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by: Deborah W. Denno

Abstract:

This article examines the important, but hardly recognized, legal implications that stem from modern research on human consciousness. In light of groundbreaking scientific developments, the article focuses on questioning two of criminal law's traditional dichotomies: conscious versus unconscious thought processes, and voluntary versus involuntary acts. Evidence suggests that these dichotomies have no valid scientific basis, and in fact use antiquated models of mental functioning. These dichotomies also conflict conceptually and substantively with key criminal law defenses, such as insanity. This confusion frequently leads courts to adjudicate like individuals very differently based upon a misunderstanding of criminal defenses and the science that underlies them.

This article considers possible solutions to this predicament which range from the total abolition of the voluntary act requirement to a new act requirement based on degrees of consciousness. The article proposes a compromise between these two extremes. Voluntary acts should consist of three parts: (1) *voluntary acts*, (2) *involuntary acts*, and (3) *semi-voluntary acts*. This new category of semi-voluntary acts not only incorporates modern ideas of consciousness but also advances the Model Penal Code. Using actual criminal cases, this article applies this new formulation of voluntary acts and shows how it leads to a more equitable resolution for criminal defendants, victims, and society.

Crime and Consciousness: Science and Involuntary Acts

Deborah W. Denno[†]

[T]he state of a man's mind is as much a fact as the state of his digestion.¹

INTRODUCTION

In 1906, psychologist Edouard Claparède experimented with the mind. He pricked the hand of a memory-impaired patient while greeting her with a pin concealed between his fingers. As always, the patient failed to recognize Claparède when the two soon met again; yet, she refused to shake his hand, explaining that it might be unpleasant but she did not know why.² With this test, Claparède revealed the dynamics of "covert awareness"—the inconsistency between individuals'

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1. *Edgington v. Fitzmaurice*, 29 Ch. D. 459, 483 (1885) (Bowen, L. J.).

2. E. Claparède, *Recognition and "Me-ness,"* in ORGANIZATION AND PATHOLOGY OF THOUGHT 58, 68-75 (David Rapaport ed., trans., 1951) (discussing a patient suffering from Korsakoff's psychosis, a serious memory disorder that prevents individuals from recalling recent experiences).

conscious acts and their unconscious memories, perceptions, and judgments.³

Claparède's research was unusual for its time. For most of the twentieth century, the topic of consciousness, apart from Freudian theory,⁴ was not considered fit for serious scientific

3. Alan Cowey, *Grasping the Essentials*, NATURE, Jan. 10, 1991, at 102 (1991) [hereinafter Cowey, *Grasping*]. Current definitions of these conscious and unconscious processes, and the controversies concerning them, are presented in Part II of this Article. The term "covert awareness" refers to the empirical study of unconscious processes; it is therefore devoid of the psychoanalytic and psychodynamic theories that typically accompany the meaning of the term "unconscious." See Alan Cowey, *MacCurdy and Memories: The Origins of Implicit Processing and Covert Awareness*, 50 BRAIN RES. BULL. 449, 449 (1999); Glyn W. Humphreys et al., *Covert Processing in Different Visual Recognition Systems*, in THE NEUROPSYCHOLOGY OF CONSCIOUSNESS 39, 39 (A.D. Milner & M.D. Rugg eds., 1992); see also Matthew Hugh Erdelyi, *Psychodynamics and the Unconscious*, 47 AM. PSYCHOLOGIST 784, 784 (1992) (explaining that "[a]lthough the unconscious need not be logically tied to the psychodynamic approach, in practice it usually is"); John F. Kihlstrom et al., *The Psychological Unconscious: Found, Lost, and Regained*, 47 AM. PSYCHOLOGIST 788, 788 (1992) (noting that "the psychological unconscious documented by latter-day scientific psychology is quite different from what Sigmund Freud and his psychoanalytic colleagues had in mind in fin de siècle Vienna"). Modern research differentiates between the general concept of "unconscious cognitive processes" and the specific theories presented in Freud's idea of the dynamic unconscious (psychoanalytic theories) or in the ideas of those who adopt Freud's broad outline, but not necessarily all of its details (psychodynamic theories). Philip M. Merikle, *Perception Without Awareness: Critical Awareness*, 47 AM. PSYCHOLOGIST 792, 792 (1992). In line with recent research and commentary, this Article uses the terms "conscious" and "unconscious" because increasingly they are interpreted more broadly and are not associated simply with psychoanalytic and psychodynamic theories.

4. Typically, Freud is credited with the "discovery" of the unconscious. Merikle, *supra* note 3, at 792. A general awareness of the unconscious mind, however, can be traced to antiquity. See LANCELOT LAW WHYTE, *THE UNCONSCIOUS BEFORE FREUD* 26 (1960). Historians credit the modern origin of the distinction between conscious and unconscious processes to philosophers responding to René Descartes's identification of the "mind" with conscious thinking. See *id.* at 26-28. "[T]he idea of unconscious mental processes was, in many aspects, conceivable around 1700, topical around 1800, and became effective around 1900, thanks to the imaginative efforts of a large number of individuals of varied interests and many lands." *Id.* at 63 (emphasis omitted); see also HENRI F. ELLENBERGER, *THE DISCOVERY OF THE UNCONSCIOUS: THE HISTORY AND EVOLUTION OF DYNAMIC PSYCHIATRY* 3 (1970) (noting that the origins of "the systematic investigation of the unconscious mind . . . can be traced back in time through a long line of ancestors and forerunners"). After the 1868 publication of Eduard von Hartmann's bestseller, *Philosophy of the Unconscious*, the use of the term "unconscious" became fashionable. EDUARD VON HARTMANN, *PHILOSOPHY OF THE UNCONSCIOUS* (William Chatterton Coupland trans., Macmillan 1884) (1868). An 1877 article by the English philosopher and scientist George Henry Lewes reveals the sophisticated level

study.⁵ Consciousness was the “ghost in the machine,”⁶ an unobservable, immeasurable, phenomenon rendered irrelevant to objective science.⁷ Starting in the 1970s,⁸ however, interest in the topic surged to the current point of “explosion.”⁹ The scientific “race” to understand consciousness is on¹⁰ and the potential for discovery seems boundless.¹¹

This race within science has far-reaching legal implications. Criminal law, in particular, presumes that most human behavior is voluntary and that individuals are consciously aware of their acts. On the other hand, it also presumes that individuals who act unconsciously, such as sleep walkers, are not “acting” at all.¹² Under the criminal law’s voluntary act requirement, unconscious individuals can be totally acquitted even if their behavior causes serious harm.¹³

In contrast to these legal “dichotomies” (voluntary/involuntary, conscious/unconscious), modern neuroscientific¹⁴

of dialogue concerning the meaning and definition of these concepts. George Henry Lewes, *Consciousness and Unconsciousness*, 2 MIND 156, 157-63 (1877).

5. See *infra* notes 6-7, 119-30, 180-81 and accompanying text.

6. See generally GILBERT RYLE, THE CONCEPT OF MIND 15-18 (1966). “Ghost in the machine” is Gilbert Ryle’s derisive phrase depicting the Cartesian view of the human body as an entirely physical thing (the machine) and the human mind as an entirely nonphysical thing (the ghost) that somehow resides within and controls the body. See *id.* at 11, 15-18. Ryle attempts to undermine academia’s centuries-long reliance on the mind/body dualism, contending that the distinctions offered by Descartes are false. *Id.*

7. BERNARD J. BAARS, A COGNITIVE THEORY OF CONSCIOUSNESS 5 (1988) (noting that “the twentieth century so far has been remarkable for its rejection of the whole topic [of consciousness] as ‘unscientific’”); see also Anthony G. Greenwald, *Unconscious Cognition Reclaimed*, 47 AM. PSYCHOLOGIST 766, 766 (1992) (noting that until recently, academic psychologists’ skeptical view of the empirical validity of unconscious cognition “partly explains the omission of the topic of unconscious cognition from many textbooks, and even the omission of the word *unconscious* from the vocabularies of many psychologists”).

8. There were a few exceptions to this paralysis. See, e.g., Cowey, *Grasping*, *supra* note 3, at 102 (discussing the work of John MacCurdy, lecturer in psychopathology at Cambridge, who developed a method of studying such dissociations objectively and quantitatively in the 1920s, most notably through the technique of forced-choice guessing).

9. See JOHN G. TAYLOR, THE RACE FOR CONSCIOUSNESS 8 (1999).

10. See *id.* at 3.

11. See *infra* Part II.

12. See *infra* notes 41-47, 59-62, 353-79 and accompanying text.

13. See *infra* notes 48, 72, 343-45 and accompanying text.

14. In this Article, the term “neuroscience” pertains “generally to the various sciences of the brain and mind—neurophysiology, cognitive science, artificial intelligence, psychology, psychiatry, and so on.” David Hodgson,

research has revealed a far more fluid and dynamic relationship between conscious and unconscious processes.¹⁵ If such fluidity exists, human behavior is not always conscious or voluntary in the “either/or” way that the voluntary act requirement presumes.¹⁶ Rather, consciousness manifests itself in degrees that represent varying levels of awareness.¹⁷ This Article confronts this clash between legal and scientific perspectives on consciousness by proposing new ways to structure the voluntary act requirement so that it incorporates the insights of modern science on the human mind.¹⁸

Guilty Mind or Guilty Brain? Criminal Responsibility in the Age of Neuroscience, 74 AUSTRALIAN L.J. 661, 661 (2000).

15. See *infra* Part II.

16. See Hodgson, *supra* note 14, at 665 (“There is in fact a widening gulf between the categories used by neuroscience and the non-scientific categories used by the law.”); see also DAVID HODGSON, *THE MIND MATTERS: CONSCIOUSNESS AND CHOICE IN A QUANTUM WORLD* 137-41 (1991) (applying consciousness research findings to legal reasoning). Consciousness research effuses controversy. This Article examines how the law may integrate this research by working at the general level to avoid debating and judging the relative merits of particular studies or philosophies, which go on elsewhere. Likewise, this Article presumes the following: (1) most of the more widely accepted research concerning an understanding of consciousness meets the appropriate evidentiary standards for admissibility, (2) this understanding of consciousness should be debated by the experts, and (3) such an understanding should ultimately be judged by the jury, who are the “experts” on the kind of human behavior with which consciousness deals. This Article’s presumption concerning the evidentiary acceptability of most consciousness research seems uncontroversial given that the criminal law explicitly embraces the reality of consciousness—indeed, it has made consciousness its foundation—as opposed to more debatable scientific evidence where the very existence of the syndrome or features it is attempting to support is open to question. Discussion regarding the details of the evidentiary viability of consciousness research is beyond the scope of this Article.

17. See *infra* Part II.

18. A number of authors have made prodigious headway in this direction. See MICHAEL MOORE, *PLACING BLAME: A GENERAL THEORY OF THE CRIMINAL LAW* 420-48 (1997); Larry Alexander, *Reconsidering the Relationship Among Voluntary Acts, Strict Liability, and Negligence in Criminal Law*, in *CRIME, CULPABILITY, AND REMEDY* 84 (Ellen Frankel Paul et al. eds., 1990); David Hodgson, *Folk Psychology, Science, and the Criminal Law*, in *TOWARD A SCIENCE OF CONSCIOUSNESS II: THE SECOND TUCSON DISCUSSIONS AND DEBATES* 157, 163-67 (Stuart R. Hameroff et al. eds., 1998) [hereinafter *SECOND TUCSON DISCUSSIONS AND DEBATES*]; Michael Corrado, *Automatism and the Theory of Action*, 39 EMORY L.J. 1191 (1990); Kimberly Kessler Ferzan, *Opaque Recklessness*, 91 J. CRIM. L. & CRIMINOLOGY 597 (2001); Sanford J. Fox, *Physical Disorder, Consciousness, and Criminal Liability*, 63 COLUM. L. REV. 645 (1963); Hodgson, *supra* note 14; Douglas Husak & Brian P. McLaughlin, *Time-Frames, Voluntary Acts, and Strict Liability*, 12 LAW & PHIL. 95 (1993); James Marshall, *Relation of the Unconscious to Intention*, 52

Conventionally, analyses of criminal law and the mind have incorporated debates about free will versus determinism.¹⁹ This Article does not revisit this frequently examined issue,²⁰ choosing instead to adopt the Model Penal Code's (MPC) stance that a focus on what is voluntary need not "inject into the criminal law questions about determinism and free will."²¹ Likewise, this Article relies on criminal law cases and particular doctrines concerning voluntary acts but excludes omissions, a topic reviewed in depth elsewhere.²²

Part I examines the criminal law's voluntary act requirement, particularly in the context of the MPC's influential provision, which reflects the law and psychology of the era in which the MPC was originally developed—the 1950s. Part II analyzes the new science of "consciousness," a term that typically refers to the sum of a person's thoughts, feelings, and sensations, as well as the everyday circumstances and culture in which those thoughts, feelings, and sensations are formed. Research on consciousness has been a source of great

VA. L. REV. 1256 (1966); Michael S. Moore, *Responsibility and the Unconscious*, 53 S. CAL. L. REV. 1563 (1980) [hereinafter Moore, *Responsibility*]; Samuel H. Pillsbury, *Crimes of Indifference*, 49 RUTGERS L. REV. 105 (1996); Kevin W. Saunders, *Voluntary Acts and the Criminal Law: Justifying Culpability Based on the Existence of Volition*, 49 U. PITT. L. REV. 443 (1988); Emily Grant, Note, *While You Were Sleeping or Addicted: A Suggested Expansion of the Automatism Doctrine to Include an Addiction Defense*, 2000 ILL. L. REV. 997 (2000); Andrew E. Lelling, Comment, *Eliminative Materialism, Neuroscience and the Criminal Law*, 141 U. PA. L. REV. 1471 (1993). This Article breaks new ground by integrating into the law a realm of scientific discovery that has so far been unexamined by other legal paradigms and which, therefore, may create new legal paradigms.

19. See H.L.A. HART, *PUNISHMENT AND RESPONSIBILITY: ESSAYS IN THE PHILOSOPHY OF LAW* 90-112 (1968); HERBERT L. PACKER, *THE LIMITS OF THE CRIMINAL SANCTION* 74-75 (1968).

20. Thomas A. Green, *Freedom and Criminal Responsibility in the Age of Pound: An Essay on Criminal Justice*, 93 MICH. L. REV. 1915, 1915 (1995) ("Enough has been written from a philosophical perspective on the relationship between free will and the law that it is not easy to justify yet another such undertaking."); see also Deborah W. Denno, *Human Biology and Criminal Responsibility: Free Will or Free Ride?* 137 U. PA. L. REV. 615, 662-63 (1988) (discussing a broad range of criminal defenses within the context of the free will versus determinism debate).

21. MODEL PENAL CODE § 2.01 cmt. 1 at 215 (Official Draft and Revised Comments, 1985) [hereinafter MODEL PENAL CODE 1985].

22. For a brief synopsis of this discussion, see GEORGE P. FLETCHER, *BASIC CONCEPTS OF CRIMINAL LAW* 44-53 (1998). See also George P. Fletcher, *On the Moral Irrelevance of Bodily Movements*, 142 U. PA. L. REV. 1443 (1994) (providing a general discussion and critique of different views on the significance of omissions in criminal law doctrine).

interest to a wide range of disciplines, except for law. This discussion provides a framework for structuring how theories and research on consciousness can be applied to criminal law doctrine. Despite the differences and debates among cognitive scientists on the topic, one idea becomes clear: No consensus of scientific support exists for the concept of a conscious/unconscious dichotomy. Part III investigates how defenses involving voluntary acts can be confused conceptually with other key criminal law defenses, primarily insanity, thereby resulting in vastly disparate dispositions for similarly situated defendants. Part IV considers possible solutions to this predicament. It proposes that the voluntary act requirement should be simplified and consist of three parts: (1) voluntary acts, (2) involuntary acts, and (3) semi-voluntary acts. Semi-voluntary acts would incorporate cases that have previously been shoehorned into the first two categories. The result of integrating increasing knowledge about the unconscious into the criminal law will mean that individuals will be held both more and less responsible than the conventional understanding.²³

There are many line-drawing dilemmas throughout the criminal law. However, this Article contends that the problems with the voluntary act requirement are especially acute. First, the voluntary act requirement is the initial filter (at least conceptually) for all individuals potentially subject to the criminal justice system. The criminal justice system, therefore, has to assess actors with the widest possible range of mental states, behaviors, and potential defenses because it has yet to determine if they should proceed through the criminal justice system or be acquitted entirely. A forced voluntary/involuntary dichotomy amidst such heterogeneity can produce particularly artificial choices with potentially extreme variations in sanctions for similar types of behaviors depending on how they are categorized (e.g., involuntary, insane, voluntary, and dangerous). Second, other criminal law doctrines (such as *mens rea*) have a relatively broader line-drawing selection (e.g., the four mental states under the MPC) within a more homogenous group of individuals (persons who have already been determined to have committed only voluntary acts). Therefore, the line-drawing choices and their consequences are

23. Moore, *Responsibility*, *supra* note 18, at 1674 (contending that "[t]he discovery of the unconscious should lead [psychoanalysts] to view human beings as both more and less responsible than was commonly thought").

less extreme than those faced by voluntariness determinations. Third, voluntariness determinations are more prescriptive of the kinds of acts and mental states that constitute involuntariness in contrast to other kinds of binary doctrines—such as sanity/insanity or reasonableness/unreasonableness. While these doctrines can rely heavily on science, they do not specifically designate mental states or behaviors that, if proven, would legally justify a certain outcome (for example, acquittal due to the involuntariness of a sleepwalking defendant).

This Article's recommendations help eliminate the problems created by the current legal conception of voluntariness. In so doing, this Article argues that the criminal law is sufficiently robust to incorporate modern research on consciousness without being dismantled philosophically. The criminal law, however, cannot remain static. This Article's proposal of a new semi-voluntary category requires significant reconceptualization of the voluntary act requirement. Such a marked change will also have a profound effect on other criminal law doctrines. If the criminal law can confront and modify the chimera of "either/or" embedded in the voluntary act requirement, it can join science with a more nuanced, and more just, view of the human mind.

I. THE LAW OF VOLUNTARY ACTS AND CONSCIOUS AWARENESS

Doctrinally, all criminal liability depends on one "fundamental predicate": A defendant's guilt must be based on conduct and that conduct must include a "voluntary act" or an omission to engage in a voluntary act that the defendant is physically capable of performing.²⁴ In general, voluntary acts or actions²⁵ have three key elements: (1) an internal event, or

24. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 explanatory note at 213; *see also id.* § 1.13(3) at 209 (defining "voluntary" under "General Definitions" by reference to Model Penal Code § 2.01). *But see infra* notes 395-99 and accompanying text (contending that the voluntary act requirement is rarely followed by the courts and it is unclear about the extent to which courts accept it).

25. Several commentators define "acts" or "voluntary acts." *See, e.g.,* 1 JOHN AUSTIN, LECTURES ON JURISPRUDENCE 415 (Robert Campbell ed., John Murray 5th ed. 1911) (1861) ("In truth, the only parts of the train which are my act or acts, are the muscular motions by which I raise the weapon, point it . . . and pull the trigger."); OLIVER W. HOLMES, JR., THE COMMON LAW 91 (Boston, Little, Brown, & Co. 1881) ("An act is always a voluntary muscular

volition; (2) an external, physical demonstration of that volition; and (3) a causal connection between the internal and external elements.²⁶ Under the MPC, liability cannot be based on “mere thoughts,” involuntary acts, or physical conditions.²⁷ These MPC standards comport with key United States Supreme Court decisions.²⁸

contraction, and nothing else. The chain of physical sequences which it sets in motion or directs to the plaintiff's harm is no part of it, and very generally a long train of such sequences intervenes.”); SIR JOHN SALMOND, JURISPRUDENCE § 131, at 370 (10th ed. 1947) (“We habitually include all material and relevant circumstances and consequences under the name of the act . . . not merely the muscular contractions by which the result is effected.”); GLANVILLE WILLIAMS, CRIMINAL LAW: THE GENERAL PART § 11, at 19 (2d ed. 1961) (“The muscular contraction, regarded as an *actus reus*, cannot be separated from its circumstances.”). *But see generally* MICHAEL S. MOORE, ACT AND CRIME: THE PHILOSOPHY OF ACTION AND ITS IMPLICATIONS FOR CRIMINAL LAW 6 (1993) (discussing the doctrinal confusion concerning the metaphysical, moral, and legal attempts to define and specify an act requirement); Michael S. Moore, *Actus Reus*, in 1 ENCYCLOPEDIA OF CRIME & JUSTICE 15-24 (Joshua Dressler et al. eds., 2002) (providing an overview of the properties and criticisms of the voluntary act requirement).

