circumstances. For example, one could ask and answer how a reasonable person would likely act if attacked by an assailant with greater size and strength who is apparently armed with a deadly weapon, without regard to the defendant's actual perceptions. To answer this question, one need not inquire into the individual beliefs or mental infirmities of the particular defendant. Instead, one need consider only easily ascertainable facts external to the mindset of the defendant—such as the size and strength of the defendant. By taking the relative size and strength of the defendant into account the reasonableness inquiry has not been transformed into an inquiry about the individual beliefs of the criminal defendant.²⁶² The criminal law rationally distinguishes between the mental and physical characteristics of the defendant because the reasonable person standard reflects a generalized standard of mental capacities, not a generalized standard of physical characteristics. Thus, the traditional, “objective” reasonable person standard survives the incorporation of certain unusual physical characteristics of the defendant (for example, blindness) if relevant, but excludes any unusual mental characteristics by definition.²⁶³ Against this backdrop, the following sections analyze the defenses of provocation and self-defense by battered women, both of which have been misperceived as anomalies to the objective reasonable person standard.

C. The Defense of Provocation: A Failed Reformulation

Under the traditional formulation of the provocation excuse, the extent of criminal responsibility ascribable to a defendant will diminish from murder to manslaughter if the defendant proves he committed the homicide during a

262. See *State v. Van Dyke*, 825 A.2d 1163, 1170–72 (N.J. Super. Ct. App. Div. 2003) (explaining that, although certain physical attributes such as age, physical strength, or health could be relevant to the reasonable person standard, the appropriate standard is “based on a societal norm rather than the exceptional or substandard attributes of an individual”). Thus, the defendant's conduct “is measured against the standard . . . for the behavior of the entire community. A defendant's effort to avoid [attribution] of criminal liability should be measured by the same objective societal norm.” *Id.*

263. MODEL PENAL CODE § 2.02 cmt. 4 at 242 (Official Draft and Revised Commentaries 1985) (noting that, although blindness may be relevant to the reasonable person standard and his “situation,” the “heredity, intelligence or temperament of the actor would not be held material in judging negligence, and could not be without depriving the criterion of all its objectivity”); DRESSLER, *supra* note 21, at 132.

sudden quarrel.²⁶⁴ To mitigate murder to manslaughter, he must prove he acted in the heat of passion caused by an adequate provocation.²⁶⁵ At common law, mutual combat, assault, and adultery constituted legally adequate provocation.²⁶⁶ As society came to view understandable human frailties more broadly, these categories were expanded.²⁶⁷

Historically, a judge determined the adequacy of the provocation as a matter of law.²⁶⁸ As new theories of provocation introduced murkiness into this consideration, the criminal law relegated to the jury the question of adequacy of provocation.²⁶⁹ The criminal law imported the reasonable man or “ordinary person”²⁷⁰ test from the law of negligence as a tool for juries to decide these marginal cases.²⁷¹ At its inception, then, the ordinary person test served as a tool for use by the jury to assess the extent of criminal responsibility ascribable to the criminal defendant based on the circumstances of the crime.²⁷²

The traditional test for provocation has four elements:

- (1) Adequate provocation which would have roused an ordinary person to the heat of passion;
- (2) Actual provocation, requiring that the defendant actually have been provoked;
- (3) An ordinary person would not have cooled off; and,
- (4) The defendant in fact did not cool off.²⁷³

Although this test appears to invite an individualized determination of whether the defendant experienced actual provocation,²⁷⁴ it does so in only a limited fashion. The requirement of actual provocation limits the availability of the defense to those who acted as a result of provocation rather than by another motive.²⁷⁵ Several factors limit the relevance of behavioral genetics evidence to this inquiry. First, the defendant must have been provoked by the victim and not by some other unrelated cause.²⁷⁶ Second, most jurisdictions generally recognize categories of provocation under which the victim’s conduct must have fallen for the defendant to be entitled to claim adequate provocation, such as

264. Donovan & Wildman, *supra* note 242, at 446.

265. *Id.*

266. *Id.*

267. *Id.* at 447.

268. *Id.*

269. State v. Ott, 686 P.2d 1001, 1005 (Or. 1984); Donovan & Wildman, *supra* note 242, at 447.

270. Several commentators, including Joshua Dressler, note the inconsistency of calling the standard a “reasonable person” standard in the context of provocation since the defense deals with unreasonableness. The defense instead recognizes that the ordinary person sometimes acts out of uncontrolled emotion rather than reason. DRESSLER, *supra* note 21, at 530–31.

271. Donovan & Wildman, *supra* note 242, at 447–48.

272. *Id.* at 448.

273. LEE, *supra* note 260, at 25; Donovan & Wildman, *supra* note 242, at 448.

274. FLETCHER, *supra* note 9, at 508.

275. DRESSLER, *supra* note 21, at 533.

276. People v. Strader, 663 N.E.2d 511, 515 (Ill. App. Ct. 1996); State v. Shane, 590 N.E.2d 272, 276 (Ohio 1992).

physical injury or mental assault, mutual combat or quarrel, illegal arrest, or adultery with the defendant's spouse.²⁷⁷ These categories represent conduct by a victim, not some internal mental deficiency of the defendant. Conceivably, a defendant could claim to have misunderstood the situation as a result of a behavioral predisposition, but such a claim raises the final concern. A claim of an abnormal response to an external stimuli, triggered by a defendant's behavioral predisposition, may itself cut against a finding of reasonableness in the determination of adequacy of provocation such that an ordinary person would have reacted as the defendant did. Otherwise put, for a defendant to claim he reacted because of his behavioral predisposition itself sets him at odds with the reasonable person standard. Thus, under the traditional approach to provocation, the defense operates through consideration of provocation external to the psyche or behavioral propensities of the defendant, rendering his infirmities irrelevant to whether he was actually provoked, and at odds with the reasonableness inquiry that follows.²⁷⁸

In an effort to depart from the traditional approach to provocation,²⁷⁹ the MPC adopted section 210.3(1)(b), which provides that criminal homicide constitutes manslaughter when "committed under the influence of extreme mental or emotional disturbance for which there is reasonable explanation or excuse. The reasonableness of such explanation or excuse shall be determined from the viewpoint of a person in the actor's situation under the circumstances as he believes them to be."²⁸⁰ The MPC's reformulation has been interpreted by some as introducing the actor's actual state of mind into the previously rigidly applied provocation defense by allowing the trier of fact to evaluate reasonableness from the viewpoint of the actor.²⁸¹ Under the reformulation, the defendant first must offer a reasonable explanation for his alleged extreme emotional distress, and, second, must demonstrate the reasonableness of his reaction to it from the viewpoint of an ordinary person in the circumstances of the accused.²⁸² Regrettably, little guides courts on what factors to consider in assessing the circumstances from the viewpoint of the accused under the MPC approach.²⁸³ Consequently, some courts have allowed defendants to introduce certain psychiatric and mental peculiarities as relevant to the defense, even

277. *Strader*, 663 N.E.2d at 516; *Shane*, 590 N.E.2d at 277.

278. *FLETCHER*, *supra* note 9, at 508; *see* *State v. Bourque*, 636 So.2d 254, 268 (La. Ct. App. 1994) ("The measure of adequacy of the provocation to cause a defendant to act in 'sudden heat of passion or heat of blood' is the average or ordinary person, and not the peculiar psychological characteristics of a particular defendant.").

279. *See* *State v. Ott*, 686 P.2d 1001, 1006-07 (Or. 1984) (detailing how the drafters of the MPC arrived at the revision, in part due to disdain for a particular case outcome).

280. MODEL PENAL CODE § 210.3(1)(b) (Official Draft and Revised Commentaries 1985).

281. *See* *State v. Dumlao*, 715 P.2d 822, 830 (Haw. Ct. App. 1986) (opining that the Model Penal Code reformulation of the provocation defense newly allows subjective mental abnormalities of the individual to be considered as part of the defense); *LEE*, *supra* note 260, at 207; *see also* *State v. Magner*, 732 A.2d 234, 241 (Del. Super. Ct. 1997) (interpreting a similar provision in the Delaware Code to include a subjective inquiry).

282. *Magner*, 732 A.2d at 241.