26. Corrado, *supra* note 18, at 1194. The enigma of voluntariness is captured in Wittgenstein's famous question: “[W]hat is left over if I subtract the fact that my arm goes up from the fact that I raise my arm?” LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS 161 (G.E.M. Anscombe trans., 3d ed. 1958). As Joshua Dressler points out, the fact that a person's arm went up does not suggest that person raised her arm. JOSHUA DRESSLER, UNDERSTANDING CRIMINAL LAW § 9.02, at 86 (3d ed. 2001). What is “left over,” then, must be voluntariness, which implies the actor's control. In *People v. Freeman*, 142 P.2d 435, 439 (Cal. Dist. Ct. App. 1943), the court similarly emphasized the issue of control: “[W]here the evidence shows the conscious mind of the accused ceased to operate and his actions were ‘controlled by the subconscious or subjective mind’ the jury should be instructed as to the legal effect of such unconsciousness.” Harry Frankfurt argues that voluntariness and responsibility do not require that the agent be able to act otherwise. See Harry G. Frankfurt, *Alternate Possibilities and Moral Responsibility*, 66 J. PHIL. 829, 829-30 (1969). As Corrado points out, “[i]f Frankfurt is right, a person may have acted voluntarily and be responsible for his behavior even if he could not have done otherwise.” Corrado, *supra* note 18, at 1222-23.

27. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 explanatory note at 213.

28. See *id.* at 217. The MPC Commentaries refer directly to *Robinson v. California*, 370 U.S. 660, 667 (1962) (holding that it is cruel and unusual punishment under the Eighth and Fourteenth Amendments to convict the defendant for the status of being a narcotics user without evidence that he had actually used narcotics within the jurisdiction). Unfortunately, because the determination of what is in fact an “involuntary act” is itself a difficult and “inherently elusive” judgment, states have an incentive to regard the determination as needless. See *Powell v. Texas*, 392 U.S. 514, 544 (1968) (Black, J., concurring). For an insightful discussion of *Powell v. Texas*, see Kent Greenawalt, “Uncontrollable” Actions and the Eighth Amendment:

The MPC spurred countrywide implementation of a voluntary act requirement.²⁹ Most states have an explicit requirement or a provision that approximates such a requirement.³⁰ One state, however, has since repealed its

Implications of Powell v. Texas, 69 COLUM. L. REV. 927 (1969).

29. See *infra* notes 30-36 and accompanying text. The American Law Institute (ALI) began drafting the Model Penal Code and Commentaries in 1952 for purposes of state-wide implementation. Between 1953 and 1960, the ALI considered thirteen Tentative Drafts that comprised various portions of the text and accompanying comments. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions, §§ 1.01-2.13, at xii. The Tentative Draft for Model Penal Code § 2.01 was published in 1956. MODEL PENAL CODE (Tentative Draft No. 4, 1956). By 1962, the ALI approved of and promulgated the Proposed Official Draft of the entire Code (without Commentaries). MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions, §§ 1.01-2.13, at xii. A decade later, work started on updating the Commentaries for final publication. *Id.* Apart from some minor grammatical changes, the final Model Penal Code § 2.01 provision that the ALI approved in 1962 was virtually the same as that drafted in 1956. Compare MODEL PENAL CODE § 2.01, at 11 (Tentative Draft No. 4, 1956), with MODEL PENAL CODE 1985, *supra* note 21, § 2.01, at 212 (noting the similarity in language between the 1956 and 1962 versions). It has not been changed since. The provision reads as follows (excluding omission and possession):

Section 2.01. Requirement of 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 or 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.

Id.

30. See *infra* Appendix, Voluntary Action in State Statutes: Then and Now [hereinafter Appendix]. The MPC provides an overview of how many states eventually adopted, in whole or in part, the MPC's voluntary act requirement. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. The overview also includes states that had proposed codes for a voluntary act requirement. See *id.* With a few exceptions, research for this overview ended on January 1, 1979. *Id.* § 2.01 cmt. 1 at 214 n.†. This footnote compares the statutory landscape on January 1, 1979, consisting of revised state codes and proposed codes as reported in the Commentaries, *id.* at 218 n.14, with state codes in effect on January 1, 2001. In subsequent footnotes, references to "the Commentaries" refer to the MODEL PENAL CODE § 2.01 cmt. 1 at 218 n.14.

The Commentaries list twenty revised state codes and seven proposed state codes that, as of 1979, explicitly required a voluntary act. *Id.* The list

voluntary act requirement³¹ and six out of seven states never codified the explicit requirement they had initially proposed.³²

indicates states whose code or proposed code contained a definition of a "voluntary act," in addition to a voluntary act requirement, by citing multiple provisions. *See id.* The following states had a voluntary act requirement as of January 1, 1979: Alabama, Arizona, Arkansas, Colorado, Delaware, Hawaii, Illinois, Indiana, Kentucky, Maine, Missouri, Montana, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Texas, and Utah. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14.

Today, of those twenty revised state codes, nineteen retain an explicit voluntary act requirement. *See* ALA. CODE § 13A-2-3 (1994); ARIZ. REV. ANN. STAT. § 13-201 (West 2001); ARK. CODE ANN. § 5-2-204(a) (Michie 1997); COLO. REV. STAT. § 18-1-502 (2001); DEL. CODE ANN. tit. 11, § 242 (2001); HAW. REV. STAT. § 702-200 (1993); 720 ILL. COMP. STAT. ANN. 5/4-1 (West 1993); IND. CODE ANN. § 35-41-2-1(a) (Michie 1998); KY. REV. STAT. ANN. § 501.030(1) (Michie 1999); MO. ANN. STAT. § 562.011(1) (West 1999); MONT. CODE ANN. § 45-2-202 (2001); N.H. REV. STAT. ANN. § 626:1(I) (1996); N.J. STAT. ANN. § 2C:2-1(a) (West 1995); N.Y. PENAL LAW § 15.10 (McKinney 1998); OHIO REV. CODE ANN. § 2901.21(A)(1) (Anderson 1999); OR. REV. STAT. § 161.095(1) (2001); 18 PA. CONS. STAT. ANN. tit. 18, § 301(a) (West 1998); TEX. PENAL CODE ANN. § 6.01(a) (Vernon 1994); UTAH CODE ANN. § 76-2-101(1) (1999). The Maine provision was repealed in 1981. *See infra* note 31 and accompanying text.

Of those nineteen current states codes containing a voluntary act requirement, ten define "voluntary act." *See* ALA. CODE § 13A-2-1(2) (1994); ARIZ. REV. STAT. ANN. § 13-105(37) (West 2001); COLO. REV. STAT. § 18-1-501(9) (2001); DEL. CODE ANN. tit. 11, § 243 (2001); HAW. REV. STAT. § 702-201 (1993); KY. REV. STAT. ANN. § 501.010(3) (Michie 1999); MO. ANN. STAT. § 562.011(2) (West 1999); N.Y. PENAL LAW § 15.00(2) (McKinney 1998); OR. REV. STAT. § 161.085(2) (2001); UTAH CODE ANN. § 76-1-601(1) (1999). Of those nineteen current state codes containing a voluntary act requirement, three define an "involuntary act" or describe acts that are not voluntary. *See* MONT. CODE ANN. § 45-2-101(32) (2001); N.J. STAT. ANN. § 2C:2-1(a) (West 1995); OHIO REV. CODE ANN. § 2901.21(D)(2) (Anderson 1999). Furthermore, of those nineteen current state codes containing a voluntary act requirement, six do not define "voluntary act," "involuntary act," or describe acts that are not voluntary. *See* ARK. CODE ANN. § 5-2-201 (Michie 1997); 720 ILL. COMP. STAT. ANN. 5/2 (1993); ND. CODE ANN. § 35-41-1-3 (1998); N.H. REV. STAT. ANN. § 626:1(I) (1996); PA. CONS. STAT. ANN. tit. 18, § 103 (West 1998); TEX. PENAL CODE ANN. § 1.06 (Vernon 1994).

31. The Maine provision was repealed in 1981. ME. REV. STAT. ANN. tit. 17-A, § 51 (West 2001). *But see* State v. Case, 672 A.2d 586, 589 (Me. 1996) (noting that to constitute voluntary conduct for which a person could be held criminally liable, the "act must be the result of an exercise of defendant's conscious choice to perform [it], and not the result of reflex, convulsion, or other act over which a person has no control" (alteration in original)).

32. Of the seven states whose proposed codes, as of 1979, contained an explicit voluntary act requirement, *see supra* note 30, only one has since been codified. *See* ALASKA STAT. § 11.81.600 (Michie 2000) (requiring a voluntary act); *id.* § 11.81.900(b)(62) (defining a voluntary act). The other six states mentioned in the MPC Commentaries as having proposed codes containing voluntary act requirements have not since codified those requirements. *See*

Some state codes³³ and the federal criminal code³⁴ have no

MD. CODE ANN. Criminal Procedure §§ 1-101-13-206 (2001); MASS. ANN. LAWS chs. 263-74 (Law Co-op. 1992 & Supp. 2002); MICH. COMP. LAWS ANN. §§ 750.1-752.1011 (West 1991 & Supp. 2002); S.C. CODE ANN. §§ 16-1-10-17-27-120 (Law Co-op. 1985 & West Supp. 2000); TENN. CODE ANN. §§ 39-11-101-39-17-1703 (1997 & Supp. 2001); W. VA. CODE ANN. §§ 61-1-1-61-12-15 (Michie 2000 & Supp. 2001).

33. The MPC Commentaries list eleven state codes and one proposed state code that contained no explicit voluntary act requirement. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218-19 n.14. Of those twelve states, eleven have not amended their codes since 1979 to include a voluntary act requirement. See CONN. GEN. STAT. ANN. §§ 53a-1 to -296 (West 2001 & Supp. 2002); D.C. CODE ANN. §§ 22-101 to -5215 (2001 & Supp. 2002); FLA. STAT. ANN. §§ 775.01-775.25 (West 2000 & Supp. 2002); IOWA CODE ANN. §§ 687-747 (West 1993 & Supp. 2002); MINN. STAT. ANN. §§ 609-644 (West 1987 & Supp. 2002); N.M. STAT. ANN. §§ 30-1-1 to -50-4 (Michie 1994 & Supp. 2002); VA. CODE ANN. §§ 18.2-1 to -510 (Michie 1994 & Supp. 2002); WASH. REV. CODE ANN. §§ 9A.04.010 to -.88.140 (West 2000 & Supp. 2002); WIS. STAT. ANN. §§ 939.01 to -.74 (West 1996 & Supp. 2001); *cf.* NEB. REV. STAT. § 28-109(23) (1995) (defining "voluntary act" as "an act performed as a result of effort or determination," but lacking a voluntary act requirement); N.D. CENT. CODE § 12.1-02-01(1) (1997) (requiring an "act" for the commission of an offense, but not qualifying the required "act" with "voluntary" or a similar adjective). In contrast, South Dakota's current code states that "[p]ersons who committed the act charged without being conscious thereof" are incapable of committing a crime. S.D. CODIFIED LAWS § 22-3-1(4) (Michie 1998). Such an "involuntary conduct defense" constitutes an implicit voluntary act requirement. Two states whose codes are not mentioned in the MPC Commentaries have an implicit voluntary act requirement couched in language almost identical to the South Dakota provision. See IDAHO CODE § 18-201(2) (Michie 1997); NEV. REV. STAT. ANN. § 194.010(5) (Michie 2001). The codes of California and Oklahoma, discussed *infra* note 36, also contain similar provisions.

34. Commentators agree that the federal criminal code is problematic, and these problems affect the federal criminal law's treatment of voluntary and involuntary acts. Title 18 of the United States Code—the so-called "federal criminal code" containing most federal criminal statutes—is the product of successive Congresses legislating on an ad hoc basis, in response to the crises of the moment. See Ronald L. Gainer, *Federal Criminal Code Reform: Past and Future*, 2 BUFF. CRIM. L. REV. 45, 57 (1998); see also Robert H. Joost, *Federal Criminal Code Reform: Is It Possible?*, 1 BUFF. CRIM. L. REV. 195, 195 (1997) (describing Title 18 as "duplicative, ambiguous, incomplete, and organizationally nonsensical"). Interestingly, Title 18 contains no general part. See Paul H. Robinson, *Reforming the Federal Criminal Code: A Top Ten List*, 1 BUFF. CRIM. L. REV. 225, 227-28 (1997). A general part is the section of a criminal code which sets forth basic principles applicable to specific offenses enumerated in subsequent parts of the code. *Id.* MPC § 2.01 falls within the MPC's general part (Part I). Because Title 18 contains no general part, it follows that the federal criminal code contains no voluntary act requirement analogous to § 2.01 of the MPC. Efforts at reforming the federal criminal law, which started in 1966, have been unsuccessful. See Gainer, *supra*, at 93-129. Since 1982, neither House has seriously considered federal criminal code reform. *Id.* at 124, 129; see also CHARLES R. WISE, *THE DYNAMICS OF*

code-explicit voluntary act requirement, although a defendant's volitional impairments can mitigate the sentence under the Federal Sentencing Guidelines.³⁵ In turn, some states have a

LEGISLATION 315-17 (1991) (providing examples of abortive Congressional efforts at reforming the federal criminal code). Some progress was made, however, in the Sentencing Reform Act of 1984 (Title II of the Comprehensive Crime Control Act of 1984). In that Act, Congress delegated authority to the United States Sentencing Commission (Sentencing Commission), an independent agency in the judicial branch created to establish and oversee federal criminal sentencing policies and practices. See U.S. SENTENCING COMMISSION GUIDELINES MANUAL ch. 1, pt. A, 1 (1998) [hereinafter USSCG].

35. The Sentencing Commission, through its Guidelines, aims to narrow judges' sentencing discretion by increasing the number of offense grades, thereby decreasing the likelihood of disparate treatment of similarly situated offenders. See USSCG, *supra* note 34, at ch. 1, pt. A, 3; see also Robinson, *supra* note 34, at 246, 250-51 (noting that few offense grades increase the likelihood of sentencing disparities for similar offenses). For example, the Sentencing Commission has established a sentencing table containing forty-three levels, which overlap to discourage unnecessary litigation. See USSCG, *supra* note 34, at ch. 1, pt. A, 4(h). By way of contrast, Article VI of the MPC contains only five offense grades: first, second, and third degree felonies, misdemeanors, and petty misdemeanors. MODEL PENAL CODE 1985, *supra* note 21, art. VI. The Sentencing Commission prescribes guideline ranges specifying an appropriate sentence by coordinating offense behavior and offender characteristics. See USSCG, *supra* note 34, at ch. 1, pt. A, 2. The Sentencing Reform Act of 1984 requires courts to select a sentence from within the range set by the guidelines. *Id.* An appellate court may review a sentence selected from within the appropriate range to determine if the Guidelines were incorrectly applied. *Id.* However, the Act permits departures from the Guidelines where a case presents atypical features. *Id.* A court must specify its reasons for departing, however, and appellate courts may review the reasonableness of a departure. *Id.*

The Guidelines contemplate two types of departures: guided departures and unguided departures. Guided departures rely on numerical or non-numerical suggestions, or analogies to such suggestions, contained in the Guidelines. See *id.* ch. 1, pt. A, 4(b). Unguided departures may, but need not, rest upon grounds referred to in Chapter Five, Part K (departures) of the Guidelines. *Id.*; see also *Koon v. United States*, 518 U.S. 81, 95-96 (1996) (holding that the only disallowed departures are those specifically prohibited by the Guidelines). A court's power to make unguided departures reflects the Sentencing Commission's belief that courts will not often exercise their legal freedom to depart from the guidelines. See USSCG, *supra* note 34, at ch. 1, pt. A, 4(b). Section 5K2.13 of the Guidelines authorizes departures "if the defendant committed the offense while suffering from a significantly reduced mental capacity." *Id.* § 5K2.13. The Commentary following § 5K2.13 makes clear that a defendant may claim to have been suffering from a "significantly reduced mental capacity" based on either cognitive impairment or volitional impairment when the offense was committed. *Id.* cmt. n.1. The Commentary describes a cognitive impairment as "a significantly impaired ability to . . . understand the wrongfulness of the behavior comprising the offense or to exercise the power of reason." *Id.* The Commentary describes a volitional impairment as "a significantly impaired ability to . . . control behavior that the

defense of involuntary conduct or a comparable intermediate voluntary act provision that falls between an explicit requirement and no requirement whatsoever.³⁶ In sum, there

defendant knows is wrongful." *Id.* However, even where a court finds that the defendant acted while suffering from a significant cognitive or volitional impairment, three situations will still negate a court's departure power: (1) where the reduced mental capacity resulted from the defendant's voluntary drug use or intoxication; (2) where the violent nature of the offense itself indicates a need to protect the public; or (3) where the defendant's criminal history indicates a need to protect the public. *Id.*

The contentious presence of the volitional component in the Guidelines's definition of "significantly reduced mental capacity" is the result of the Third Circuit's decision in *United States v. McBroom*, 124 F.3d 533, 544-49 (3d Cir. 1997). See USSCG, *supra* note 34, app. 6, amend. 583 (noting that § 5K2.13 was amended to add the volitional component of the application note based on the *McBroom* decision). *McBroom* held that a downward departure from the Guidelines's suggested range may be justified in cases where defendants cannot control behavior that they know is wrong. *McBroom*, 124 F.3d at 458. Some commentators, however, question the existence of "volitional impairment" and thus its validity as a mitigating factor in sentencing. See, e.g., Carlos Pelayo, Comment, "Give Me A Break! I Couldn't Help Myself!": *Rejecting Volitional Impairment as a Basis for Departure Under Federal Sentencing Guidelines Section 5K2.13*, 147 U. PA. L. REV. 729, 732-35 (1999) (concluding that the test for "significantly reduced mental capacity," like the *M'Naghten* test for legal insanity, should contain only a cognitive ability component). Pelayo, for example, acknowledges only two categories of action that may be classified as involuntary and therefore justifying reduced sentences: physical reflexive mechanisms (such as the patellar reflex) and irresistible external compulsion (such as strong A, who pushes weak B into C). *Id.* at 742-43. In almost all other cases, so the criticism goes, a "defective will" does not amount to a "volitional impairment" entitling a defendant to a reduced sentence under the Guidelines. *Id.* at 749-50.

36. Between the poles of an explicit voluntary act requirement and no voluntary act requirement, the MPC Commentaries discuss state codes and proposed state codes that contained intermediate provisions. The MPC Commentaries note that Vermont's proposed code required the equivalent of a voluntary act without using the word "voluntary." MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. Title 13 of Vermont's current code, entitled, *Crimes and Criminal Procedure*, however, contains no voluntary act requirement. See VT. STAT. ANN. tit. 13, §§ 1-14 (1998 & Supp. 2001). The MPC Commentaries note that the Louisiana code, read in conjunction with the Reporter's Comments following the applicable section, required a voluntary act. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. Similarly, Louisiana's current code defines criminal conduct as consisting of an "act or failure to act that produces criminal consequences." LA. REV. STAT. ANN. § 14:8 (West 1997). The Reporter's Comment following the section defines "act" as "an external manifestation of will which produces consequences." *Id.* Reporter's cmt. The MPC Commentaries discuss California's proposed code, which would have required "general intent." Under the proposal, "[a] person acts with general intent when he consciously and willingly performs the act or fails to perform the act described in the section defining an offense." MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1

is no clear consensus on how states implement a voluntary act requirement, although most states have one designated explicitly.

The maxim that civilized societies should not criminally punish individuals for their “thoughts alone” has existed for three centuries. Generally, the criminal law recognizes that we cannot identify an individual’s thoughts or predict whether antisocial behavior will result from them.³⁷ Presumably, laws

at 218 n.14. California’s current penal code contains an implicit voluntary act requirement in the form of an involuntary conduct defense. CAL. PENAL CODE § 26(4) (West 1999) (stating that “[p]ersons who committed the act charged without being conscious thereof” are not capable of committing the crime). This resembles the codes of Idaho, Nevada, and South Dakota. See *supra* note 33. As discussed, *infra*, Oklahoma’s code also resembles the California code.

The MPC Commentaries note that Georgia’s definition of a “crime” remains essentially unchanged in Georgia’s current code. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. Georgia’s current code defines a “crime” as a “joint operation of an act or omission to act and intention or criminal negligence.” GA. CODE ANN. § 16-2-1 (1999). The MPC Commentaries also note that the Georgia code contained a rebuttable presumption which remains in Georgia’s current code. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218-19 n.14. The current Georgia code presumes that the “acts of a person of sound mind and discretion are . . . the product of a person’s will,” and also presumes, subject to rebuttal, that every person is of sound mind and discretion. *Id.* at §§ 16-2-3 to -4. The MPC Commentaries compare the Georgia statute to provisions contained in the codes of Kansas and Puerto Rico, and the proposed codes of the District of Columbia and Oklahoma. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. Similar to Georgia’s code, “intention” is the linchpin of the current statutes in Kansas and Puerto Rico. See KAN. STAT. ANN. § 21-3201 (1995) (stating that criminal intent is an essential element of every crime and may be established through proof that the defendant’s conduct was intentional or reckless); 33 P.R. LAWS ANN. § 3022(27) (1983 & Supp. 1998) (defining “voluntarily” as implying an “aim or will to commit the act”); *id.* § 3061 (requiring intent or criminal negligence for a person to be penalized for an act or omission regarded as a crime); *id.* § 3153 (stating that unconsciousness at the time of the act precludes liability). The MPC Commentaries’ comparison of the Georgia provision to the District of Columbia proposal is odd because the MPC Commentaries also mention the same provision of the D.C. proposal in the context of codes lacking a voluntary act requirement. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14. The current D.C. Code contains no provision similar to the Georgia provision. See D.C. CODE ANN. §§ 22-101 to -5215 (2001 & Supp. 2002). The current Oklahoma statute—similar to the provisions of California, Idaho, Nevada, and South Dakota—contains an implicit voluntary act requirement in the form of an involuntary conduct defense. See OKLA. STAT. ANN. tit. 21, § 152(6) (West 1983 & Supp. 2002) (stating that “[p]ersons who committed the act charged without being conscious thereof are not capable of committing crimes”); *infra* note 62 & Appendix.

37. Abraham S. Goldstein, *Conspiracy to Defraud the United States*, 68 YALE L.J. 405, 405-06 (1959). The requirement of action therefore

also fail to deter conduct that is involuntary.³⁸

This historical backdrop raises key issues about the voluntary act requirement.³⁹ For example, the requirement is unusual because it can apply to either the defendant's mental state or to the defendant's acts.⁴⁰ That is, it is applicable to either the *mens rea* or *actus reus* elements of a crime.⁴¹ Some courts have adopted the term "unconsciousness" to refer to the defendant's claim that she lacked the mental state to have committed the crime and have adopted the term "automatism" to refer to the defendant's claim that she did not engage in a voluntary bodily movement.⁴² Thus, the defense of

serves a number of closely-related objectives: it seeks to assure that the evil intent of the man branded a criminal has been expressed in a manner signifying harm to society; that there is no longer any substantial likelihood that he will be deterred by the threat of sanction; and that there has been an identifiable occurrence so that multiple prosecution and punishment may be minimized.

Id.; see also MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14 (stating that "a civilized society does not punish for thoughts alone"); HERBERT MORRIS, ON GUILT AND INNOCENCE 1-29 (1976) (analyzing the relationship between law and thoughts).

38. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.14.

39. See discussion *infra* Part III.

40. See *id.*

41. For a discussion of the difficulty of classifying the voluntary act requirement as part of *actus reus* or *mens rea*, see *Regina v. Harrison-Owen*, 2 All E.R. 726 (Crim. App. 1951). In that case, a burglary trial, the defendant contended that he entered the dwelling in a state of automatism. *Id.* at 726. The prosecution responded to that defense with evidence of the defendant's prior burglary convictions. *Id.* On appeal, the conviction was overturned because similar prior convictions were admissible only to refute a claim of lack of *mens rea*, and in this case the defendant claimed he lacked *actus reus*. *Id.* at 727-28.

42. See generally Eunice A. Eichelberger, Annotation, *Automatism or Unconsciousness as Defense to Criminal Charge*, 27 A.L.R. 4th 1067 (1984) (analyzing various criminal cases in which the automatism or unconscious defense was used); see also *State v. Strasburg*, 110 P. 1020, 1021-22 (Wash. 1910) ("An involuntary act, as it has no claim to merit, so neither can it induce any guilt; the concurrence of the will, when it has its choice either to do or to avoid the fact in question, being the only thing that renders human actions either praiseworthy or culpable."); RONALD A. ANDERSON, WHARTON'S CRIMINAL LAW AND PROCEDURE § 50 (1957) ("If a person is . . . unconscious at the time he commits an act . . . he is not responsible therefore. The absence of consciousness not only precludes the existence of any specific mental state, but also excludes the possibility of a voluntary act without which there can be no criminal liability." (citations omitted)); cf. DRESSLER, *supra* note 26, at 88-89 (opining that the voluntary act requirement viewed as part of *mens rea* finds more justification in retributive than utilitarian theories of punishment; while the threat of punishment can motivate an involuntary actor to adjust her behavior, in the absence of a voluntary act based on free choice, "there is no

unconsciousness can be distinct from the defense of automatism even though both negate the argument that the defendant acted voluntarily.

For example, individuals who suffer from a disorder called Limbic Psychotic Trigger Reaction contend that they are totally conscious and aware when they commit motiveless acts of violence against other individuals. They have no control over their bodily movements and they are extremely remorseful afterwards.⁴³ The defense of automatism could be available but not unconsciousness. In contrast, individuals who commit acts of violence while in the throws of an epileptic seizure also have no control over their bodily movements, but they are unconscious as well.⁴⁴ These individuals could use the defenses of both automatism and unconsciousness; however, many courts use the two terms (automatism and unconsciousness) synonymously, thereby ignoring possible differences in the defendant's mental state.⁴⁵

Unfortunately, all these doctrinal roadmaps can be muddled even further when automatism and unconsciousness are conflated with the insanity defense. Here is where the real injustice to a defendant lies. Some courts, for example, have held that automatism and unconsciousness are defenses that are distinct from the insanity defense, while others have held that automatism and unconsciousness are a species of the insanity defense.⁴⁶ This confusion can arise, for instance, in cases involving epilepsy or sleepwalking. In such cases some courts will say that epileptics and sleepwalkers were insane when they committed their acts, whereas other courts will say that epileptics and sleepwalkers were sane but suffering from automatism or unconsciousness.⁴⁷ While the courts are nearly split on whether to classify automatism and unconsciousness as variants of insanity, whichever direction the courts take has crucial consequences for defendants. In contrast to defendants determined to be insane, defendants with automatism and

basis for social censure").

43. See *infra* note 90 and accompanying text.

44. See *infra* notes 353-63 and accompanying text.

45. See *infra* note 311 and accompanying text.

46. See *McClain v. State*, 678 N.E.2d 104, 107 (Ind. 1997) ("[J]urisdictions are split between recognizing insanity and automatism as separate defenses and classifying automatism as a species of the insanity defense."); Eichelberger, *supra* note 42, at 1073 (recognizing the split among the courts).

47. See *infra* notes 353-68 and accompanying text.

unconsciousness receive an unqualified acquittal and do not face the possibility of being institutionalized.⁴⁸

Courts do not appear to fall into a similar trap when differentiating automatism and unconsciousness from diminished capacity, a defense applicable to defendants suffering from abnormal mental conditions that do not reach the level of insanity.⁴⁹ Diminished capacity can be either a complete defense resulting in an acquittal, like automatism/unconsciousness, or, more commonly, a partial defense resulting in the defendant's conviction of a lesser crime.⁵⁰ The legislative and judicial befuddlement concerning the concept of diminished capacity has, however, limited the use and acceptance of the defense.⁵¹ Regardless, there are few

48. Eichelberger, *supra* note 42, at 1072.

49. See generally DRESSLER, *supra* note 26, at 361; Stephen J. Morse, *Diminished Capacity*, in ACTION AND VALUE IN CRIMINAL LAW 239, 239-42 (Stephen Shute et al. eds., 1993) [hereinafter Morse, *Diminished Capacity*]; Stephen J. Morse, *Undiminished Confusion in Diminished Capacity*, 75 J. CRIM. L. & CRIMINOLOGY 1, 1-5 (1984) [hereinafter Morse, *Undiminished Confusion*].

50. There are two categories of diminished capacity: the *mens rea* category, in which the mental abnormality is offered as evidence to negate an element of the crime charged rather than to excuse the actor's conduct, and the "partial responsibility" category, which mitigates the defendant's guilt even if the defendant exhibits the necessary *mens rea* for the crime. See DRESSLER, *supra* note 26, at 361-62 (discussing the two forms of the diminished capacity defense); Morse, *Diminished Capacity*, *supra* note 49, at 239 (defining the two forms of diminished capacity and discussing the justifications and implementation problems of the two forms); Morse, *Undiminished Confusion*, *supra* note 49, at 1 (addressing the two variants of diminished capacity and proposing that the law adopt the *mens rea* variant). Partial responsibility, the more controversial of the two categories, exists in a relatively small number of states, and can be used only to reduce the charge of murder to manslaughter. DRESSLER, *supra* note 26, at 361-62.

51. See Morse, *Diminished Capacity*, *supra* note 49, at 241. For example, some argue that "diminished capacity" should not even be considered a defense. According to the Third Circuit in *United States v. Pohlott*, 827 F.2d 889 (3d Cir. 1987), diminished capacity is "not a defense at all but merely a rule of evidence." *Id.* at 897. The diminished capacity "defense" does not allow acquittal for any reasons that are not already included in the definition of the offense for which the defendant is charged. *Id.* Its primary value to the defendant is that it may potentially negate the *mens rea* element of his or her particular offense. *Id.* at 896. In addition, the burden of proving the requisite *mens rea* for an offense lies with the prosecution. Thus, any evidence introduced by the defendant that indicates a diminished mental condition negating *mens rea* must be overcome by the prosecution rather than justified by the accused. RALPH REISNER ET AL., MENTAL DISABILITY AND CRIMINAL LAW 559 n.K (West, 3d ed. 1999); Morse, *Undiminished Confusion*, *supra* note 49, at 5-10.

conceptually clear lines distinguishing diminished capacity from unconsciousness, automatism, and insanity.⁵²

These doctrinal dilemmas may seem very academic, but the all-or-nothing approach to the voluntary act requirement has had real effects in criminal cases. For criminal defendants in the United States, it can mean the difference between an unqualified acquittal if someone is determined to have acted involuntarily, or prolonged institutionalization if they are determined to be insane.⁵³ Even graver, it can result in a death sentence or a lengthy incarceration if the defendant is found to have acted voluntarily.⁵⁴

A. THE PROBLEMS WITH THE MODEL PENAL CODE'S DEFINITION OF A VOLUNTARY ACT

In all respects, the MPC has been "stunningly successful in accomplishing the comprehensive rethinking of the criminal law."⁵⁵ The MPC's voluntary act requirement, in particular,

52. *Reed v. State*, 693 N.E.2d 988 (Ind. Ct. App. 1998), offers an interesting illustration of these blurred lines. In *Reed*, the defendant suffered from a medical condition known as transient ischemic attack (TIA), described as a "small stroke" which causes periods of confusion and disorientation resulting in aphasia. *Id.* at 989-90. *Reed* sought to introduce evidence that she suffered from TIA as an indication that she did not voluntarily or knowingly commit theft. *Id.* The trial court prohibited her from raising TIA as an affirmative defense, however, since it could not be offered as a defense to theft unless it amounted to a mental disease or defect under the insanity statute. *Id.* at 991. *Reed's* position was that because she was not alleging insanity, she should be permitted to raise a defense based on a medical condition. *Id.* at 990-91. She also contended that she had an absolute right to present a defense to show that she did not "knowingly" or "intentionally" commit the theft. *Id.* at 989-91. On appeal, the trial court's decision was overturned. The court noted that *Reed's* inability to voluntarily and knowingly commit theft was the result of a physical condition affecting "a person of a sound mind." *Id.* at 991. Therefore, she was not required to give the State notice of her intent to raise evidence of TIA under the insanity statute. *Id.* at 992. The court also determined that "to the extent this unconscious, involuntary behavior prevented her from forming the requisite intent to commit theft, it is relevant to show that she did not knowingly commit theft." *Id.* The court acknowledged the state supreme court's rejection of the existence of the "diminished capacity" defense but determined that "[a]lthough *Reed* may have unartfully phrased her argument by contending that she did not have the ability to knowingly commit theft, we do not believe that *Reed* was attempting to raise a diminished capacity defense." *Id.* at 993 n.6. Instead, the court explained that "*Reed* was merely attempting to show that she did not voluntarily commit theft." *Id.*

53. See *supra* notes 13-48; *infra* notes 72, 346-47 and accompanying text.

54. See *infra* text accompanying note 72.

55. Sanford H. Kadish, *Codifiers of the Criminal Law: Wechsler's*

while rooted in history, was impressively progressive in its attempt to incorporate the science of the times when the MPC was developed (the 1950s) and later when its Commentaries were updated in the 1970s.⁵⁶ This section contends that the failure to revise the MPC further has resulted in an antiquated provision that reflects the “modern” science of the 1950s, not the modern science of today.⁵⁷ The ambiguous language, format, and dichotomous nature of the provision have also made its application confusing.⁵⁸

A striking feature of the MPC’s voluntary act requirement is that it never specifically defines the term “voluntary.”⁵⁹ Instead, it provides four examples of acts that are *not*

Predecessors, 78 COLUM. L. REV. 1098, 1140 (1978). Herbert Wechsler was the Chief Reporter for the Model Penal Code and has been credited for its success. See Harold Edgar, *Herbert Wechsler and the Criminal Law: A Brief Tribute*, 100 COLUM. L. REV. 1347, 1353 (2000); Ruth Bader Ginsburg, *In Memory of Herbert Wechsler*, 100 COLUM. L. REV. 1359, 1359 (2000); Geoffrey C. Hazard, Jr., *Tribute in Memory of Herbert Wechsler*, 100 COLUM. L. REV. 1362, 1362-64 (2000); Henry Paul Monaghan, *A Legal Giant is Dead*, 100 COLUM. L. REV. 1370, 1370 (2000); David L. Shapiro, *Herbert Wechsler—A Remembrance*, 100 COLUM. L. REV. 1377, 1379 (2000); see also Kadish, *supra*, at 1098 (referring to the Model Penal Code as “one of [Herbert] Wechsler’s spectacular achievements”).

56. See *supra* note 29; *infra* notes 110-11, 165-66 and accompanying text.

57. See *infra* notes 169-75 and accompanying text. Others have commented on the dated nature of the Model Penal Code. See, e.g., Markus Dirk Dubber, *Penal Panopticon: The Idea of a Modern Model Penal Code*, 4 BUFF. CRIM. L. REV. 53, 53 (2000) (noting that “[t]he Model Penal Code is ripe for fundamental reconsideration”); Paul H. Robinson, *A Brief History of Distinctions in Criminal Culpability*, 31 HASTINGS L.J. 815, 816 (1980) (stating that “the Model Penal Code scheme is only the most recent advance in a continuous chain of doctrinal refinements which extends as far back as law and society”). For an interesting discussion of the challenges inherent in reforming a restatement provision (in the context of product liability), see Anita Bernstein, *Restatement Redux*, 48 VAND. L. REV. 1663, 1666-77 (1995) (book review).

58. See *infra* notes 59-94 and accompanying text.

59. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01(2) cmt. 2 at 219 (noting that “voluntary” is defined “partially and indirectly by describing movements that are excluded from the meaning of the term”). See *id.* § 2.01(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.”); *id.* § 2.01(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.”). This Article does not examine “omission” and “possession,” except indirectly. See *supra* note 22 and accompanying text.

voluntary: "(a) a reflex or 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."⁶⁰ Although the MPC explains that these examples emphasize "conduct that is within the control of the actor,"⁶¹ it provides little additional guidance and is otherwise vague. For example, the MPC Commentaries never discuss what would constitute a "conscious" bodily movement and do not define the term "unconsciousness," preferring to leave such interpretations to the courts.⁶² Such

60. MODEL PENAL CODE 1985, *supra* note 21, § 2.01(2) at 212. As the MPC explanatory note indicates, the first three examples are "specific conditions," whereas the last is more generic. *Id.* § 2.01 explanatory note at 213. It would be tempting to suggest that the flipside of the last example could constitute a definition of a voluntary act (a bodily movement that is "a product of the effort or determination of the actor, either conscious or habitual"); however, this definition would be under inclusive and there is no indication that the MPC Commentators intended it to define a voluntary act. *Id.* § 2.01(2)(d) at 212. Lastly, this Article assumes that the conscious/unconscious dichotomy comports with voluntary/involuntary behavior despite the seemingly awkward use of the words "conscious" and "unconscious" under § 2.01(2). The actual MPC provision would suggest that "unconsciousness" is a condition separate and apart from reflexes, sleep, etc. The MPC Commentaries indicate, however, that reflexes and sleep are also states of unconsciousness, perhaps simply more specific states or examples. *Id.* § 2.01 cmt. 2 at 219-20. Presumably, then, the more generic and seemingly redundant category of "unconsciousness" would allow in other kinds of conditions.

61. *Id.* § 2.01 cmt. 1 at 215.

62. See *id.* § 2.01 cmt. 2 at 220 ("The provision [§ 2.01(2)] does not define 'unconsciousness' and thus does not attempt a legislative resolution of the issue. It employs the term that has had standing in the statutory law of many states, leaving the problem of interpretation, as it has previously rested, with the courts."). A number of state statutory provisions have tried to define the role of consciousness in the determination of culpability. See, e.g., CAL. PENAL CODE § 26 (West 1999) ("All persons are capable of committing crimes except those belonging to the following classes: . . . Persons who committed the act charged without being conscious thereof."); NEV. REV. STAT. ANN. § 194.010 (Michie 2001) ("All persons are liable to punishment except those belonging to the following classes: . . . Persons who committed the act charged without being conscious thereof."); N.Y. PENAL LAW § 15.10 (McKinney 1998) ("The minimal requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform an act which he is physically capable of performing."); OKLA. STAT. ANN. tit. 21, § 152 (West 1983) ("All persons are capable of committing crimes, except those belonging to the following classes: . . . Persons who committed the act charged without being conscious thereof."); S.D. CODIFIED LAWS § 22-3-1 (Michie 1998) ("Any person is capable of committing a crime, except those belonging to the following classes: . . . Persons who committed the act charged without being

vagueness is all the more confusing because many states have defined a "voluntary act" in language reflecting the inverse of example four (that is, a "'voluntary act' means a bodily movement performed consciously or habitually as a result of effort or determination").⁶³ Yet, this approach is "simply inaccurate" and incomplete without having the preceding three examples as a guide: "It is easy to think of 'voluntary' conduct which is not in the ordinary sense the product of conscious or habitual effort or determination."⁶⁴

The MPC's definitional problems are all the more troubling because assessing voluntariness is a crucial first step in establishing *mens rea*.⁶⁵ Therefore, the voluntary act requirement must be met before it can be determined if the defendant satisfied the MPC's narrower *mens rea* requirements (purpose, knowledge, recklessness, or negligence),⁶⁶ and before it can be shown that the defendant's conduct was not otherwise due to a mental disease or defect under the MPC's insanity provision.⁶⁷

conscious thereof . . .").

63. See, e.g., DEL. CODE. ANN. tit. 11, § 243 (2001); see also *infra* Appendix.

64. Lloyd L. Weinreb, *Comment on Basis of Criminal Liability; Culpability; Causation: Chapter 3; Section 610*, in 1 WORKING PAPERS OF THE NATIONAL COMMISSION ON REFORM OF FEDERAL CRIMINAL LAWS 105, 111 (1970). For example, a person may cause another injury by "stretching," an activity that we might characterize as negligent even though it "does not require effort or determination in any significant sense." *Id.* at 112 n.12.

65. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 216 (noting that "the demand that an act or omission be voluntary can be viewed as a preliminary requirement of culpability"); see also DRESSLER, *supra* note 26, at 89 ("[A] 'voluntary act' . . . is a prerequisite to criminal responsibility, i.e., it is an element of every criminal offense.").

66. See MODEL PENAL CODE 1985, *supra* note 21, § 2.02 explanatory note at 227 & cmt. 1 at 229 (discussing the *mens rea* requirements that must be proven in order to obtain a criminal conviction).

67. The insanity provision of the Model Penal Code reads as follows:

(1) A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality [wrongfulness] of his conduct or to conform his conduct to the requirements of [the] law. (2) As used in this Article, the terms "mental disease or defect" do not include an abnormality manifested only by repeated criminal or otherwise antisocial conduct.

Id. § 4.01 at 163. Most states no longer have an insanity provision that resembles MPC § 4.01. See REISNER ET AL., *supra* note 51, at 524-27. Regardless, an act must be considered voluntary before it can be determined that insanity compelled that act.

B. THE PROBLEMS WITH THE MODEL PENAL CODE'S VOLUNTARY ACT DICHOTOMIES

There have been numerous insightful commentaries questioning the soundness and philosophical foundations of the act requirement.⁶⁸ This Article takes a somewhat different approach by questioning both the legal and scientific sensibility of such amorphous classifications as "voluntary/involuntary," and "conscious/unconscious."⁶⁹

In terms of establishing liability, for example, the voluntary act requirement's all-or-nothing approach is unusual and artificially categorical. Typically, criminal law doctrine assesses liability according to hierarchical categories or "degrees," such as the four levels of culpability.⁷⁰ In criminal homicide cases, the degree of culpability determines the category of homicide (murder, manslaughter, or negligent homicide) and the category influences the length of sentencing.⁷¹ These variations in degree reflect the understanding that thought and behavior are complex and that culpability and sentencing should incorporate that complexity to the maximum extent possible while remaining practical.

The all-or-nothing approach also prompts uncomfortable legal choices if the thoughts or actions at issue are ambiguously "voluntary" or if the act committed is particularly serious, such as homicide. In such cases, the choices can range from total acquittal to even the death penalty.⁷² This dilemma raises a crucial question: Is the source of the behavior at issue so clear as to warrant such extreme differences in liability and sentencing?

The MPC Commentaries concede that the voluntary/involuntary act distinction can be vague and troublesome, although the Commentaries do not always provide support for the distinctions they make. For example,

68. See *supra* note 18 and accompanying text.

69. In contrast, the MPC Commentaries provide assurance that such distinctions have "proved useful in the development of the criminal law." MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 215.