283. *Id.*

while recognizing that “not all individual peculiarities are relevant.”²⁸⁴ By contrast, other courts recognize that the particular psychological condition of a defendant cannot inform adequacy of provocation, which should be judged by the mental capacities of the ordinary person.²⁸⁵ To the extent that courts, as a matter of factual relevance, allow the incorporation of certain physical characteristics into the ordinary or reasonable person standard, they do not deviate from the purpose of the excuse—to allow the diminution of responsibility for ordinary human fallibility.²⁸⁶ To the extent those courts allow the incorporation of peculiar mental infirmities, they transform the defense of provocation into an individualized determination of the blameworthiness of the defendant, contrary to the limited purpose of excusing generalized human fallibility. By allowing the peculiar mental condition of the defendant to govern a determination of reasonableness, courts pervert the provocation as an excuse and conflate criminal responsibility with culpability and therefore punishment. They put the law on a “dangerously slippery slope” and risk “trivializing the normative anti-killing message of the criminal law.”²⁸⁷ After all, to ask from the unique psychological viewpoint of the defendant whether it seemed reasonable to kill, the answer would obviously be yes. He did, after all, choose to do so.

In short, criminal law can be deceptive. Occasionally, as in the MPC’s reformulation of provocation, it speaks of personal guilt and uses subjective-sounding words when, in fact, the drafters of the MPC intended for the reasonableness prong of the excuse to continue to operate objectively.²⁸⁸ Although some interpret the MPC’s approach to allow otherwise, the provocation defense operates by “rejecting evidence that a given defendant was more fearful than most, more moved to anger than most, more suggestible than most.”²⁸⁹ Courts should therefore interpret the MPC’s reformulation as enabling the introduction of materially relevant physical traits in the circumstances, but not the defendant’s unique mental infirmities or behavioral predispositions. If narrowly conceived, the reformulation will still enable the provocation defense to partially excuse human fallibility without collapsing the concept of criminal responsibility.

284. *Id.* at 243.

285. *People v. Ali*, No. A096034, 2004 Cal. App. Unpub. LEXIS 1001, at *16 (Cal. Ct. App. Jan. 30, 2004); *State v. Bourque*, 636 So.2d 254, 268 (La. Ct. App. 1994).

286. *See* MODEL PENAL CODE § 2.02 cmt. 4 at 242 (Official Draft and Revised Commentaries 1985) (explaining that physical characteristics may inform the reasonable person but that “heredity, intelligence or temperament of the actor would not be held material in judging negligence, and could not be without depriving the criterion of all its objectivity”); DRESSLER, *supra* note 21, at 532 (“The heat-of-passion defense recognizes the ordinary human frailty of loss of self-control in provocative circumstances.”).

287. DRESSLER, *supra* note 21, at 532.

288. GOLDSTEIN, *supra* note 259, at 18.

289. *Id.*

D. The Battered Woman Syndrome: A Matter of Fact

Self-defense offers an easier challenge to the subjective-versus-objective reasonable person debate than does provocation. A non-aggressor may use force upon another if “he reasonably believes that such force is necessary to protect himself from imminent use of unlawful force by the other person.”²⁹⁰ Like provocation, to succeed on a claim of self-defense the defendant must prove he acted in accordance with an honest belief in the need to defend himself and that he had a reasonable ground for so doing.²⁹¹ Self-defense functions as a justification that negates the wrongfulness of the defendant’s conduct; all fifty states allow it as a justification for homicide.²⁹² It focuses on the self-defensive act rather than on the actor,²⁹³ through an external assessment of the reasonableness of the act in light of the circumstances. Consequently, a defendant will evade criminal responsibility only if “a reasonable person in defendant’s circumstances would have perceived self-defense as necessary.”²⁹⁴ To assess reasonableness, the jury may consider all relevant circumstances in which the actor found himself.²⁹⁵ Put simply, the justification of self-defense deems protecting oneself from an aggressor socially acceptable or tolerable.²⁹⁶

Under the theory of self-defense, defendants have introduced evidence of Battered Woman Syndrome (BWS) to bolster claims of self-defense and to assist the trier of fact in deciding the “reasonableness . . . of defendant’s belief that killing was necessary.”²⁹⁷ BWS arises primarily in one of two contexts: (1) the battered woman killed her partner during an altercation or (2) the battered woman killed her partner while he was sleeping or after a significant cooling-off period since the last violent attack.²⁹⁸ Cases in the first category do not generally challenge the reasonable person standard because they more closely fit the classic case of self-defense. In the latter category, defendants have sought to use BWS evidence both to demonstrate that the defendant acted in the honest belief of the need to self-defend and also to support the determination that the self-defense was reasonable under the circumstances.²⁹⁹