70. See *id.* § 2.02 explanatory note at 227 (stating that "the concepts of purpose, knowledge, recklessness and negligence suffice to delineate the kinds of culpability that may be called for in the definition of specific crimes").

71. See *id.* §§ 210.1-.4 & cmt. at 4-91 (discussing culpability and sentencing for criminal homicide).

72. See *supra* notes 41-47, 59-62, *infra* notes 353-79, 501-03, 594-95 and accompanying text.

the MPC regards a “reflex or convulsion” to be clearly involuntary;⁷³ however, the only source the MPC cites for that proposition states a contrary view.⁷⁴ As Australia’s Model Criminal Code recognizes, “some reflex acts can be regarded as voluntary.”⁷⁵ According to the MPC Commentaries, “unconsciousness” is “equally” clearly involuntary when it “implies collapse or coma, as *perhaps* it does in [the] ordinary usage of the term.”⁷⁶ However, the MPC believes it to be a “difficult issue” to determine when certain acts should be “assimilated to coma” for the “legal purpose” of finding involuntariness when cases involve more amorphous “states of physical activity”; such amorphous states exist when “self-awareness is grossly impaired or even absent, as in epileptic fugue, amnesia, extreme confusion and equivalent conditions.”⁷⁷

The MPC notes that some case law affirms comparing these more amorphous states with coma and, therefore,

73. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 219 (stating that “[a]ny definition [of voluntary] must exclude a reflex or convulsion”).

74. *See id.* at 219 n.15 (citing only Ian D. Elliott, *Responsibility for Involuntary Acts: Ryan v. The Queen*, 41 AUSTRALIAN L.J. 497 (1968)). According to Elliott,

[I]t is far from clear what is meant by reflex action, either in common or scientific parlance. In particular, it is not clear whether reflex action is necessarily involuntary. So far as scientific opinion is concerned, the results of modern physiological research offer little assistance to the lawyer. Researchers are divided on the question whether to characterize reflex action as necessarily involuntary. Watsonian Behaviourists would abandon the distinction between voluntary and involuntary action altogether. Even if scientists were unanimous in holding reflex action to be involuntary, the conclusions of science might prove of little use to the courts. Researchers in psychology and physiology are, it seems, rarely concerned to investigate reflex action, or involuntary action, as factors which exculpate D from blame.

Id. at 499-500 (citing FRANKLIN FEARING, *REFLEX ACTION: A STUDY IN THE HISTORY OF PHYSIOLOGICAL PSYCHOLOGY* ch. 16 & 297-300 (1930)). Well known commentators also cite this proposition without support. *See, e.g.*, WAYNE R. LAFAYE, *CRIMINAL LAW* 210 (3d ed. 2000) (stating, without support, the proposition that “[t]here is general agreement that a mere reflex is not a voluntary act”).

75. MODEL CRIMINAL CODE § 202.2 cmt. at 49 (final views of the Criminal Law Officers Committee 1992), at http://www.law.gov.au/publication/Model_Criminal_Code/general_principles.pdf at 49 (Sept. 20, 2002) (noting that “the reflex responses of a skilled sportsperson,” for example, could be regarded as voluntary).

76. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 219 (emphasis added).

77. *Id.*

involuntariness.⁷⁸ Yet, the MPC also mentions that case law bolsters an alternative approach—providing exculpation through the insanity defense by treating such amorphous states as indicative of “mental disease or defect excluding responsibility.”⁷⁹ The MPC’s reliance on the insanity defense “offers the advantage that it may facilitate commitment when the individual is dangerous to the community because the condition is recurrent.”⁸⁰ The MPC admits, however, the drawbacks of this choice: “[I]t bears harshly on the individual whose condition is nonrecurrent, as in the case where an extraordinary reaction follows the administration of a therapeutic drug.”⁸¹ Such cases also may not fit smoothly within the confines of the insanity provision: “[T]here may be a difficulty in regarding some of these conditions as a ‘mental disease or defect’ within the meaning of section 4.01 [the MPC insanity defense provision] or other tests, although cognition is sufficiently impaired to satisfy that aspect of the test.”⁸²

The MPC fuels this confusion. On the one hand, the MPC is deliberately vague to allow room for maneuvering. On the other hand, the MPC acknowledges that this vagueness is troublesome and that the voluntary act requirement can conflict with other MPC sections, such as the insanity provisions and cases of self-induced intoxication or narcosis.⁸³

Compounding this doctrinal dilemma is a revelation: There appears to be no valid scientific basis for a voluntary act dichotomy, particularly in relation to consciousness.⁸⁴ Soon after the MPC’s 1962 publication, commentators contended that states of consciousness and unconsciousness are “a matter of degree,” existing along a continuum.⁸⁵ This view also has

78. *See id.* at n.18.

79. *See id.*

80. *Id.* at 219-20.

81. *Id.* at 220.

82. *Id.*

83. *Id.* at 221 (stating that the problems presented by these cases are addressed in MPC § 2.08).

84. *See infra* Part II; *see also* Elizabeth F. Loftus & Mark R. Klinger, *Is the Unconscious Smart or Dumb?*, 47 AM. PSYCHOLOGIST 761, 763 (1992) (noting the “stumbling block” created in psychology over “[t]he lack of consensus on where the division between conscious and unconscious processes lies”).

85. *See, e.g.,* Fox, *supra* note 18, at 651 (noting that “[c]onsciousness is a matter of degree; no one is ever completely conscious or completely unconscious”); Marshall, *supra* note 18, at 1260 (“Behavior can be considered along a continuum extending from the utterly lacking in intent through the

been reflected in modern commentary⁸⁶ and court cases.⁸⁷ As mentioned, the MPC agrees that certain conditions do not fall clearly into either the conscious or unconscious categories.⁸⁸ Even when the law presumes such dichotomies, defendants considered to be acting involuntarily may still fall into a diverse range of categories:⁸⁹ (1) they may be conscious but have no bodily control, as in the case of individuals diagnosed with Limbic Psychotic Trigger Reaction;⁹⁰ (2) they may be

unconscious to the consciously intended.”).

86. See Pillsbury, *supra* note 18, at 147 (relying on the discoveries of modern science to conclude that “[t]he line between aware and unaware mental activity appears very much a matter of degree”); cf. Joshua Dressler, *Does One Mens Rea Fit All?: Thoughts on Alexander’s Unified Conception of Criminal Culpability*, 88 CAL. L. REV. 955, 963 (2000) (explaining “that ‘culpability’ is not naturally an all-or-nothing concept” in the context of proposed revised models for *mens rea*).

87. See *infra* Part III.

88. See *infra* notes 73-82 and accompanying text.

89. See Elliott, *supra* note 74, at 499 (listing four different categories of involuntary acts).

90. A person evidencing Limbic Psychotic Trigger Reaction (LPTR) may commit an out-of-character, emotionless, homicidal act as a result of an external stimulus that triggers painful memories of stressful past events and propels the patient into a series of regressive, well recalled, and automatic actions. Anneliese A. Pontius, *Neuroethological Aspects of Certain Limbic Seizurelike Dysfunctions: Exemplified by Limbic Psychotic Trigger Reaction (Motiveless Homicide with Intact Memory)*, 9 INTEGRATIVE PSYCHIATRY INT’L J. SYNTHESIS MED. & PSYCHIATRY 151, 164 (1993) [hereinafter Pontius, *Neuroethological Aspects*]. The homicidal acts occur due to a brief partial limbic seizure. Anneliese A. Pontius, *Homicide Linked to Moderate Repetitive Stresses Kindling Limbic Seizures in 14 Cases of Limbic Psychotic Trigger Reaction*, 2 AGGRESSION & VIOLENT BEHAV. 125, 135 (1997) [hereinafter Pontius, *Homicide Linked*]. This seizure is kindled in part by the suddenly revived traumatic memories. Anneliese A. Pontius, *Neuropsychiatric Update of the Crime “Profile” and “Signature” in Single or Serial Homicides: Rule Out Limbic Psychotic Trigger Reaction*, 73 PSYCHOLOGIST REP. 875, 878 (1993) [hereinafter Pontius, *Neuropsychiatric Update*]. The loss of control also implicates a temporary frontal lobe imbalance. Anneliese Pontius, *Motiveless Firesetting: Implicating Partial Limbic Seizure Kindling by Revived Memories of Fires in “Limbic Psychotic Trigger Reaction,”* 88 PERCEPTUAL & MOTOR SKILLS 970, 979 (1999) [hereinafter Pontius, *Motiveless Firesetting*]. A diagnosis of LPTR requires the occurrence of transient psychosis in the context of a partial limbic seizure accompanied by unaltered consciousness and full recall of the “unplanned, stimulus-triggered, motiveless acts.” Pontius, *Homicide Linked*, *supra*, at 126-27 tbl.1; *id.* note at 27. Although most LPTR individuals have only one episode of violence, other LPTR individuals appear to have recurrent episodes. *Id.* at 137. Some research suggests that recurrent LPTR individuals may involuntarily or unconsciously create a situation that triggers their violent reaction because such a triggering reaction is in itself quite pleasurable. See *id.* Thus, the criminal law is confronted by yet one more scenario comprising a mix of voluntary and

unconscious or treated as such, as in the case of persons experiencing somnambulism;⁹¹ (3) they may appear to be purposeful, as in the case of individuals suffering from post-epileptic automatism;⁹² or (4) they may have “wild and undirected movement,” as in the case of persons “attacked by a swarm of bees.”⁹³ While the law finds it “necessary to refer to some such esoteric entity as the will” to create the impression of unity among these diverse categories, “[t]he concept of an unwilled act is as much in need of explanation as the concept of an involuntary act.”⁹⁴

C. THE SOURCES OF THE MODEL PENAL CODE’S VOLUNTARY ACT DICHOTOMIES

Several factors may have prompted the MPC drafters to adopt a dichotomous voluntary act requirement, ranging from statutory precedent to the dominance of Freudian psychoanalytic theory. Significant support for the notion that the MPC was influenced by a variant of psychoanalysis is found in the writings of individuals who either contributed to the creation of the MPC, or who were cited in its Commentaries.⁹⁵ This assertion should come as no surprise in light of the MPC’s era of origin. There is substantial consensus that Freud “changed the face of intellectual history” with his theory that physical symptoms that lack physical causes and are not “consciously created and maintained” must derive from the unconscious.⁹⁶ In Freud’s view, conscious awareness was merely a small part of thought compared to the pervasive unconscious.⁹⁷ While Freud’s theories offered a far more complicated architecture of the mind than this simple

involuntary acts. In contrast to the sober individual who consciously drinks alcohol knowing that it may render her violent and also unconscious, LPTR individuals unconsciously stimulate triggers that may render them violent while also conscious.

91. See *infra* notes 364-66, 448-506 and accompanying text; see also MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 220 (“It seems clear that the behavior of the sleepwalker should receive the same treatment accorded conduct during unconsciousness, and Subsection (2)(b) so provides.”).

92. Elliott, *supra* note 74, at 499; see also *infra* notes 354-56 and accompanying text.

93. Elliott, *supra* note 74, at 499.

94. *Id.*

95. See *infra* notes 110-74 and accompanying text.

96. DREW WESTEN, *PSYCHOLOGY: MIND, BRAIN, AND CULTURE* 14 (2d ed. 1999).

97. *Id.*

“either/or”⁹⁸ and their effect on the MPC’s conscious/unconscious dichotomy is not “directly” provable, evidence suggests that the concept of the unconscious had a powerful effect on the law. Moreover, other legal, cultural, and psychological sources markedly contributed to the MPC’s voluntary act dichotomies.

1. Statutes and Cases

Prior and existing laws profoundly influenced the MPC’s voluntary act dichotomies in three ways. First, there was statutory precedent.⁹⁹ For example, as early as 1872,¹⁰⁰ and when the MPC was being developed, the California Penal Code exempted from criminal liability “[p]ersons who committed the act charged without being conscious thereof.”¹⁰¹ During that time, the California Code did not refer to “voluntary” or “involuntary” acts, nor to bodily movements. It still does not.¹⁰² The MPC Commentaries, however, make explicit reference to drawing upon the California Penal Code and a number of other states’ penal codes in creating the distinction “between ordinary human activity and a reflex or a convulsion.”¹⁰³ Second, the MPC relied upon the *Restatement (Second) of Torts*’ definition of an act to propose the concept of an involuntary movement as an “external manifestation of the actor’s will,”¹⁰⁴ even though the law of torts does not recognize a distinction between voluntary and involuntary acts.¹⁰⁵ In turn, early tort and criminal law cases were influenced by prominent

98. See *infra* note 170 and accompanying text.

99. See generally Kadish, *supra* note 55, at 1098.

100. CAL. PENAL CODE ANN. § 26(5) (H.S. Crocker 1872). Notably, the 1850 California Penal Code made no reference to the “without being conscious thereof” exclusion. An Act Concerning Crimes and Punishments, ch. 99, §§ 1-10, 1850 Cal. Stat. 229, 229-30. The introduction of the term “conscious” is consistent with the growing use of these terms in Europe during the 1800s. See *supra* note 4 and accompanying text.

101. CAL. PENAL CODE ANN. § 26(5) (West 1955). For an interesting discussion of some of the earlier cases falling under this provision, see Viola G. Glaister, Case Notes, *Criminal Law*, 18 S. CAL. L. REV. 290, 290-92 (1945).

102. CAL. PENAL CODE § 26(4) (West 1999).

103. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 215 & n.4.

104. *Id.* at 221 (citing RESTATEMENT (SECOND) OF TORTS § 2 (1965)).

105. The Restatement’s use of the word “act,” however, is exactly the same as the MPC’s use of the word “voluntary act,” suggesting that, contrary to the MPC, tort law thinks only in terms of actions and nonactions. In other words, in torts, there is no such thing as an involuntary act. See Corrado, *supra* note 18, at 1195 n.10.

philosophers and legal scholars who depicted acts as willed bodily movements.¹⁰⁶ Third, and more generally, the MPC Commentaries cite to a range of cases and literature that were surveyed for the purpose of creating the requirement of a voluntary act, and to illustrate the dichotomous nature of voluntary/involuntary and conscious/unconscious.¹⁰⁷

These kinds of legal influences were also important because, as its title suggests, the MPC was intended to be a model. Therefore, it had to stay reasonably close to what state legislatures would be persuaded to adopt and could not deviate too much from the generally prevailing views of the era. At the same time, much of the literature and law that the MPC cites does not concern American cases but rather (a sparse number of) cases decided primarily in Australia, Canada, England, Ireland, and New Zealand.¹⁰⁸ While such international precedent can be valuable, its impact is generally limited.¹⁰⁹

2. Psychological Theories of Human Behavior

The drafters of the voluntary act requirement drew upon both past and present psychological theories of human behavior¹¹⁰ that were popular during the decade-long planning and writing of the MPC (beginning in 1952 and extending until

106. See *supra* note 25 and accompanying text (citing John Austin and Oliver Wendell Holmes, among others).

107. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. at 212-24.

108. See generally R.S. Clark, *Automatism and Strict Liability*, 5 VICT. U. WELLINGTON L. REV. 12 (1968) (citing cases from Canada, England, Ireland, and New Zealand); J. Ll. J. Edwards, *Automatism and Criminal Responsibility*, 21 MOD. L. REV. 375 (1958) [hereinafter Edwards, *Criminal Responsibility*] (analyzing cases from England); J. Ll. J. Edwards, *Automatism and Social Defence*, 8 CRIM. L. Q. 258 (1966) [hereinafter Edwards, *Social Defence*] (discussing cases from Australia, Canada, New Zealand, Scotland, and the United Kingdom); John Jennings, *The Growth and Development of Automatism as a Defense in Criminal Law*, 2 OSGOODE HALL L.J. 370 (1962) (examining cases from Canada, England, and Ireland); P.B.A. Sim, *The Involuntary Actus Reus*, 25 MOD. L. REV. 741 (1962) (citing cases from England and New Zealand).

109. See George P. Fletcher, *The Nature and Function of Criminal Theory*, 88 CAL. L. REV. 687, 694 (2000). Fletcher notes that "American politicians and policy makers are notoriously indifferent to the attitudes of jurists beyond our borders." *Id.*

110. See generally DUANE P. SCHULTZ & SYDNEY E. SCHULTZ, A HISTORY OF MODERN PSYCHOLOGY 24-53 (7th ed. 2000) (providing an account of the people, ideas, and schools of thought recognized to have had an influence on modern psychology, although not specifically referencing the MPC).

the Proposed Official Draft was published in 1962).¹¹¹ These theories affected most directly the statutes and literature that the MPC Commentaries cited.¹¹² While the MPC developers valued the contributions of professionals from a range of disciplines outside the law,¹¹³ they particularly relied on psychiatrists¹¹⁴ and those in the humanities and social sciences.¹¹⁵ For example, Lionel Trilling, a Professor of English at Columbia University and one of the most prominent literary critics of the century,¹¹⁶ as well as a renowned commentator on Freud,¹¹⁷ was included on the MPC's Criminal Law Advisory

111. Herbert Wechsler, *Codification of Criminal Law in the United States: The Model Penal Code*, 68 COLUM. L. REV. 1425, 1425-28 (1968).

112. See *infra* notes 131-39 and accompanying text.

113. The MPC drafters sought "the knowledge, insight and experience offered by the other disciplines and occupations concerned with crime and its prevention." Herbert Wechsler, *A Thoughtful Code of Substantive Law*, 45 J. CRIM. L. CRIMINOLOGY & POLICE SCI. 524, 525 (1955).

114. See, e.g., Wechsler, *supra* note 111, at 1442 (emphasizing the contributions of three psychiatrists in the development of the Model Penal Code's insanity provisions); Herbert Wechsler, *Remarks at the Annual Judicial Conference of the 2d Judicial Circuit of the United States* (June 25-27, 1964), in 37 F.R.D. 356, 382-86. The three psychiatrists that Wechsler refers to in the preceding articles—Lawrence Z. Freedman, Manfred S. Guttmacher, and Winifred Overholser—all served on the Criminal Law Advisory Committee for the Model Penal Code. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at vi-vii. Guttmacher also was on the Reportorial Staff for the Model Penal Code. See *id.* at v.

115. Herbert Wechsler, *The Challenge of a Model Penal Code*, 65 HARV. L. REV. 1097, 1102 (1952) ("[I]n no other area of law have legal purposes and methods been subjected to a more sustained and fundamental criticism emanating from without the legal group—especially the psychological and social sciences—but buttressed also from within."). Wechsler elaborated:

The further impeachment based on science rests . . . in larger part on the submission that the law—or at least some of its important aspects—employs unsound psychological premises such as "freedom of will" or the belief that punishment deters; that it is drawn in terms of a psychology that is both superficial and outmoded, using concepts like "deliberation," "passion," "will," "insanity," [and] "intent"; that even when it takes the evidence of psychiatric experts, as on the issue of responsibility, it poses questions that a scientist can neither regard as meaningful or relevant nor answer on his own scientific terms; and, finally, that though the law purports to be concerned with the control of specified behavior, it rejects or does not fully use the aid that modern science can afford.

Id. at 1103.

116. Trilling, *Lionel 1905-1975*, 105 CONTEMP. AUTHORS 426, 427-28 (2002); Thomas Lask, *Lionel Trilling, 70, Critic, Teacher and Writer, Dies*, N.Y. TIMES, Nov. 7, 1975, at 1.

117. See, e.g., LIONEL TRILLING, FREUD AND THE CRISIS OF OUR CULTURE (1951); Lionel Trilling, *The Legacy of Sigmund Freud: An Appraisal, Part II*.

Committee.¹¹⁸

There is no evidence that one school or psychological theory was intended to dominate the development of the MPC. The substance and format of the voluntary act and *mens rea* requirements, however, appear to be more influenced by concepts derived from Freudian psychoanalytic theory than by the major competing behaviorist theories at the time.¹¹⁹ For example, early behaviorists, such as John B. Watson (1878-1958), believed that all mental processes, such as the conscious and unconscious, were far too subjective to be studied scientifically.¹²⁰ Human behavior could be more easily and accurately explained by focusing on people's responses to outside stimuli, thus rendering mental events irrelevant to the purview of a scientific psychology.¹²¹ Thereafter, B.F. Skinner (1904-1990), a behaviorist attributed with developing Watson's theory "into a full-fledged perspective,"¹²² claimed throughout his decades of work that "[t]here is no place in a scientific analysis of behavior for a mind or self."¹²³ Rather, a "scientific

Literary and Aesthetic, 2 KENYON REVIEW 152 (1940).

118. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at vii.

119. See Jerome Bruner, *Another Look at New Look 1*, 47 AM. PSYCHOLOGIST 780, 780 (1992) (noting the "[t]wo competing radical voices" that controlled the psychological "arena" of the time during the 1950s: "antimentalist behaviorism, on the one side, insisting that mental processes did nothing, and magical-realist psychoanalysis, on the other side, insisting that *unconscious* mental processes did everything").

120. See JOHN B. WATSON, BEHAVIORISM 5 (1924) ("As a result of this major assumption that there is such a thing as consciousness and that we can analyze it by introspection, we find as many analyses as there are individual psychologists.").