The use of BWS in this second category of cases has led some to argue that the reasonable person standard has become more individualized, thereby paving the way toward introducing other mental infirmities, such as certain behavioral predispositions, into the calculation of reasonableness. This

290. DRESSLER, *supra* note 21, at 221.

291. *Id.* at 222. If the defendant acted sincerely but unreasonably, he would still be held criminally responsible for his act. A few states, however, would allow the partial excuse of imperfect self-defense, which mitigates the murder charge to manslaughter. *People v. Humphrey*, 921 P.2d 1, 6 (Cal. 1996); *People v. Jaspas*, 119 Cal. Rptr. 2d 470, 475 (Cal. Ct. App. 2002); DRESSLER, *supra* note 21, at 222–23.

292. Heller, *supra* note 174, at 11.

293. *Id.*

294. *Id.* at 3.

295. *Jaspas*, 119 Cal. Rptr. 2d at 476.

296. Heller, *supra* note 174, at 15.

297. *Jaspas*, 119 Cal. Rptr. 2d at 476.

298. DRESSLER, *supra* note 21, at 240.

299. *Id.* at 242.

argument is flawed, however, because it assumes that the trier of fact compares the battered woman to a *lower* standard of conduct than the reasonable person and uses the past history of violence to justify killing the batterer. BWS does not serve this purpose in this (or any other) category of self-defense cases. In fact, the word “syndrome” seems only to confuse matters, given that BWS operates more like an evidentiary rule rather than a diminished capacity offense. Indeed, the defendant does not argue that she acted out of rage from her repeated abuse, or in an altered and subjectively weaker state of mind than the reasonable person. Instead, she introduces the history of prior abuse and the special knowledge available to a battered woman (such as the credibility of the abuser’s threat) to endow the reasonable person with additional “expertise,”³⁰⁰ much like a specialist physician is held to a specialized standard of conduct in negligence cases in tort law.³⁰¹

The history of prior abuse, for example, helps inform the jury’s determination of whether the defendant honestly and reasonably believed she needed to defend herself *at the time* that she killed her partner.³⁰² For example, if the defendant endured a physical confrontation with her abuser that evening, during which he told her he would kill her the next morning, and the history of her abuse proved his threat was credible and flight was futile, these circumstances would assist a trier of fact in deciding whether the defendant reasonably believed her batterer presented an imminent threat to her when she killed him during his sleep.³⁰³ In effect, because “the right of self-defense arises only when the necessity begins, and equally ends with the necessity,”³⁰⁴ BWS evidence goes to reasonableness of the belief about the imminence of the aggressor’s threat of bodily harm³⁰⁵ rather than serving as a justification for an unreasonable belief in the threat.

300. See, e.g., John Yoo, *Using Force*, 71 U. CHI. L. REV. 729, 753 (2004) (noting the battered woman’s defense need not be about whether the reasonable person standard is subjective or objective, but about redefining the imminence of the threat in self-defense). Thus understood, the battered woman’s defense allows the use of past conduct for predicting the likelihood of future harm.

301. E.g., Heinrich *ex rel.* Heinrich v. Sweet, 308 F.3d 48, 63 (1st Cir. 2002) (explaining the proper standard of care for evaluating medical negligence by a specialist physician is the skill and care required of those in the profession practicing that specialty); Deasy v. United States, 99 F.3d 354, 358–359 (10th Cir. 1996) (comparing psychiatrist failure to provide medical treatment for plaintiff’s edema against the standard of care for psychiatrists); Myles v. Laffitte, No. 91-1821, 1993 U.S. App. LEXIS 3274, at *7–*8 (4th Cir. Feb. 16, 1993) (noting specialists are held to a higher standard of care than general practitioners and are measured against the relevant specialist’s skill and care required); Pierce v. Hobart Corp., 939 F.2d 1305, 1309–10 (5th Cir. 1991) (noting the state act defined standard of care for specialists to be determined by those within the involved medical specialty); Lanier v. Sallas, 777 F.2d 321, 323 (5th Cir. 1985) (noting the Texas statute holds a specialist physician to the standard of care of a similar specialist under similar circumstances); McPhee v. Reichel, 461 F.2d 947, 950 (3d Cir. 1972) (jury instruction that ophthalmologist would be held to standard of care of a general practitioner was error; specialist owes higher standard of care).

302. DRESSLER, *supra* note 21, at 242.

303. Yoo, *supra* note 300, at 753 (explaining that the battered woman’s defense may redefine the concept of imminence in self-defense cases).