121. See *generally id.* at 5-13 (asserting that once people become immersed in behaviorism, they will realize the contradictions inherent in introspective psychology and see that behaviorism answers questions that skeptics will initially raise).

122. WESTEN, *supra* note 96, at 16.

123. B.F. Skinner, *Can Psychology Be a Science of Mind?*, 45 AM. PSYCHOLOGIST 1206, 1209 (1990). Skinner held this belief until the day he died, having completed the *American Psychologist* article the evening before his death. *Id.* at 1207. Moreover, this belief pervaded his scholarship. See *generally* B.F. SKINNER, BEYOND FREEDOM AND DIGNITY 1-23 (Bantam Books 1972) (1971) [hereinafter SKINNNER, BEYOND FREEDOM] (positing that a "technology of behavior" may become available if it follows the path of physics and biology of tracing interactions between organism and environment through the vehicle of accessible conditions, rather than through states of mind, feelings, or traits); B.F. SKINNER, SCIENCE AND HUMAN BEHAVIOR 11-22 (1953) (asserting that methods of science can be used in the field of human affairs and, if such scientific methods are used, we will come to realize that a

analysis shifts both the responsibility and the achievement [of an individual] to the environment.”¹²⁴

In sharp contrast to behaviorism, psychoanalysis focused on the significance of internal mental events, many of which were beyond an individual's conscious awareness.¹²⁵ Moreover, doctors, medical schools,¹²⁶ and a substantial portion of the psychological community, not to mention the public,¹²⁷ were very much influenced by Freud's psychoanalytic concepts.¹²⁸ A major part of this effect included the conceptual divide between

person's actions are the result of specifiable conditions that can be identified and used to predict and anticipate behavior).

124. SKINNER, *BEYOND FREEDOM*, *supra* note 123, at 23.

125. See, e.g., 1 NATHAN G. HALE, JR., *FREUD AND THE AMERICANS: THE BEGINNINGS OF PSYCHOANALYSIS IN THE UNITED STATES, 1876-1917*, at 3-23, 434-61 (1971) (providing an overview of psychoanalysis and Freudian thought, as well as the social, sexual, and psychological rubrics seen as its underpinnings).

126. HENRY K. BEECHER & MARK D. ALTSCHULE, *MEDICINE AT HARVARD: THE FIRST THREE HUNDRED YEARS* 406 (1977) (referring to the “dominant role of psychoanalysis” in psychiatry at Harvard “for several decades after World War II”).

127. See generally HALE, *supra* note 125, at 397-403 (illustrating the popularization of psychoanalysis in the medical field and the general public in the early part of the twentieth century). American society began to change its ideas and practices, prompted in large part by Freud's immense influence and the “formative years” of the psychoanalytic movement, particularly from 1911 to 1914. See PHILIP RIEFF, *FREUD: THE MIND OF THE MORALIST*, at xi (1979) (“In America today, Freud's intellectual influence is greater than that of any other modern thinker.”). In 1909, Freud, a Viennese physician and neurologist, presented a series of five lectures at a conference at Clark University, where he discussed a theory of the human mind he had created during the previous two decades. See generally HALE, *supra* note 125, at 3-16 (describing Freud's experiences coming to America and his lectures at Clark). Although the Clark Conference was Freud's only visit to the United States, *id.* at 3, Freud left an indelible impression before the audience of professionals, laypersons, and press, whose interaction and influence ultimately led to the “uniquely swift” dissemination of Freud's new ideas. *Id.* at 17. Moreover, Freud had visited America “at a ‘psychological moment,’” when conflict and change were emerging in those areas of American life that psychoanalysis appealed to most directly—sexual morality as well as nervous and mental disorders. *Id.* Psychoanalytic theory also acquired unprecedented exposure and acceptance during World War I because of the psychoanalytic treatment of “war neurotics.” BEN SHEPHARD, *A WAR OF NERVES: SOLDIERS AND PSYCHIATRY IN THE TWENTIETH CENTURY* 106 (2000). This influence led to the absorption of psychoanalysis into mainstream culture, such as magazines and novels. *Id.* at 163-64.

128. ELLENBERGER, *supra* note 4, at 546 (“The consensus is that Freud exerted a powerful influence, not only on psychology and psychiatry, but on all the fields of culture and that it has gone so far as to change our way of life and our concept of [the individual].”).

the conscious and unconscious.¹²⁹ Psychoanalytic approaches also appeared to have had a considerable impact on the development of legal theories and explanations of crime.¹³⁰

Many references in the MPC Commentaries that depict the voluntary act requirement draw upon psychoanalytic,¹³¹

129. See MATTHEW HUGH ERDELYI, *PSYCHOANALYSIS: FREUD'S COGNITIVE PSYCHOLOGY* 57 (1985). In an attempt to identify Freud's contribution to modern psychology, Erdelyi admits that Freud did not discover the unconscious. *Id.* According to Erdelyi, "[Freud] more than any other figure made the unconscious a permanent part of modern scientific psychology, and in so doing transformed the very meaning of psychology, which up to that point had been conceived of as the science merely of consciousness." *Id.*

130. See, e.g., BERNARD GLUECK, *STUDIES IN FORENSIC PSYCHIATRY*, at v-viii (1916) (suggesting that criminology draws upon many branches of science, including psychology, in order to develop an understanding of the nature of the delinquent); S. SHELDON GLUECK, *MENTAL DISORDER AND THE CRIMINAL LAW: A STUDY IN MEDICO-SOCIOLOGICAL JURISPRUDENCE* 87-122 (1925); JOHN C. GOODWIN, *INSANITY AND THE CRIMINAL* (DeCapo Press 1981) (1924); ERNEST BRYANT HOAG & EDWARD HUNTINGTON WILLIAMS, *CRIME, ABNORMAL MINDS, AND THE LAW* (1923); WILLIAM HEALY, *MENTAL CONFLICTS AND MISCONDUCT* 15-33 (1936); WILLIAM A. WHITE, *INSANITY AND THE CRIMINAL LAW* 1-9 (1923); see also Deborah W. Denno, *Life Before the Modern Sex Offender Statutes*, 92 NW. U. L. REV. 1317, 1322-44 (1998) (discussing the literature). Several authors have produced works after the 1962 release of the MPC that highlight the continued influence of psychoanalytic theory on the development of thinking in criminal law. The following is a list of such works, which illustrate the varying degrees to which modern writers embrace the notion of a psychoanalytic contribution. See generally DAVID S. CAUDILL, *LACAN AND THE SUBJECT OF LAW: TOWARD A PSYCHOANALYTIC CRITICAL LEGAL THEORY* (1997) (discussing psychoanalysis as a supplement to the discipline of law); ALBERT A. EHRENZWEIG, *PSYCHOANALYTIC JURISPRUDENCE: ON ETHICS, AESTHETICS, AND "LAW"—ON CRIME, TORT, AND PROCEDURE* (1971); HALE, *supra* note 125, at 313-68; JAY KATZ ET AL., *PSYCHOANALYSIS, PSYCHIATRY AND LAW* (1967); MOORE, *supra* note 18, at 420-48; CHARLES G. SCHOENFELD, *PSYCHOANALYSIS AND THE LAW* (Ralph Slovenko ed., 1973); Franz Rudolf Bienenfeld, *Prolegomena to a Psychoanalysis of Law and Justice*, 53 CAL. L. REV. 957, 960 (pt. 1), 1254 (pt. 2) (1965); Joseph Goldstein, *Psychoanalysis and Jurisprudence*, 77 YALE L.J. 1053 (1968); Moore, *Responsibility*, *supra* note 18; Symposium, *Lacan and the Subject of Law*, 54 WASH. & LEE L. REV. 995 (1997); Symposium, *Law and the Postmodern Mind*, 16 CARDOZO L. REV. 699 (1995).

131. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 219-21 nn.16, 17, 19, 22-24; see also *infra* notes 138-39 and accompanying text. The psychoanalytic literature cited in the MPC § 2.01 Commentaries has a wide range. See, e.g., ROBERT W. WHITE & NORMAN F. WATT, *THE ABNORMAL PERSONALITY* (4th ed. 1973) (citing throughout references to Freud and psychoanalysis); Marshall, *supra* note 18, at 1256 (examining a continuum of unconscious-conscious behavior within a psychoanalytic framework); see also Margaret Brenman, *The Phenomena of Hypnosis*, in PROBLEMS OF CONSCIOUSNESS: TRANSACTIONS OF THE FIRST CONFERENCE 123, 125 (Harold A. Abramson ed., 1951) [hereinafter CONSCIOUSNESS, FIRST CONFERENCE] (discussing a psychoanalytic interpretation of hypnosis); David Rapaport,

medical/legal,¹³² and philosophical¹³³ literature published four to six decades ago, primarily between the 1940s and 1960s, when psychoanalysis was particularly forceful.¹³⁴ A striking example of the impact of the psychoanalytic literature is the MPC's decision to categorize hypnosis as an involuntary act.¹³⁵ This categorization contradicted the then "widely held view that the hypnotized subject will not follow suggestions that are repugnant to him."¹³⁶ Yet, the MPC Commentaries insist that hypnotized subjects could not be acting voluntarily because

Consciousness: A Psychopathological and Psychodynamic View, in PROBLEMS OF CONSCIOUSNESS: TRANSACTIONS OF THE SECOND CONFERENCE 18, 30, 40 (Harold A. Abramson ed., 1951) [hereinafter CONSCIOUSNESS, SECOND CONFERENCE] (citing Freud to help explain the "continuous transitions" between daydreams and hallucinations and discussing Freud's effort to reduce the various "phenomen[a] of consciousness" to a "common denominator"); Lewis R. Wolberg, *Hypnotic Phenomena*, in PROBLEMS OF CONSCIOUSNESS: TRANSACTIONS OF THE THIRD CONFERENCE 76, 76-106 (Harold A. Abramson ed., 1952) (describing a psychoanalytic perspective of hypnosis); David G. Wright, *Variations in States of Awareness in Schizophrenic Patients*, in CONSCIOUSNESS, SECOND CONFERENCE, *supra*, at 100-78 (describing a psychoanalytic perspective of schizophrenia).

132. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 215 n.3. The medical/legal literature focuses predominantly on automatism. For examples, see Clark, *supra* note 108; Edwards, *Social Defence*, *supra* note 108; Edwards, *Criminal Responsibility*, *supra* note 108; Jennings, *supra* note 108; Sim, *supra* note 108, at 743-44.

133. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 215 n. 3 (citing Phillip Mullock, *Responsibility, Propensity, & Choice*, 15 MERCER L. REV. 1, 3-4 (1964)).

134. Following World War II, psychiatric authority was more substantial than ever before as a result of the prominent wartime role that psychiatrists assumed in screening recruits and diagnosing military offenders. See KAREN ANDERSON, WARTIME WOMEN: SEX ROLES, FAMILY RELATIONS, AND THE STATUS OF WOMEN DURING WORLD WAR II 176 (Contributions in Women's Studies, no. 20, 1981) (noting that "the focus of psychiatric concern shifted from a prewar stress on psychosis to a wartime preoccupation with neurosis," only to later shift toward postwar emphasis on private practice); WALTER BROMBERG, PSYCHIATRY BETWEEN THE WARS, 1918-1945: A RECOLLECTION 164 (Contributions in Medical History, no. 10, 1982) ("[W]ith the war's end, psychiatry in the civilian sector had advanced on all fronts.... New medications, new methods, new techniques crowded the psychiatric scene."); 2 NATHAN G. HALE, JR., THE RISE AND CRISIS OF PSYCHOANALYSIS IN THE UNITED STATES: FREUD AND THE AMERICANS, 1917-1985, at 211, 289 (1995) (describing the seemingly "insatiable" demand for psychoanalysis after the war and noting that "the high point of psychoanalytic influence" existed from "the late 1950s to the mid-1960s"). Moreover, postwar literature warned of the social and psychiatric maladjustments that returning veterans confronted. See HALE, *supra*, at 206-09 (reviewing commentary regarding the mental and emotional difficulties encountered by returning war veterans).

135. See *supra* notes 29, 60 and accompanying text.

136. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 221.

their “dependency and helplessness are too pronounced.”¹³⁷ This assertion is “supported” by a series of articles written by psychoanalysts who argue that hypnotized individuals cannot consciously control their acts.¹³⁸

When the MPC Commentaries were updated in the 1970s,

137. *Id.*

138. See *id.* at 221 nn. 22, 24. The MPC cites to the following articles within these footnotes: Margaret Brenman, *Experiments in the Hypnotic Production of Anti-Social and Self-Injurious Behavior*, 5 PSYCHIATRY 49, 60 (1942) (summarizing the results of hypnosis on six subjects to confirm “the theoretical position taken earlier by the Nancy school,” which holds that “in a small percentage of hypnotic subjects such [anti-social or self-injurious] acts can be induced even when contrary to the subject’s personal wishes or his moral nature”); Brenman, *supra* note 131, at 123 (introducing Brenman’s efforts to interpret hypnosis as a level of consciousness within a psychoanalytical framework); Wesley Raymond Wells, *Experiments in the Hypnotic Production of Crime*, 11 J. PSYCHOLOGIST 63, 65, 100-01 (1941) (commenting on the importance of hypnosis); William P. Swain, Note, *Hypnotism and the Law*, 14 VAND. L. REV. 1509, 1511 (1961). Swain noted that

[o]ften times a law-abiding citizen is shocked by the subconscious desires expressed in his dreams. Perhaps under hypnotic suggestion the normal restraints on such desires could be overcome, but it is doubtful that without the presence of a subconscious desire most people could be induced to commit a wrongful act.

Id.; see also Wolberg, *supra* note 131, at 87-89 (discussing repression and the need to use hypnosis to bring out deeply repressed problems).

Brenman’s commentary describes most succinctly how the psychoanalytic perspective applies to hypnosis:

We find in deeply hypnotized subjects a far more frequent occurrence of what we think of as archaic modes of thought than we do in normal-state people. What do we mean by “archaic modes of thought?” We mean, for example, that there is much more frequent emergence of visual imagery, of symbolism, of thinking in terms that Dr. Zilboorg spoke of yesterday, where there is a kind of timelessness, there is no logic, in short what is psychoanalytic theory we think of as “primary process” where logic, order, etc. do not determine the tone of thinking.

Brenman, *supra* note 131, at 127-28. The MPC Commentaries do not cite the “Dr. Zilboorg” whom Brenman refers to, although Gregory Zilboorg did contribute a chapter to the first conference. See Gregory Zilboorg, *Psychoanalytic Concepts of Sleep and Dream*, in CONSCIOUSNESS, FIRST CONFERENCE, *supra* note 131, at 62-88 (discussing the psychoanalytic roots of sleep and dream and what they mean symbolically). Herbert Wechsler also cites one of Zilboorg’s books and articles as a source of psychological criticism of penal law in his influential article in the *Harvard Law Review*. See Wechsler, *supra* note 115, at 1101 n.16, 1110 nn.63 & 65. In this same article, Wechsler also frequently cites the writings of Sheldon Glueck, Manfred Guttmacher, and Winfred Overholser, all of whom were key members of his MPC Advisory Board and who have embraced a psychoanalytic focus. *Id.* at 1098 n.3, 1102 n.17, 1112 nn.30-31, 1119 n.66, 1120 n.68, 1125 n.82, & 1128 n.94.

some of the newly added articles on the voluntary act requirement also referred to Freudian theories of consciousness.¹³⁹ Thus, the psychoanalytic grip remained strong in both the MPC's creation and its revision.

3. The MPC's Advisory Committee Members

Further evidence that the MPC was significantly affected by Freudian ideas comes from the writings and positions of MPC advisory committee members. Four committee members stand out in particular because of their fervent embrace of Freud's theories.

Manfred S. Guttmacher, Chief Medical Officer of the Supreme Bench of Baltimore,¹⁴⁰ was most responsible for spearheading interest in forensic psychiatry in the early 1950s.¹⁴¹ In 1952, he considered it "essential that those who administer the law recognize the role of the unconscious in the making of human judgments and in antisocial behavior."¹⁴² According to Guttmacher, "Sigmund Freud, the greatest figure in modern psychiatry, made epochal advances in this direction."¹⁴³

Lionel Trilling¹⁴⁴ "wrote extensively" about Freud, whom

139. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 219 n.17 (citing Jeffrie G. Murphy, *Involuntary Acts and Criminal Liability*, 81 ETHICS 332, 338-39 (1971)); *id.* at 219 n.19 (citing D. O'Connor, *The Voluntary Act*, 15 MED. SCI. & L. 31, 33 (1975)). According to Murphy, "[s]ince Freud, we are used to talking beyond the conscious. This has almost become our ordinary way of talking." Murphy, *supra*, at 339. In turn, O'Connor asserts that "[t]he merit of the recent discussions of the nature of voluntary conduct is that the limitations of a pre-Freudian theory of conscious behavior enshrined in McNaughton will be recognized within the debate on the nature of voluntary and, more particularly, involuntary conduct." O'Connor, *supra*, at 31. O'Connor also states that "[m]any of the difficulties that courts both in Australia and in England have found in accommodating the principle of involuntariness arise out of the rigidity with which the law has retained a theory of conduct which largely ignores the psychic realities and operates on a basis of consciousness." *Id.* at 36.

140. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at vi.

141. M.S. Guttmacher, *Psychiatrist Dies*, N.Y. TIMES, Nov. 8, 1966, at 39; Walter Weintraub, *Psychiatric Residency Training in the V.A.: Then and Now*, 26 MD. PSYCHIATRIST (Spring 1999), available at http://www.mdpsych.org/sp99_wWeintraub.htm.

142. MANFRED S. GUTTMACHER & HENRY WERIHOFFEN, *PSYCHIATRY AND THE LAW* 20 (1952).

143. *Id.*

144. See *supra* notes 116-18 and accompanying text.

he considered "a figure of heroic proportions."¹⁴⁵ In 1940, for example, he asserted that "Freud's influence has been of the greatest"—an impact "so pervasive that its extent is scarcely to be determined" because it "has been infused into our life and become a component of our culture of which it is hard to be specifically aware."¹⁴⁶ In 1955, Trilling expounded further, claiming that Freud's ideas "have become an integral part of our modern intellectual apparatus."¹⁴⁷

Winfred Overholser, superintendent at St. Elizabeth's Hospital,¹⁴⁸ was one of the country's leading medical professionals in pioneering humane treatment for the mentally ill and working for the rights of mentally ill defendants.¹⁴⁹ According to Overholser, Freud was as great an innovator as Copernicus or Darwin.¹⁵⁰ Likewise, Overholser considered Freud "a serious scientific worker and physician . . . who . . . opened new vistas of thought which go to the heart of human activities in all fields."¹⁵¹ In particular, Freud's concepts "permeated the entire field of psychiatry and . . . fundamentally altered our views of the nature of mental disorder and of its treatment."¹⁵² While relying on Freud's theories regarding the significance of the unconscious, for example, Overholser noted that the unconscious is "so hidden or disguised that to take any one symptom or phase of conduct out of its context may give rise to serious injustices and misunderstandings."¹⁵³ Attacking the "fundamental assumption of the law" that "most acts are done on a basis of reasoning and a weighing of the pros and cons," Overholser stressed that reason alone does not dictate conduct.¹⁵⁴ Indeed, "there are

145. Lask, *supra* note 116, at 40.

146. Trilling, *supra* note 117, at 156.

147. TRILLING, *supra* note 117, at 11-12 (noting that Freud's ideas "have had a decisive influence upon our theories of education and of child-rearing," and have extended to the areas of anthropology, sociology, literary criticism, and "even theology").

148. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at vii.

149. See Overholser, *Winfred*, in CURRENT BIOGRAPHY 466, 466-68 (Marjorie Dent Candee ed., 1954); *Dr. Winfred Overholser Dies; Developed Psychiatric Centers*, N.Y. TIMES, Oct. 7, 1964, at 47.

150. Winfred Overholser, *The Meaning of Freud for Our Time*, 164 INT'L. RECORD MED. 249, 249 (1951).

151. *Id.* at 257.

152. *Id.* at 249.

153. WINFRED OVERHOLSER, THE PSYCHIATRIST AND THE LAW 23 (1953).

154. *Id.* at 41.

circumstances under which emotional drives, little understood by the actor, may cause him to perform acts even against his will.”¹⁵⁵

Sheldon Glueck, a Harvard University Law School professor¹⁵⁶ and author of numerous significant studies of criminal behavior and correctional treatment,¹⁵⁷ claimed that the psychoanalytic presence was not strong enough, at least when it came to the law.¹⁵⁸ Like Overholser, Glueck criticized the substantive criminal law of the time because it focused on a free will concept of the defendant’s intent¹⁵⁹ and ignored “[w]hat role unconscious motivation may have played in formulating or biasing the ‘criminal intent.’”¹⁶⁰ Likewise, Glueck condemned the available types of correctional treatment, recommending instead psychoanalytic treatment for “psychoneurotic offenders.”¹⁶¹ According to Glueck, the potential difficulties involved in applying the psychoanalytic method to criminals were “no reason for not experimenting with it systematically or at least utilizing the insights that study of psychoanalysis gives into the intricacies of personality maladjustment.”¹⁶²

Herbert Wechsler, chief reporter for the MPC,¹⁶³ cited the psychoanalytic-oriented works of all of these MPC advisors (apart from Trilling)—as well as other psychoanalytic-oriented works—in his renowned *Harvard Law Review* article concerning *The Challenge of a Model Penal Code*.¹⁶⁴ In light of the totality of all of these influences, the MPC could be considered a product of the psychology of the times. The dichotomies inherent in the MPC’s voluntary act requirement mirror a particular breed of psychology.

155. *Id.* at 42.

156. MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at vi.

157. Glueck, Sheldon; and Glueck, Eleanor, in THE NEW ENCYCLOPÆDIA BRITANNICA 311 (15th ed., 1994); Sheldon Glueck of Harvard Dies; Studied the Roots of Delinquency, N.Y. TIMES, March 13, 1980, at D16.

158. See SHELTON GLUECK, CRIME AND JUSTICE 96-97 (1936).

159. *See id.*

160. *Id.* at 98.

161. *See id.* at 243-44.

162. *Id.* at 244.

163. *See supra* note 55 and accompanying text.

164. *See supra* note 115 and accompanying text.

4. The MPC's Revisions

After 1962, the MPC Commentaries were updated and revised.¹⁶⁵ Because of their widespread effect and entrenchment in the law, the MPC revisors decided "that the substance of these Comments should remain substantially undisturbed."¹⁶⁶ Likewise, there was no "systematic attempt to assess the Code against scholarly views expressed since 1962," nor to "provide a comprehensive picture of what has happened since 1962 in jurisdictions that have not undertaken comprehensive legislative revisions."¹⁶⁷ The revisors primarily "focused on how legislatures have responded to the proposals embodied in the Code, and on fuller explication, when that seemed useful, of how the provisions of the Code carry out the objectives stated in the Comments."¹⁶⁸

Regardless of this limited effort to keep the MPC current, much of the new science on conscious and unconscious processes has developed since the MPC concluded its research on the voluntary act requirement.¹⁶⁹ Therefore, even if the revisors' goals had been to reexamine the voluntary act provision, the most significant psychological literature on this topic would not yet have existed.

The MPC now needs to be reassessed. Despite the influence of Freudian psychoanalytic theory on some members of the MPC's advisory committee, Freud's own views of the relationship between conscious and unconscious processes were far more complex and permeable than the MPC acknowledged.¹⁷⁰ Even if the MPC had successfully captured Freud in all of his complexity, over the last four decades, the

165. See MODEL PENAL CODE 1985, *supra* note 21, Part I, General Provisions §§ 1.01-2.13, at xi-xiv, xli-lii.

166. *Id.* at xli.

167. *Id.*

168. *Id.*

169. See *id.* at xii; see also *id.* at 214 n.† (noting that "[w]ith a few exceptions, [§ 2.01] research ended Jan. 1, 1979").

170. See generally PETER GAY, FREUD: A LIFE FOR OUR TIME 366-67, 412-16 (1989). For example, Freud suggested the possibility of mental communication between the conscious and the unconscious through the vehicle of the "preconscious." *Id.* at 367. Freud also significantly revised his theory of personality when, in 1923, he introduced his three-way division of the mind into id, ego, and superego. *Id.* at 412-16. As Joseph Goldstein perceptively noted shortly after the MPC was published, "it may be that the psychoanalytic theory of man as an individual is too complex to permit productive explorations of what may be even more complex—groups of human beings interacting in the legal process." Goldstein, *supra* note 130, at 1054.

status of psychoanalysis as a science has been seriously undermined.¹⁷¹

Of course, this Article's role is not to debate the value of Freudian ideas or of psychoanalysis generally. Rather, it contends that modern science has changed the mind-behavior landscape fundamentally. There has been a seismic shift in the scientific community, and the law has yet to catch up. Rather confusingly, the terms "conscious" and "unconscious" are still used in this new science, but the ideas behind these terms have been substantially altered.

This new psychological research supports the existence of a continuum of conscious and unconscious thought processes, and it generally dispenses with psychoanalytic concepts and theories.¹⁷² These modern notions of cognitive processes, which seem "intellectually much simpler" than those described in psychoanalytic theory, are also now "solidly established" in science.¹⁷³ Regardless of this acceptance, however, substantial conflict exists among scholars over how these processes contribute to our thinking, what they are and do, and how or if

171. See generally HANS J. EYSENCK, *THE DECLINE AND FALL OF THE FREUDIAN EMPIRE* (1990) (calling into doubt the validity of psychoanalysis as a science); E. FULLER TORREY, *FREUDIAN FRAUD* (1992) (pointing out the lack of scientific foundation in Freudian theory and assessing its widespread cultural appeal against its usefulness); RICHARD WEBSTER, *WHY FREUD WAS WRONG: SIN, SCIENCE, AND PSYCHOANALYSIS* (1995) (arguing that psychoanalytic theory failed to provide a scientific explanation for all human nature); Peter Brooks, *Introduction*, in *WHOSE FREUD? THE PLACE OF PSYCHOANALYSIS IN CONTEMPORARY CULTURE* 1, 2 (Peter Brooks & Alex Woloch eds., 2000) (noting that psychoanalysis "has become commonplace but also has been challenged in its most basic assumptions"). But see Morton F. Reiser, *Can Psychoanalysis and Cognitive Emotional Neuroscience Collaborate in Remodeling Our Concept of Mind-Brain?*, in *WHOSE FREUD? THE PLACE OF PSYCHOANALYSIS IN CONTEMPORARY CULTURE* 248, 253-54 (commenting that "psychoanalysis provides access to critically important levels and kinds of mental functions that are not addressed by other disciplines"); Robert G. Shulman & Douglas L. Rothman, *Freud's Theory of the Mind and Modern Functional Imaging Experiments*, in *WHOSE FREUD? THE PLACE OF PSYCHOANALYSIS IN CONTEMPORARY CULTURE* 267 (accepting that "the unconscious is acknowledged to contribute significantly to mental processes").

172. See *infra* Part II.

173. See Greenwald, *supra* note 7, at 766 (noting that "[u]nconscious cognition is now solidly established in empirical research, but it appears to be intellectually much simpler than the sophisticated agency portrayed in psychoanalytic theory"); see also DANIEL L. SCHACTER, *SEARCHING FOR MEMORY: THE BRAIN, THE MIND, AND THE PAST* 190-91 (1996) (emphasizing that the "nonconscious world of implicit memory revealed by cognitive neuroscience" is "far more mundane" than the unconscious memories described by Freud).

they can be measured.¹⁷⁴ One idea garners consensus: The boundaries between our conscious and unconscious are permeable, dynamic, and interactive, and there is no valid scientific support for a sharp dichotomy.¹⁷⁵ The following Part describes briefly the philosophical and scientific approaches to consciousness to support this proposition and to introduce the concept of “degrees of consciousness.” This “degrees” concept, and the research behind it, questions the MPC’s binary conscious/unconscious doctrine.

II. THE SCIENCE AND PHILOSOPHY OF CONSCIOUSNESS

Societies have long been fascinated with the nature of consciousness.¹⁷⁶ Originally, consciousness was examined philosophically in the context of the mind/body dilemma,¹⁷⁷ specifically, the Cartesian dualist view that the world is divided into two mutually exclusive parts: the physical and the mental.¹⁷⁸ Since the theory of evolution, the inquiry has

174. See *infra* Part II.

175. See *id.*

176. Across the ages, societies have described the nature of consciousness in terms of their own particular focus and concerns. See NICHOLAS HUMPHREY, A HISTORY OF THE MIND: EVOLUTION AND THE BIRTH OF CONSCIOUSNESS 17 (1992) (providing an insightful account “of how sensory consciousness has come into the world and what it is doing there”); see also JULIAN JAYNES, THE ORIGIN OF CONSCIOUSNESS IN THE BREAKDOWN OF THE BICAMERAL MIND 2-3 (1990) (explaining that during the first half of the nineteenth century, consciousness was viewed in terms of layers that reflected an individual’s past, consistent with “the age of great geological discoveries in which the past was written in layers of the earth’s crust”).

177. JAYNES, *supra* note 176, at 3. For an interesting modern commentary on this topic, see NICHOLAS HUMPHREY, THE MIND MADE FLESH 90-114 (2002).

178. In the seventeenth century, Descartes and Galileo drew “a sharp distinction between the physical reality described by science and the mental reality of the soul,” which they believed was beyond the purview of scientific research. See JOHN R. SEARLE, THE MYSTERY OF CONSCIOUSNESS 6 (1997) [hereinafter SEARLE, MYSTERY]. This dualist perspective aided scientific research at the time because religious authorities had ceased doubting scientists’ motives and because the physical world was mathematically accessible in ways that the mind was not. See *id.* Beginning in the twentieth century, this dualism became problematic because “it seem[ed] to place consciousness and other mental phenomena outside the ordinary physical world and thus outside the realm of natural science.” *Id.*; see also JOHN R. SEARLE, MINDS, BRAINS AND SCIENCE 10 (1984) [hereinafter SEARLE, MINDS] (noting that because of the influence of Descartes’s seventeenth century philosophy, “we have an inherited cultural resistance to treating the conscious mind as a biological phenomenon like any other”). There are still modern-day

become more scientific, focusing on the origin of mind or, more particularly, how consciousness evolved.¹⁷⁹

At various points, the inquiry into consciousness has been nearly halted altogether, most notably by behaviorism.¹⁸⁰ From about 1920 to 1960, behaviorism dominated psychology at a time when there was an increasing disdain for subjective philosophical views and an avid embrace for what appeared to be objective fact.¹⁸¹ Almost simultaneously, however, Freudian theory began to have an immense impact in the United States,¹⁸² offering explanations for concepts that behaviorism shunned—in particular, conscious and unconscious mental processes.¹⁸³

Starting in the 1970s, the growing disenchantment with then-current psychological theories heralded in an era of research that acknowledged the reality and significance of conscious and unconscious processes,¹⁸⁴ but without their prior Freudian interpretations.¹⁸⁵ This modern, non-Freudian, research now probes how consciousness will be defined and through which disciplinary lens. Such developments highlight the criminal law's outdated approach to defendants' claims of unconsciousness in statutes and cases.

dualists. Roger Penrose, for example, believes that in addition to the physical and mental worlds, a world of abstract objects, such as numbers, exists. See ROGER PENROSE, *SHADOWS OF THE MIND: A SEARCH FOR THE MISSING SCIENCE OF CONSCIOUSNESS* 12-16 (1994).

179. See JAYNES, *supra* note 176, at 3; see also MERLIN DONALD, *A MIND SO RARE: THE EVOLUTION OF HUMAN CONSCIOUSNESS* at xiv (2001) (suggesting that "culture itself, as well as its two principal by-products, languages and symbols, are consequences of a radical change in the nature of consciousness"); HUMPHREY, *supra* note 176, at 17 (noting that "evolutionary history is the biggest part of history and sensory consciousness is the best part of the mind"). But see DAVID J. CHALMERS, *THE CONSCIOUS MIND: IN SEARCH OF A FUNDAMENTAL THEORY* 120-21 (1996) (criticizing this view).

180. See JAYNES, *supra* note 176, at 14-15.

181. *Id.*; see also BAARS, *supra* note 7, at 7 (noting that "[b]ehaviorism utterly denied that conscious experience was a legitimate scientific subject").

182. See *supra* notes 96-98, 125-34 and accompanying text.

183. Of course, a long philosophical history preceded and influenced Freud. See *supra* notes 3-4 and accompanying text. The eventual acceptance of Freud's views provided the foundation for current experimental work demonstrating that individuals can engage in a wide range of sophisticated mental processing without being aware of it. See Daniel C. Dennett, *Consciousness*, in *THE OXFORD COMPANION TO THE MIND* 160, 162 (Richard L. Gregory ed., 1987).

184. See *supra* notes 8-10 and accompanying text.

185. See *supra* note 3 and accompanying text.

A. DEDUCTIONS AND DEFINITIONS

Much of the modern scientific controversy over consciousness concerns its mere definition or whether it should even be defined at all. How can we specify one of the “last surviving myster[ies]”?¹⁸⁶ Some renowned science writers avoid any definition, for fear it may mislead or misrepresent.¹⁸⁷ This stance, while understandable, is unnecessarily confusing for the purposes of this Article. This Article does not attempt to study the mechanisms underlying consciousness, but rather how the law can incorporate our current knowledge of it.¹⁸⁸

For these reasons, this Article recognizes, at least initially, a wide range of definitions and levels of consciousness. According to one view, consciousness is “the subjective quality of experience,”¹⁸⁹ the sum of one’s thoughts and feelings, circumstances and sensations.¹⁹⁰ Subjective self-awareness, or what we call “I,” is “the inner picture we each have of what it is like to be ourselves,”¹⁹¹ the “inner eye.”¹⁹² This picture emerges

186. DANIEL C. DENNETT, *CONSCIOUSNESS EXPLAINED* 21 (1991); see also JAYNES, *supra* note 176, at 1 (“Few questions have endured longer or traversed a more perplexing history than this, the problem of consciousness and its place in nature.”).

187. See, e.g., TAYLOR, *supra* note 9, at 18 (discussing the concerns that some scientists have about defining consciousness); Francis Crick & Christof Koch, *Toward A Neurobiological Theory of Consciousness*, 2 *SEMINARS IN THE NEUROSCIENCES* 263, 264 (1990) (“Until we understand the problem [of consciousness] much better, any attempt at a formal definition is likely to be either misleading or overly restrictive, or both.”); Dennett, *supra* note 183, at 160 (noting that “[s]ome have gone so far as to deny that there is anything for the term [consciousness] to name”).

188. See, e.g., SEARLE, *MYSTERY*, *supra* note 178, at 5 (commenting that “if we distinguish between analytic definitions [of consciousness], which aim to analyze the underlying essence of a phenomenon, and common sense definitions, which just identify what we are talking about, it does not seem . . . at all difficult to give a common sense definition of the term”).

189. CHALMERS, *supra* note 179, at 4. These experiences are enormously far ranging: visual, auditory, tactile, olfactory, taste, temperature (hot and cold), bodily sensations, mental imagery, conscious thought, emotions, and sense of self. *Id.* at 8-10.

190. See Dennett, *supra* note 183, at 160-64. According to Chalmers, “[a]wareness can be broadly analyzed as a state wherein we have access to some information, and can use that information in the control of behavior . . . [it is] a psychological property associated with experience itself, or with phenomenal consciousness.” CHALMERS, *supra* note 179, at 28.

191. NICHOLAS HUMPHREY, *THE INNER EYE* 52 (1986); see also JAYNES, *supra* note 176, at 2 (referring to “the difference between what others see of us and our sense of our inner selves and the deep feelings that sustain it”). As Thomas Nagel has explained in a widely quoted phrase, “the fact that an organism has conscious experience at all means, basically, that there is

from the commingling between appropriately relevant past memories and present activities, enabling the past to “fill in” the present.¹⁹³ Individuals can know directly only their own consciousness; they project whatever consciousness they see in others.¹⁹⁴ Thus, in general, consciousness typically refers to the sum of a person’s thoughts, feelings, and sensations, as well as the everyday circumstances and culture in which those thoughts, feelings, and sensations are formed.

Such a broad spectrum suggests that consciousness is not one entity but rather a number of interactive parts, some of which appear in the developing fetus and infant as well as in other animals.¹⁹⁵ One perspective on consciousness proposes a five-part model that reflects a continuum of low-to-high level brain processing in which an individual acquires: (1) the sense of self, (2) the sense of others (e.g., empathy), (3) the intention to act (e.g., the meaning or sense attached to mental states),¹⁹⁶ (4) the experience of emotions, and (5) phenomenal qualities, what philosophers call “qualia” for short.¹⁹⁷ These categories

something it is like to be that organism.” Thomas Nagel, *What Is It Like to Be a Bat?*, 483 PHIL. REV. 435, 436 (1974).

192. HUMPHREY, *supra* note 191, at 68-71.

193. TAYLOR, *supra* note 9, at 37; *see also* GERALD M. EDELMAN, *THE REMEMBERED PRESENT: A BIOLOGICAL THEORY OF CONSCIOUSNESS* 155 (1989) (explaining that “primary consciousness results from the interaction in real time between memories of past value-category correlations and present world input as it is categorized by global mappings (but before the components of these mappings are altered by internal states)); ISRAEL ROSENFELD, *THE STRANGE, FAMILIAR AND FORGOTTEN: AN ANATOMY OF CONSCIOUSNESS* 84 (1993) (proposing that consciousness emerges from the “dynamic interrelations of the past, the present, and the body image”).

194. HUMPHREY, *supra* note 191, at 86.

195. *See* TAYLOR, *supra* note 9, at 25-27.

196. The concept of intentionality was initially discussed in philosophical terms by Aristotle when he asserted, for example, that “[i]t is when a man wills the harm he does that he is unjust and wicked.” *See* ARISTOTLE, *THE ETHICS OF ARISTOTLE* 161 (J.A.K. Thomson trans., 1955) (the *Nicomachean Ethics*). Franz Brentano readdressed the term in 1874 by distinguishing between mental acts and mental contents. According to Brentano, there is intentional content in all mental acts, including desires, hopes, expectations, and memories. *See* FRANZ BRENTANO, *PSYCHOLOGY FROM AN EMPIRICAL STANDPOINT* 138-53 (Oskar Kraus & Linda L. McAlister eds., 1st English ed., Routledge & Kegan Paul Ltd. 1973) (1874) (originally published in German as “*Psychologie vom empirischen Standpunkt*”). Of course, intentionality is an important component of modern efforts to characterize consciousness. *See* SEARLE, *MINDS*, *supra* note 178, at 16 (defining “intentionality” as “the feature by which our mental states are directed at, or about, or refer to, or are objects and states of affairs in the world other than themselves”).

197. *See* TAYLOR, *supra* note 9, at 25-26. Phenomenal qualities,

overlap. For example, there is an emotional component in most states of consciousness that is capable of totally taking over awareness. Presumably, "blind rage" is "a state of mind in which emotion fills the whole of consciousness" to the point where people may be capable of murder even though they may not consciously experience their emotional memory.¹⁹⁸

Consciousness arises from nonconscious and unconscious mental activities.¹⁹⁹ Very simplistically, the nonconscious refers to those "brain activities that never directly enter awareness [because of] their primitive level in the processing hierarchy."²⁰⁰ In contrast, the unconscious pertains to those brain activities about which individuals "are presently unaware but that may have been repressed at an earlier time and still influence [their] actions."²⁰¹ The nonconscious is critical for understanding behavior, despite its low mental rung. Some of the cognitive deficiencies evident in mental disorders such as schizophrenia, for example, appear to be linked to abnormalities in nonconscious levels of brain activity. Since the nonconscious also provides the foundation for all thought processes, "nonconscious activity is the gateway to consciousness."²⁰²

Recent research reveals the interlinkages among these three levels of mental activity. For example, some studies show that the line between awareness and lack of awareness is not as impenetrable as it may seem in the context of an individual's everyday experiences.²⁰³ The fact that certain types of

"qualitative feels," or "qualia" for short, constitute the most primitive components (and therefore foundation) of consciousness. CHALMERS, *supra* note 179, at 4. For example, an individual may have the raw feel of the color red when looking at a red rose. Qualia supposedly comprise four controversial characteristics: (1) intrinsicness (they are not related to other objects); (2) ineffableness (they cannot be described to others); (3) transparency (they can be seen through); and (4) atomicity (they cannot be reduced to smaller or more primitive components). TAYLOR, *supra* note 9, at 32.

198. TAYLOR, *supra* note 9, at 30.

199. *Id.* at 15, 42.

200. *Id.* at 15; see also Dennett, *supra* note 183, at 162 (noting that the nonconscious mechanisms for delivering conscious and unconscious mental processes are "bits of organic machinery, as utterly lacking in a point of view or inner life as a kidney or kneecap").

201. TAYLOR, *supra* note 9, at 15.

202. *Id.* at 16-17.