304. United States v. Peterson, 483 F.2d 1222, 1229 (D.C. Cir. 1973).

305. State v. Richardson, 525 N.W.2d 378, 381 (Wis. Ct. App. 1994).

A comparison with provocation provides another useful insight into BWS and behavioral genetics evidence. The battered woman, like the provoked defendant, must demonstrate that she reacted in response to the victim to prove that she acted under the honest belief that she needed to self-defend rather than in response to an internal weakness or abnormality. Moreover, like provocation, self-defense enables the defendant to introduce only certain categories of information in support of her defense, such as the history of prior abuse and her prior unsuccessful attempts to flee. Finally, if behavioral genetics evidence could be introduced with respect to her actual belief in the need to self-defend, the stronger the evidence that she reacted because of a predisposition to rage, aggression, or violence, the less likely it is that her conduct will be perceived as reasonable under the separate consideration of the reasonableness of her conduct.

Respecting the determination of reasonableness, experts testify about the special knowledge the battered woman develops from the threats of her specific batterer, which the average member of society would lack. In particular, “[a]s violence increases over time, and threats gain credibility, a battered person might become sensitized and thus able to reasonably discern when danger is real and when it is not.”³⁰⁶ Expert testimony then “enable[s] the jury to find that the battered [woman] . . . is particularly able to predict accurately the likely extent of violence in any attack on her.”³⁰⁷ In *People v. Humphrey*,³⁰⁸ the court framed the defense in this manner, explaining that BWS evidence does not alter the objective nature of the reasonable person standard in self-defense, but operates as a rule of evidence allowing the jury to consider facts and circumstances known to the defendant about the particular batterer.³⁰⁹ The jury then is able to evaluate whether a reasonable person, aware of the facts of circumstances known by the defendant—the specialized knowledge about the batterer and his pattern of abuse—would have believed she faced imminent danger and acted in self-defense.³¹⁰

The narrow relevance of BWS evidence to the inquiry must be emphasized—it informs only the homicide of the woman’s batterer, but not that of some other seemingly threatening person. The battered woman defendant could not, for example, use BWS evidence to justify killing a person other than her batterer because, as a result of her abuse, she may now suffer greater fear than most or may react more forcefully than most at the first sign of physical aggression. Likewise, she could not use it to claim the abuse resulted in her psychological impairment such that she reasonably (or rather understandably)

306. *People v. Jaspar*, 119 Cal. Rptr. 2d 470, 476 (Cal. Ct. App. 2002).

307. *Id.*

308. 921 P.2d 1 (Cal. 1996).

309. *Id.* at 9.

310. *Id.*

acted unreasonably.³¹¹ Thus, although BWS may provide the battered woman with greater knowledge about her batterer, it does not generally enable her to introduce evidence regarding any mental infirmities she may suffer as a general defense to her conduct. Battered woman's syndrome evidence therefore simply endows the reasonable person, otherwise physically or mentally unaltered, with additional factual information about the batterer that is part of the circumstances contributing to the defendant's conduct. It does not transform the objective analysis of the justification of self-defense into a subjective one.

E. The Reasonable Person: Objective by Necessity

Proponents of the present reasonableness standard believe its success depends upon the exclusion of the unique mental infirmities of the defendant. They argue that should the reasonable person standard adopt the fallibilities of each criminal defendant, rather than embody expected societal norms of conduct, the reasonable person would not create a standard of conduct at all. After all, the defendant would find his own conduct reasonable under the circumstances. With respect to administrative ease, they explain that an individualized reasonableness standard would require the jury to make conclusions about the peculiarities governing the defendant's state of mind—a task criminal law has almost always eschewed because of the unreliability and infeasibility of such determinations.³¹² That some jurors may do so on an ad hoc basis would not justify institutionalizing this practice. Which standard would afford the greatest equality in practice presents the more challenging question. Although this brief review of the issue cannot fully resolve that question, it seems intuitive that a system that encourages a comparison between the defendant's conduct and a common standard of conduct would offer the most egalitarian outcomes in the assessment of criminal responsibility. The resolution of this issue, however, is a philosophical concern beyond the scope of this article. Moreover, a theoretically consistent system of criminal responsibility that focuses on the circumstances of the crime to determine responsibility, rather than individual blameworthiness, would reserve the inquiry of the personal circumstances of the defendant to the adjudication of punishment. Finally, an objective assessment of reasonableness seemingly poses the lowest risk of collapsing the societal checks on liability—justifications and excuses. By preserving the objectivity of these tests, society avoids the path of questioning the relevance of each individual infirmity that arises over time, and instead relies on norms of conduct, which may evolve over time, but are norms nonetheless.

311. It is possible, however, that such a claim could have relevance to the partial excuse of diminished capacity, recognized in a few jurisdictions in the United States. Farahany's dissertation explores this possibility in further detail. Farahany, *supra* note 44.

312. See HART, *supra* note 179, at 261–62 (noting the impossibility about making judgments about how a person with the defendant's mental abnormalities would have behaved under the circumstances, particularly given the limitations of medical science on the subject).

In short, justifications and excuses, which serve as societal checks on the assignment of liability, operate objectively both in fact and in furtherance of preserving the reasonable person standard within the constraints of the present system. Except in the limited circumstances discussed above, a defendant's behavioral predispositions should not inform these external checks on liability. And because behavioral genetics has limited utility in informing the determination of criminal liability,³¹³ behavioral genetics therefore lacks a meaningful role in the assessment of criminal responsibility in the present system.

V

CONCLUSION

Behavioral genetics appears to offer new information about the causes of human behavior; its expanse is limited for now because it presently gives only a correlation between genetic differences and behavioral differences in a population. But even if scientists eventually discover the vast array of causal contributions to human behavior, these discoveries should not implicate criminal responsibility as it presently operates in the criminal law.

The criminal law allows ascription of criminal responsibility to an actor upon a finding of liability measured against the external check of justifications and excuses. The concepts underlying liability—legal free will, actus reus, and mens rea—do not invite an inquiry into the defendant's predilections. Thus, behavioral genetics, which at best informs subconscious influences on behavior, lacks a practical role in the assessment of liability. Although a defendant may still partially or entirely evade criminal responsibility by presenting a successful justification or excuse for his conduct, behavioral genetics lacks a meaningful role in these determinations. If the defendant's conduct is justified by societal norms of conduct, he will evade all criminal responsibility. If, instead, the defendant's conduct is partially excused, the resulting diminution of criminal responsibility is ascribable to the defendant. In either justification or excuse, the defendant's conduct is compared to societal norms of conduct, embodied by the reasonable person standard. The defendant's unique infirmities have little role in the construction of the reasonable person standard and therefore cannot serve to justify or excuse his conduct. Because genetic predisposition evidence is irrelevant to both liability and the defenses of justifications and excuses, it should have little role in the negation or mitigation of a defendant's criminal liability.

We emphasize that this article seeks only to reconcile behavioral genetics evidence with our *present* system of criminal law, by defining the concepts and purposes of the doctrines underlying criminal responsibility. Greater knowledge about human behavior or new mechanisms or purposes of criminal law could potentially inform a more effective or more just re-imagined system

313. See *supra* Part III.

of criminal justice. But those who advocate a re-imagined system should reconcile the purposes and mechanisms of that new system with its present operation. Moreover, the conclusion that behavioral genetics evidence does not inform criminal responsibility may apply equally to other similar kinds of evidence relating to the subjective beliefs and predispositions influencing an actor's conduct. And although new theories regarding the causes of human behavior must be reconciled with the categories of involuntary conduct discussed in Part III.B, the broader conclusion—that the unique influences on an individual's decisions have little impact on the assessment of criminal responsibility—remains the same.

Finally, this article leaves open the question of how behavioral genetics may affect criminal punishment. Theoretically, punishment depends upon both the crime and the blameworthiness of the individual defendant. But the current use of behavioral genetics evidence during sentencing has resulted in a mixed bag for the criminal defendant. In some instances a defendant's genetic predispositions could mitigate his sentence by reducing his perceived moral blameworthiness. This would most likely occur if a criminal defendant could demonstrate that he sought and responded favorably to treatment based on a newfound awareness of his genetic predispositions and therefore no longer poses a threat to society. In other scenarios, behavioral genetics might serve—and has served—as aggravating evidence during sentencing by characterizing the defendant as a genetically programmed violent offender, an incorrigible danger to society. Thus, irrespective of how one may reconcile punishment theory with behavioral genetics evidence, the criminal defendant should beware of its double-edged potential.