203. See generally LAWRENCE WEISKRANTZ, BLINDSIGHT: A CASE STUDY AND IMPLICATIONS at v (1986) [hereinafter WEISKRANTZ, BLINDSIGHT] (reporting on experimental studies on "blindsight," a condition involving a rare form of brain damage in which stroke patients, who are definitely blind,

stimulation can trigger unenjoyable or disturbing experiences in brain-damaged individuals suggests that “activation must cross some sort of threshold before it can result in awareness.”²⁰⁴

Such research indicates that much of a person’s “mental life” takes place in a “twilight world of not properly conscious impulses, inklings, automatisms, and reflexive action.”²⁰⁵ The classic example is the process of driving a car. As one writer explains, beginning drivers focus intensely on each step of the process, no matter how basic—such as switching gears and steering—and they are barely cognizant of the other aspects of their environment, such as the changing scenery. Experienced drivers, however, can smoothly operate a car while seemingly unaware of the mechanics and procedures involved, often concentrating on thoughts not even related to driving.²⁰⁶ Thus, our brains seem designed to function as much as possible at this unconscious level, allowing our most heightened levels of consciousness to handle tasks that are either particularly difficult or new.²⁰⁷

Some commentators contend that the ability to have consciousness propels a belief that human beings act freely,²⁰⁸ a

can still perceive items at a subconscious level that they are not able to “see” consciously); LAWRENCE WEISKRANTZ, *CONSCIOUSNESS LOST AND FOUND: A NEUROPSYCHOLOGICAL EXPLORATION* (1997) (hereinafter WEISKRANTZ, *NEUROPSYCHOLOGICAL EXPLORATION*) (describing research on various neuropsychological disorders that block a patient’s ability to express overtly what the brain covertly “knows”). Particularly relevant research illustrating the tenuous line between awareness and lack of awareness includes studies on blindsight, see WEISKRANTZ, *BLINDSIGHT*, *supra*, and *infra* note 233, and studies on prosopagnosia, a defect in people’s abilities to recognize familiar faces, see WEISKRANTZ, *NEUROPSYCHOLOGICAL EXPLORATION*, *supra*, at 26-27, 169-71, 184-85, 188, 222-26, 228, 231, 236; see also *infra* note 235 and accompanying text.

204. Arthur W. Young, *Conscious and Nonconscious Recognition of Familiar Faces*, in *ATTENTION AND PERFORMANCE* 153, 155 (Carlo Umiltà & Morris Moscovitch eds., 1994).

205. JOHN MCCRONE, *GOING INSIDE* 135 (1999).

206. *Id.*; see also SANFORD H. KADISH & STEPHEN J. SCHULHOFER, *CRIMINAL LAW AND ITS PROCESSES: CASES AND MATERIALS* 177 (7th ed. 2001) (noting that the MPC treats a “habitual action done without thought,” such as a person intending to drive one place but habitually driving to another, as a voluntary action).

207. MCCRONE, *supra* note 205, at 135.

208. See SEARLE, *MINDS*, *supra* note 178, at 94-97. According to Searle, the experience of engaging in voluntary, intentional human conduct as opposed to hypnosis or passive reception suggests that we possess alternative courses of action and, therefore, free will. *Id.* at 95. “[E]volution has given us

perspective generally consistent with the criminal law's free will view of human behavior.²⁰⁹ Regardless, once consciousness is recognized as a valid and real phenomenon—and it appears that it has been—“we have to find a place for it in our scheme of things” and explain it.²¹⁰ The criminal law in particular must explain it because consciousness is the foundation for voluntary conduct.

B. THE PURPOSE OF CONSCIOUS AND UNCONSCIOUS PROCESSES

Research analyzing the preeminent role of the unconscious in all of human thought and behavior complicates the role of conscious mentality. “What is consciousness *for*, if perfectly unconscious, indeed subject-less, information processing is in principle capable of achieving all the ends for which conscious minds were supposed to exist?”²¹¹ Yet, a host of scientists have suggested that this question simply raises (not lowers) the role of consciousness. Conscious experience is distinguishable because of its accessibility to an individual's thought patterns.²¹²

Past experiences influence not only present behavior, but also present consciousness.²¹³ Experimental research supports the premise that one purpose of consciousness is to exact “a

a form of experience of voluntary action where the experience of freedom . . . is built into the very structure of conscious, voluntary, intentional human behaviour.” *Id.* at 98. See also DANIEL M. WEGNER, *THE ILLUSION OF CONSCIOUS WILL* at ix (2002) (contending that explanations of our belief in “conscious will may involve exploring how the mechanisms of the human mind create the experience of will” and that “conscious will is a feeling that helps us to appreciate and remember our authorship of the things our minds and bodies do”).

209. See, e.g., *United States v. Grayson*, 438 U.S. 41, 52 (1978) (suggesting that embracing “a deterministic view of human conduct” would be “inconsistent with the underlying precepts of our criminal justice system”); *Morissette v. United States*, 342 U.S. 246, 250 (1952) (depicting as a “universal and persistent” element of our law the “belief in the freedom of the human will and a consequent ability and duty of the normal individual to choose between good and evil”); *Steward Mach. Co. v. Davis*, 301 U.S. 548, 590 (1937) (noting that “the law has been guided by a robust common sense which assumes the freedom of the will as a working hypothesis in the solution of its problems”); *Smith v. Armontrout*, 865 F.2d 1502, 1506 (8th Cir. 1988) (“The whole presupposition of the criminal law is that most people, most of the time, have free will within broad limits.”).

210. See Colin McGinn, *Can We Ever Understand Consciousness?*, N.Y. REV. OF BOOKS, June 10, 1999, at 4.

211. Dennett, *supra* note 183, at 162.

212. See *infra* notes 213-20 and accompanying text.

213. TAYLOR, *supra* note 9, at 126.

veto effect” on our developing behavior,²¹⁴ although it does not determine every detail.²¹⁵ Consciousness “has the important role (among others) of singling out which interpretation of a given input appears the most correct from many alternatives available.”²¹⁶ This research could enlighten the criminal law because offenders may have difficulty choosing those interpretations that would contribute to law-abiding behavior. Likewise, because unconscious activity may activate many different explanations for a person’s experiences—only a few of which may be consistent with the total context—consciousness becomes an efficient device for establishing consistency at a relatively late stage of thought processing. Individuals achieve cognitive consistency when consciousness emerges.²¹⁷

The accessible nature of consciousness is illustrated by a proposed continuum of three types of conscious states arranged according to the brain’s representations of memory:²¹⁸ (1) *clearly conscious phenomena*, such as “clear mental images,” “deliberate inner speech,” and “material deliberately retrieved from memory”; (2) *fuzzy, difficult-to-determine events*, such as “active but unrehearsed items in immediate memory” and “subliminal events that prime later conscious processes”; and, (3) *clearly unconscious (or nonconscious) events*, such as

214. See Benjamin Libet, *Brain Stimulation in the Study of Neuronal Functions for Conscious Sensory Experience*, 1 HUMAN NEUROBIOL. 235, 235-42 (1982); *infra* notes 259-72 and accompanying text.

215. TAYLOR, *supra* note 9, at 126.

216. *Id.* at 172.

217. See *id.*

218. BAARS, *supra* note 7, at 11-13; TAYLOR, *supra* note 9, at 28 (noting Baars’s “excellent” discussion of states of consciousness); see also SEARLE, MYSTERY, *supra* note 178, at 5 (explaining that “within the field of consciousness there are states of intensity ranging from drowsiness to full awareness”). There appear to be at least three memory-related components of consciousness based on various brain sites: (1) *passive consciousness*, which is mostly posteriorly based; (2) *active consciousness*, which is mostly anteriorly based; and (3) *self consciousness*, which is also mostly anteriorly based, but with some relevant memories that are posteriorly based. TAYLOR, *supra* note 9, at 31. Passive consciousness pertains to an individual’s phenomenal experience of their surroundings, such as enjoying a beautiful sunset; active consciousness pertains to the active processing of brain activities, such as intentionality or thinking hard about a problem; and self consciousness refers to self awareness or self reference, such as introspection. *Id.* at 30-34. Emotional states, dreaming, and slow-wave sleep, are other possible components of consciousness. *Id.* at 31, 34. Recognition of these components of course contradicts the theory of a unified mind embraced by Descartes. See *supra* note 4 and accompanying text.

“unretrieved material in long term memory.”²¹⁹ Clearly conscious experiences include people’s independently verifiable reports of conscious mental images or events. In contrast, clearly unconscious (or nonconscious) processes cannot be reported voluntarily, even under the most favorable circumstances, although they can be inferred by solid and reliable evidence.²²⁰

These issues are crucial for the criminal law because the MPC’s voluntary act requirement is based on a distinction between conscious and unconscious processes. This distinction reflects an older science, and thus gives rise to the challenging, contemporary task of redefining these mental states. The dated scientific foundation also suggests that the MPC’s characterization of unconsciousness by way of example—listing particular conditions and states²²¹—is unsophisticated and inaccurate. The following sections focus on the philosophy and science of consciousness in an attempt to propose a more workable and just solution.

219. BAARS, *supra* note 7, at 12. The continuum ranges as follows:

Clearly conscious phenomena

- Attended percepts
- Clear mental images
- Deliberate inner speech
- Material deliberately retrieved from memory
- Fleeting mental images
- Peripheral or “background” perceptual events
- Abstract but accessible concepts

Fuzzy, difficult-to-determine events

- Active but unrehearsed items in immediate memory
- Presuppositions of conscious concepts
- Fully habituated stimuli
- Subliminal events that prime later conscious processes
- “Blind sight” in occipital brain damage
- Contextual information, set
- Automatic skills component
- Unretrieved material in long-term memory
- Perceptual context
- Abstract rules, as in syntax

Clearly unconscious events

Id.

220. *See id.*

221. *See supra* note 60 and accompanying text.

C. MAJOR PERSPECTIVES ON CONSCIOUS AND UNCONSCIOUS PROCESSES

There is a vast interdisciplinary study of consciousness.²²² Increasingly, psychologists, brain researchers, and other scientists are probing a field once dominated by philosophers and theologians.²²³ This range in perspective adds to potentially clashing accounts of what consciousness is or whether it can be measured at all.²²⁴ The conflict is most obvious in attempts to address the mind/body dilemma and resolve one of the most difficult questions in consciousness research: Can consciousness be reduced to physical matter?²²⁵ Assuming the answer is yes, how do brain cells create the experience of seeing red, for example, or the overwhelming

222. The interdisciplinary nature of consciousness research is clearly evident in three volumes of edited books resulting from periodic conferences sponsored by the University of Arizona. See generally TOWARD A SCIENCE OF CONSCIOUSNESS: THE FIRST TUCSON DISCUSSIONS AND DEBATES (Stuart R. Hameroff et al. eds., 1996) [hereinafter FIRST TUCSON DISCUSSIONS AND DEBATES] (presenting contributions from philosophy, psychology, neuroscience, biochemistry, and quantum theory to the study of consciousness); SECOND TUCSON DISCUSSIONS AND DEBATES, *supra* note 18; TOWARD A SCIENCE OF CONSCIOUSNESS III: THE THIRD TUCSON DISCUSSIONS AND DEBATES (Stuart R. Hameroff et al. eds., 1999) [hereinafter THIRD TUCSON DISCUSSIONS AND DEBATES]; see also RITA CARTER, CONSCIOUSNESS 6, 7 (2002) (providing an interdisciplinary overview of consciousness research with a focus on the increasing synthesis among the different ways that disciplines approach their investigations).

223. TAYLOR, *supra* note 9, at 6, 42. The most significant disciplines now studying consciousness include the following: philosophy (which examines the logical aspects of the mysteries of the mind and the brain); psychology (which probes how different stimuli or tasks influence individuals' perspectives of their inner conscious states); neuropsychology (which analyzes the neural attendants to psychological responses); neuroanatomy and physiology (which investigate the structure and function of the brain's nervous tissue); neural network research (which creates theories of the brain's neural networks); engineering and computer science (which develop instruments for examining the brain and analyzing data); physics (which proffers more accurate tools and theories); and mathematics (which applies mathematical constructs to help explain the implications of various brain theories). *Id.* at 42.

224. See generally COLIN MCGINN, THE MYSTERIOUS FLAME: CONSCIOUS MINDS IN A MATERIAL WORLD at xi-29 (1999) (explaining that consciousness is a mystery because "our intelligence is wrongly designed for understanding consciousness"). For example, Crick & Koch, *supra* note 187, at 237, shun philosophy and Roger Penrose stresses the significance of quantum mechanics as an approach to studying the mind. See generally PENROSE, *supra* note 178, at 256-69.

225. TAYLOR, *supra* note 9, at 48 (discussing the question of reducing consciousness to physical matter).

emotions of rage?²²⁶

Philosophers and scientists commenting on the mind/body dilemma in relation to consciousness primarily fall into three groups: (1) *non-reductionists*, who contend either that consciousness can never be reduced to physical matter or that such reduction is possible but so difficult that it will not be accomplished for a very long while;²²⁷ (2) *reductionists*, who claim that consciousness can be reduced although it may be

226. MCGINN, *supra* note 224, at 6-23 (analyzing the phenomenon of consciousness arising out of a physical body).

227. Serious probing into the reducibility of consciousness commenced in 1974 with Thomas Nagel's renowned article, *What Is It Like to Be a Bat?*, Nagel, *supra* note 191. Nagel claimed that no available reductionist theory could explain fully what it is like to be a bat or any other sentient being because mental experiences were so subjective. *Id.* at 435-50. Any potential reductionist solution lies "in the distant intellectual future," *id.* at 436, because theorists cannot yet conceive of how it may be true. *See id.* at 446-47. John Searle contends that consciousness is irreducible and discards Nagel's optimistic forecast. SEARLE, MINDS, *supra* note 178, at 75 ("I think we need to abandon once and for all the idea that the social sciences are like physics before Newton, and that what we are waiting for is a set of Newtonian laws of mind and society."); SEARLE, MYSTERY, *supra* note 178, at 8 (questioning "how brain processes, which are publicly observable, objective phenomena, could cause anything as peculiar as inner, qualitative states of awareness or sentience"). Instead, he acknowledges the causal role of brain processes in consciousness through a three-part framework of "biological naturalism." JOHN R. SEARLE, MIND, LANGUAGE, AND SOCIETY: PHILOSOPHY IN THE REAL WORLD 54 (1998). According to Searle, consciousness 1) comprises inner subjective processes and 2) therefore cannot be reduced to the "third person phenomena" examined by neuroscientists. *Id.* at 53. Regardless, 3) "consciousness is caused by brain processes and is a higher-order feature of the brain system." *Id.* at 54. Therefore, the mind and mental processes are "as biologically based as growth or digestion or the secretion of bile." SEARLE, MINDS, *supra* note 178, at 54. However, neurophysiology will never provide a sufficient explanation of the very nature of consciousness because consciousness exists beyond the neurophysiological facts that cause it. SEARLE, MYSTERY, *supra* note 178, at 18 (explaining that although consciousness is caused by brain processes and is also an aspect of the brain, "it is not a property of any individual elements and cannot be explained simply as a summation of the properties of those elements"). Searle's view has been extended further by David Chalmers. *See* CHALMERS, *supra* note 179, at 93-124. According to Chalmers, "unlike nearly everything else in the world, consciousness cannot be reductively explained, that is, accounted for in completely physical terms." *Id.* at 93. Specifically, consciousness is "not logically supervenient on the physical All the microphysical facts in the world do not entail the facts about consciousness." *Id.* However, even if we cannot explain consciousness reductively, it can be explained nonreductively. *Id.* at 213 ("The cornerstone of a theory of consciousness will be a set of psychophysical laws governing the relationship between consciousness and physical systems."). Searle, however, vehemently disagrees with Chalmers's approach. *See* SEARLE, MYSTERY, *supra* note 178, at 143-76.

difficult to characterize physically or it may not possess all the properties that the non-reductionists say are impossible to achieve;²²⁸ and (3) *modellists*, who assert confidently that

228. Francis Crick was perhaps the first to state the reductionist view most forthrightly. All individuals and everything personal about them—their joys and sorrows, memories and ambitions, their feelings of personal identity and free will—constitute “no more than the behavior of a vast assembly of nerve cells and their associated molecules.” FRANCIS CRICK, *THE ASTONISHING HYPOTHESIS: THE SCIENTIFIC SEARCH FOR THE SOUL* 3 (1994). At the same time, Crick concedes that he can only speculate about how consciousness emerges from this interacting set of neurons. *Id.* at 203-63. “Eliminativist” philosophers, such as Daniel Dennett, resolve Crick’s dilemma by contending that the more problematic aspects of measuring consciousness (such as intentionality or qualia) do not exist; other philosophers are simply wrong about describing the nature of inner experiences. *See generally* DENNETT, *supra* note 186, at 253-82. According to Dennett, there is no mystery behind how the brain’s information processing capabilities are able to become “conscious.” *Id.* at 101-11. Rather, the brain continually creates hypotheses or drafts of what is happening in the world. *Id.* Therefore, mental states become conscious by successfully competing against other mental states for domination of the control of an individual’s behavior. *Id.* at 111-38. In essence, conscious mental processing is simply the organization of these competing activities. *See generally id.* at 412-30; *see also* DANIEL C. DENNETT, *THE INTENTIONAL STANCE* at ix-xi (1987) (presenting a series of essays on Dennett’s thinking about “the intentionality of mental states”; specifically, how individuals take on a stance that allows them to predict and interpret the presumed rationality of others in order to better understand the world); DANIEL C. DENNETT, *KINDS OF MINDS: TOWARD AN UNDERSTANDING OF CONSCIOUSNESS* 153-61 (1996) (examining the question of consciousness from a multidisciplinary and evolutionary perspective, particularly focusing on a comparison between the mental capabilities of humans and animals). According to the “eliminative materialists,” Paul and Patricia Churchland, Dennett’s view rightly exposes the fragile basis of “folk psychology.” PAUL M. CHURCHLAND & PATRICIA S. CHURCHLAND, *ON THE CONTRARY: CRITICAL ESSAYS*, 1987-1997, at 8-15, 30-33 (1998). In general, folk psychology comprises common sense notions that individuals are active conscious agents exercising intentions, beliefs, desires, choices, and voluntary conduct. The Churchlands claim that folk psychology has three major empirical flaws. First, the theory has substantial “explanatory gaps” because it has been unable to explain “a considerable variety of central psychological phenomena: mental illness, sleep, creativity, memory, intelligence differences, and the many forms of learning.” *Id.* at 8. Second, folk psychology “has not progressed significantly in at least 2500 years,” because the Greeks “used essentially the same [mental] framework”; thus, the theory “has not shown the expansion and developmental fertility one expects from a true theory.” *Id.* Third, folk psychology appears unable to be “smoothly integrable with the emerging synthesis of the several physical, chemical, biological, physiological, and neurocomputational sciences.” *Id.* For these and a host of other collateral reasons, such a theory is a contender for outright elimination. *See id.* at 8-10; *see also* Paul M. Churchland & Patricia S. Churchland, *Replies from the Churchlands*, in *THE CHURCHLANDS AND THEIR CRITICS* 217-310 (Robert McCauley ed., 1997) (clarifying and defending the criticisms of folk psychology). Paul Churchland has briefly touched on how such views impact

consciousness can be measured.²²⁹

Substantial wrangling also exists among the philosophers and scientists within each of these three groups concerning the extent to which they adhere to these general viewpoints.²³⁰ Thus, the “race for consciousness” in science already has produced a bewildering number of theories and hypotheses about the “mystery” of the mind. Regardless of this potential for confusion, however, the process of scientific testing and debate has created at least one important result relevant to the criminal law—the discovery that the boundaries between our conscious and unconscious are permeable, dynamic, and interactive.

The next section studies examples of the new neuroscientific research on consciousness with three purposes in mind: (1) to demonstrate more fully the more-or-less nature of consciousness, which starkly conflicts with the criminal law’s all-or-nothing approach; (2) to show how this research may have some bearing on criminal law doctrine; and (3) to discuss how this research has already had some impact in criminal law cases.

D. THE NEW NEUROSCIENTIFIC RESEARCH ON CONSCIOUSNESS

The philosophical questions posed about consciousness provide a frame for neuroscientific insights into brain functioning. Neuroscience’s research on individuals, some having unique types of brain damage,²³¹ has produced some of the most sophisticated cognitive science now being conducted.

on practical moral and legal issues. See PAUL M. CHURCHLAND, *THE ENGINE OF REASON, THE SEAT OF THE SOUL: A PHILOSOPHICAL JOURNEY INTO THE BRAIN* 309-14 (1995).

229. The term “modellists” was created by the author for this Article’s purposes. This research is most concisely characterized by John Taylor. See generally TAYLOR, *supra* note 9.

230. See generally *id.* at 327-40.

231. See SUSAN GREENFIELD, *BRAIN STORY: UNLOCKING OUR INNER WORLD OF EMOTIONS, MEMORIES, IDEAS AND DESIRES* 19 (2000) (noting that “[i]n neuroscience, one of the classic ways of investigating how the brain works has been to study people in whom an injury or disease has damaged a specific part of the brain”). In some rare circumstances, for example, a stroke, tumor, or accident can weaken or destroy a small segment of an individual’s normal conscious perception and reveal otherwise hidden mechanisms that the person’s brain uses to register information unconsciously. These mechanisms are far more difficult to detect in a normal conscious mind devoid of such gateways into the unconscious. See Bob Holmes, *Irresistible Illusions*, 159 *NEW SCIENTIST* 31, 31 (1998).

There are many thorough and detailed accounts of these scientific discoveries.²³² This section briefly summarizes examples of some of the research by examining the link between emotions, memory, and behavior, and by discussing how this research contributes to understanding voluntary and involuntary acts.

1. The Links Between Emotions, Memory, and Behavior

Research distinguishing between conscious and unconscious processes has focused on a wide span of areas, ranging from the emotions to memory to visual perception.²³³ While all three areas are potentially important for the criminal law, the associations between emotions and memory are particularly intriguing because the studies have included individuals with behavioral disorders. The tie between emotions, memory, and behavioral disorder is not surprising; "[e]motions are ubiquitous in criminal law, as they are in life."²³⁴

The spotlight on emotions originated with scientific observations indicating that some brain-damaged individuals, who are no longer able to recognize faces consciously, still evidence the physical signs of emotion when researchers show

232. E.g., CARTER, *supra* note 222; GREENFIELD, *supra* note 231; TAYLOR, *supra* note 9, at 99-120; FIRST TUCSON DISCUSSIONS AND DEBATES, *supra* note 222; SECOND TUCSON DISCUSSIONS AND DEBATES, *supra* note 18; THIRD TUCSON DISCUSSIONS AND DEBATES, *supra* note 222; WEGNER, *supra* note 208.

233. Research into visual perception has been the most enlightening vehicle for deciphering the various modes of consciousness. For the past two decades, psychologists and philosophers have been particularly interested in blindsight because the blind individuals who have it can still perceive items at an unconscious level that they are not able to "see" consciously. See generally WEISKRANTZ, *BLINDSIGHT*, *supra* note 203, at 35-46 (discussing experimental studies on blindsight). For example, when researchers hold a bar of light before the subjects' blind eye, the subjects can sense that the bar is present and even determine whether it is vertical or horizontal although they cannot "see" it and cannot explain how they know of its presence. *Id.* It appears that blindsight patients activate a vestigial visual pathway that the conscious mind does not recognize. See R. Rafal et al., *Extrageniculate Vision in Hemianopic Humans: Saccade Inhibition by Signals in the Blind Field*, 250 *SCIENCE* 118, 118-21 (1990). Such differences are also detectable among non-damaged individuals. *Id.* at 118-19.

234. Dan M. Kahan & Martha C. Nussbaum, *Two Conceptions of Emotion in Criminal Law*, 96 *COLUM. L. REV.* 269, 270 (1996) (discussing the wide range of criminal law doctrine that is influenced by presumptions about human emotions and its consequences); see also Susan A. Bandes, *Introduction*, in *THE PASSIONS OF LAW* 1 (Susan A. Bandes ed., 1999) (stating that "[e]motion pervades the law").

them photographs of their loved ones. These results suggest that on the unconscious level, recognition takes place.²³⁵ The reverse scenario, however, is comparably compelling for the criminal law. In particular, scientists have encountered individuals whose consciousness is seemingly unimpaired but whose unconscious awareness appears damaged.²³⁶ One study, for example, involved a 35-year-old man, E.V.R., who experienced brain damage after having a tumor removed.²³⁷ Within months after surgery, he switched from a life with a successful career, happy marriage with two children, and upstanding social reputation, to another life where he became bankrupt after a series of questionable business deals and divorced his wife to marry and divorce two women in succession, one of whom was a prostitute.²³⁸ Although surgery did not affect E.V.R.'s intelligence or neurological status, he was not able to retain employment after his surgery, and became involved in difficult social and ethical dilemmas.²³⁹

These findings with patients like E.V.R. suggested that such individuals no longer had access to their visceral reactions, a form of covert or unconscious awareness.²⁴⁰ According to Hanna and Antonio Damasio, when individuals assess a situation, they do not have the time to process every possible element of it, positive or negative. Rather, individuals rely on unconscious signals fueled by memories of similar situations, typically involving rewards or punishments. These memories guide their decision making.²⁴¹

The Damasios' research illustrates this Article's earlier account of how consciousness arises from, and interlinks with,

235. See ANTONIO DAMASIO, *THE FEELING OF WHAT HAPPENS: BODY AND EMOTION IN THE MAKING OF CONSCIOUSNESS* 52-68 (1999).

236. See Paul J. Eslinger & Antonio R. Damasio, *Severe Disturbance of Higher Cognition After Bilateral Frontal Lobe Ablation: Patient EVR*, 35 *NEUROLOGY* 1731, 1731-41 (1985); see also Antonio R. Damasio, et al., *Individuals With Sociopathic Behavior Caused by Frontal Damage Fail to Respond Autonomically to Social Stimuli*, 41 *BEHAV. BRAIN RES.* 81, 81-94 (1990).

237. Eslinger & Damasio, *supra* note 236, at 1731; Damasio, et al., *supra* note 236, at 81-82.

238. Damasio et al., *supra* note 236, at 81-82.

239. *Id.* at 82.

240. See DAMASIO, *supra* note 235, at 224-29; see also note 533, *infra* (describing Damasio's "somatic marker theory" in the context of the Weinstein case).

241. See DAMASIO, *supra* note 235, at 82-131.

unconscious and nonconscious mental activities.²⁴² This theory of interlinkage served as part of the defense in the Herbert Weinstein second-degree murder case, which this Article discusses more thoroughly in Part IV.²⁴³ Relying in part on Antonio Damasio's expert testimony, Weinstein's defense focused on the extent to which a brain cyst (emanating from the nonconscious) hindered his ability to think rationally and control his emotions (emanating from the unconscious) while arguing with, and ultimately killing, his wife.²⁴⁴

More recently, researchers have discovered unusual cases in which individuals, who have been brain-damaged since infancy, are unable to learn norm-abiding rules of social and moral behavior in childhood and adolescence.²⁴⁵ When these individuals reached adulthood, they showed no guilt or remorse for their law-violating behavior and they were difficult socially.²⁴⁶

2. The Links Between Emotions, Memory, Decision Making, and Perception

Other research on non-violent subjects supports the notion that individuals have a covert mechanism in their brains that designates which of their decisions is beneficial or harmful based upon their emotional memories.²⁴⁷ This mechanism begins long before individuals are consciously aware that they have even made a decision.²⁴⁸ These and similar kinds of results suggest that specific brain regions assist individuals to anticipate rewards and punishments and that individuals start reaching a "hunch" stage when they begin to make better decisions.²⁴⁹ Individuals with bilateral damage to specific brain

242. See *supra* notes 199-202 and accompanying text.

243. See *infra* notes 522-58 and accompanying text.

244. See *infra* notes 530-34 and accompanying text.

245. Steven W. Anderson et al., *Impairment of Social and Moral Behavior Related to Early Damage in Human Prefrontal Cortex*, 2 NATURE NEUROSCIENCE 1032, 1032-37 (1999).

246. *Id.*

247. Antoine Bechara et al., *Deciding Advantageously Before Knowing the Advantageous Strategy*, 275 SCIENCE 1293, 1293-95 (1997).

248. See *id.*

249. *Id.* This kind of decision making can be studied, for example, by observing the card selection of people who are asked to play a card game with the objective of winning the highest possible amount of money. Normally, a pattern of choosing cards from the higher-yielding deck of cards emerges. *Id.* Similarly, individuals exposed to a technique called "forced choice guessing," are asked to memorize certain information ordered to be difficult to recall,

regions that are activated in decision making never reach this hunch stage, and do not show the kinds of physiological responses typically evident before making a bad decision.²⁵⁰

Such divergences between people's conscious and unconscious processes do not end with decision-making abilities and hunches. In subjects with both damaged and normal eyesight, for example, researchers have found that an individual's vision for action is distinctly different from their vision for perception.²⁵¹ For example, people substantially

such as a long and complicated list of words or addresses. When they are later asked to repeat the list and they are unable to remember all of it, researchers present them with a similar list, including some items from the original. Subjects then select the information that seems most familiar, and they are almost always correct. Gay Snodgrass, *The Memory Trainers*, in *MIND AND BRAIN SCIENCES IN THE 21ST CENTURY* 199, 199-233 (Robert L. Solso ed., 1997) (reviewing the research on memory and conscious processing). More recently, experimenters have been investigating whether undamaged brains can learn knowledge unconsciously as well as recall it unconsciously. If supported, this controversial area of research could provide a scientific explanation for intuition. Holmes, *supra* note 231, at 31.

250. See Bechara et al., *supra* note 247, at 1293; see also Michael L. Platt & Paul W. Glimcher, *Neural Correlates of Decision Variables in Parietal Cortex*, 400 *NATURE* 233, 233-38 (1999) (noting research showing that monkeys display a level of neuron activity that correlates to their anticipated award). It appears that these kinds of expectancies are integrated into the brain's neurochemistry.

251. This incongruity was first discovered when researchers examined an individual suffering from carbon monoxide poisoning, which damaged the subject's visual cortex and left her unable to perceive consciously shapes or objects. See M. A. Goodale et al., *A Neurological Dissociation Between Perceiving Objects and Grasping Them*, 349 *NATURE* 154, 154 (1991). The subject could not distinguish between vertical or horizontal orientation of objects held before her, but she could still grasp such objects without difficulty. *Id.* at 154. Likewise, the subject could not describe the orientation of a slot in a disk but she had no difficulty orienting and pushing a card through the slot when asked to do so. *Id.* In addition, although she could not distinguish between a square object and a rectangular object, she formed the correct shape with her hand when she picked them up. *Id.* at 155. Such differences are also detectable among non-damaged individuals. A. David Milner & Melvyn A. Goodale, *The Visual Brain in Action*, in *THIRD TUCSON DISCUSSIONS AND DEBATES*, *supra* note 222, at 127, 135-39. In one experiment, psychologists presented subjects with a selection of blocks shaped like poker chips placed on a table to create an optical illusion. In one configuration, a chip was placed inside a circle of other chips that were substantially larger than it was; in the other configuration, an identically sized chip was placed inside a circle of other chips that were substantially smaller than it was. Subjects always say that the chip surrounded by the smaller chips is larger than the other chips; yet, when these subjects grasp at the chips within both configurations, their hands open to the identical width no matter which chip they are grabbing. *Id.* at 136-37. From these experiments, researchers have been able to show that the brain has developed two different visual systems that employ different regions

overestimate the steepness of a hill while standing at the bottom of it.²⁵² However, when asked, they accurately tilt their hand to match the steepness, even without looking at their hand.²⁵³ People also judge hills to be even steeper if they are wearing a heavy backpack or have just completed a run.²⁵⁴ Similarly, older individuals perceive more steepness than younger individuals, while unfit people see more steepness than trained athletes.²⁵⁵ It appears that people's conscious misrepresentations have two self-serving functions. On the one hand, these misrepresentations distort reality so that we may not attempt hill climbing that could be physiologically futile. On the other hand, they provide an accurate gauge of just how much effort is needed to reach the top.²⁵⁶ Unconsciously, subjects' brains and bodies detect information that their conscious brain does not recognize.²⁵⁷ This finding suggests that the conscious mind is not in full control of an individual's perceptions and actions.

In terms of the criminal law, such evidence again sheds doubt on the MPC's sharp conscious/unconscious dichotomy, as well as the MPC's simplistic listing of medical and psychological states to illustrate unconsciousness. Rather, the issue of consciousness is far more complex and subjective. Although the MPC drafters recognized this possibility,²⁵⁸ there was not nearly the volume of research supporting it at the time the MPC was drafted.

An awareness of such complexity is not to suggest that each defendant's mental state be judged on a standardless case-by-case basis. The criminal justice system does not have sufficient time and resources for such an approach. The law needs to draw lines somewhere. The question is where to draw

of the brain: a conscious perceptual system, that individuals use to describe objects so that they can be compared and remembered; and an unconscious visuomotor system, that individuals use to determine the size and location of objects relative to the body. Whereas the conscious perceptual system was fooled by the optical illusion, the unconscious visuomotor system was not. *Id.* at 135-39.

252. See Sarah H. Creem & Dennis R. Proffitt, *Two Memories for Geographical Slant: Separation and Interdependence of Action and Awareness*, 5 PSYCHONOMIC BULL. & REV. 22, 22-26 (1998).

253. *Id.* at 23.

254. *Id.*

255. *Id.*

256. *Id.* at 33-34.

257. See *id.*

258. See *supra* notes 73-82 and accompanying text.

them.

Consciousness research provides a foundation for identifying those factors that may affect people's perceptions of the world and how they may act accordingly. This Article's three-part standard of voluntary, involuntary, and semi-voluntary acts, discussed in Part IV, allows more flexibility in accommodating such research.

3. Unconscious Processes and Voluntary Acts

Some of the most powerful research in neuroscience suggests that the unconscious may be in charge of how human beings make decisions about willed movements, such as choosing when to flex a wrist, bend a finger, or, quite possibly, even to fire a gun. Of course, willed movements lie at the heart of the criminal law's voluntary act requirement. In other words, when do people consciously feel they have engaged in a voluntary act? This question was tested in a series of experiments conducted by Benjamin Libet and his colleagues, starting in the 1960s and continuing up to the present time.²⁵⁹

A typical Libet experiment—much simplified for this discussion—goes as follows: Libet would ask human subjects to make hand movements whenever they felt like it while he measured the electrical activity in their brains. With EEG recordings, this could be done with almost millisecond precision.²⁶⁰ Libet found that the subjects' brain impulses associated with their movements began about 300 to 350 milliseconds—or about a third of a second—before the subjects

259. See THE VOLITIONAL BRAIN: TOWARD A NEUROSCIENCE OF FREE WILL at ix-xxi (Benjamin Libet et al. eds., 2000) [hereinafter VOLITIONAL BRAIN]; Benjamin Libet, *The Neural Time Factor in "Conscious" and "Unconscious" Events*, in EXPERIMENTAL AND THEORETICAL STUDIES OF CONSCIOUSNESS 123 (Thomas Nagel ed., 1993); Benjamin Libet, *The Timing of a Subjective Experience*, 12 BEHAV. & BRAIN SCI. 183, 183-84 (1989) [hereinafter, Libet, *Timing*]; Benjamin Libet, *Are the Mental Experiences of Will and Self-Control Significant for the Performance of a Voluntary Act?*, 10 BEHAV. & BRAIN SCI. 783, 784, 785 (1987) [hereinafter Libet, *Mental Experiences*]; Benjamin Libet, *Unconscious Cerebral Initiative and the Role of Conscious Will in Voluntary Action*, 8 BEHAV. & BRAIN SCI. 529, 530-38 (1985) [hereinafter Libet, *Unconscious*]; Libet, *supra* note 214, at 235-42; Benjamin Libet, *Cortical Activation in Conscious and Unconscious Experience*, 9 PERSP. IN BIOLOGY & MED. 77, 79-83 (1965); Benjamin Libet et al., *Production of Threshold Levels of Conscious Sensation by Electrical Stimulation of Human Somato-Sensory Cortex*, 27 J. NEUROPHYSIOLOGY 546, 546-78 (1964). A collection of Libet's research on timing can be found in BENJAMIN LIBET, NEUROPHYSIOLOGY OF CONSCIOUSNESS: SELECTED PAPERS AND NEW ESSAYS (1993).

260. Libet, *Unconscious*, *supra* note 259, at 530.

reported any conscious awareness of their intention to make the movement.²⁶¹ In essence, the motor-planning areas in their brains began to stir a third of a second prior to when the subjects became aware of the desire to act. According to Libet and others, a subject's decision to move a finger or a wrist must have originated unconsciously and only appeared to that person as a conscious wish about a third of a second later.²⁶²

Libet's results spurred an enormous reaction when they were published in the 1980s.²⁶³ They seemed to suggest that people could not regulate their own thoughts. By the time individuals are aware that they want to do something as minor as flexing a finger, that decision has already been made by lower-level brain mechanisms that they could not control.²⁶⁴

Yet, Libet's results also showed that the conscious mind was not totally powerless. It could still veto the unconscious mind's proposed movement during a window of about 150 to 200 milliseconds that existed between the time individuals became consciously aware of their intention to act and the actual act.²⁶⁵ In other words, the conscious mind still had time to block the actual movement before it occurred. Therefore, "what consciousness actually gives us is a veto—not so much freewill, as free-won't."²⁶⁶

261. *Id.* at 529.

262. *Id.* at 536.

263. MCCRONE, *supra* note 205, at 133.

264. *Id.* Libet's extraordinary finding moved some psychologists to claim that consciousness was a mere "epiphenomenon" devoid of any purpose. See Max Velmans, *Is Human Information Processing Conscious?*, 14 BEHAV. & BRAIN SCI. 651, 667 (1991). Neither Libet nor other scientists have endorsed this view, however. For general commentary and critique of this view see VOLITIONAL BRAIN, *supra* note 259, at ix-xxiii; Bernard J. Baars, *A Curious Coincidence? Consciousness as an Object of Scientific Scrutiny Fits Our Personal Experience Remarkably Well*, 14 BEHAV. & BRAIN SCI. 669 (1991); Ned Block, *Evidence Against Epiphenomenalism*, 14 BEHAV. & BRAIN SCI. 670 (1991); Valerie Gray Hardcastle, *Epiphenomenalism and the Reduction of Experience*, 14 BEHAV. & BRAIN SCI. 680 (1991); Bruce Mangan, *Epi-arguments for Epiphenomenalism*, 14 BEHAV. & BRAIN SCI. 689 (1991); Georges Rey, *Reasons for Doubting the Existence of Even Epiphenomenal Consciousness*, 14 BEHAV. & BRAIN SCI. 691 (1991).

265. Libet, *Unconscious*, *supra* note 259, at 537.

266. CARTER, *supra* note 222, at 86. According to Libet, such results suggest only that the concepts of free will and individuality need to be revised, but not rejected. See Libet, *Timing*, *supra* note 259, at 183. While the processes linked to free will may not lead to an individual's initiation of a voluntary act, they will contribute to selecting and controlling volitional results. See Libet, *Mental Experiences*, *supra* note 259, at 783; see generally VOLITIONAL BRAIN, *supra* note 259, at xv-xvii (discussing neuroscientific

Libet's results have been replicated many times over during the past two decades in a variety of experiments. They also have been tested with an array of more complicated behaviors.²⁶⁷ These behaviors range from all types of sports activities where a person's reaction time is important²⁶⁸ to the treatment of obsessive compulsive disorders, where individuals are taught to veto their dysfunctional thoughts and urges before they engage in unwanted involuntary acts, such as repetitive hand washing.²⁶⁹

This is not to say that everyone agrees with how Libet's results should be interpreted or what they mean in the philosophical sense.²⁷⁰ For example, one of the strongest initial criticisms of Libet's results was that they suggested some "binary" state where conscious awareness was suddenly "clicked on" after, say, a third of a second.²⁷¹ The stronger and now accepted argument is that consciousness evolves gradually, starting from the unconscious and moving to pre-conscious states on the way to becoming a settled state of consciousness. What seems like two modes of processing—conscious and unconscious in Libet's experiments—is really a whole brain reaction.²⁷²

For the purposes of the criminal law, Libet's research confirms that there appears to be no sound scientific basis for the MPC's dichotomy between voluntary and involuntary behavior. The issue of consciousness is far more intricate and subjective than the criminal law treats it. As Parts III and IV

theories of free will). See also Holmes, *supra* note 231, at 35 (quoting neurologist and psychologist Vilayanur Ramachandran about the concept of "free won't").

267. MCCRONE, *supra* note 205, at 120-64.

268. Bruce Abernethy, *Mechanisms of Skill in Cricket Batting*, 13 SPORTS MED. 3, 3-9 (1981); Peter McLeod, *Visual Reaction Time and High-speed Ball Games*, 16 PERCEPTION 49, 49-59 (1987).

269. Jeffrey M. Schwartz, *A Role for Volition and Attention in the Generation of New Brain Circuitry: Toward a Neurobiology of Mental Force*, in VOLITIONAL BRAIN, *supra* note 259, at 116.

270. All of this research spurs chicken-and-egg debates in the neurosciences, particularly when an individual's emotions are at issue. The debates center on what comes first: conscious awareness of the emotion (for example, fear), or the autonomic processes that accompany it, such as a pounding heart or increased adrenalin. See Libet, *Timing*, *supra* note 259, at 183; Libet, *Mental Experiences*, *supra* note 259, at 783. These debates were originally recognized by William James. See William James, *On Some Omissions of Introspective Psychology*, 9 MIND 1, 2-3 (1884).

271. MCCRONE, *supra* note 205, at 134.

272. *Id.* at 134-39.

of this Article discuss, there is a broad range of behavior that may not be susceptible to a veto effect if individuals are suffering from a condition—induced either internally or externally—that triggers unconsciously motivated behavior before conscious awareness can stop it.

4. Attempts to Distinguish Conscious and Unconscious Processes

Scientists' attempts to locate, or distinguish between, conscious and unconscious processes in the brain are ongoing, but still too speculative.²⁷³ Yet, several experiments provide some interesting glimpses.²⁷⁴ Some of the more compelling

273. See TAYLOR, *supra* note 9, at 66 (stating that "[t]he division into what activity is truly conscious and what is not has yet to be discovered"); see also Erdelyi, *supra* note 3, at 785. As Erdelyi explains, "it seems to be often assumed implicitly that an actual dichotomy exists between the conscious and the unconscious." *Id.* Although this dichotomy was explicitly assumed by influential German psychologists in the 1800s, "mainstream" psychophysics has abandoned this dichotomy in favor of arbitrary definitions, such as 50% detection. *Id.* There is no consensus, however, on what marker constitutes the absence of awareness. Different tests produce different measures of consciousness, so that what seems to be unconsciousness in one study appears to be consciousness or partial consciousness in another study. There is simply no set standard or rule. *Id.*

274. Recent research on blindsight patients, for example, suggests that "conscious seeing" appears to create different patterns of brain activity compared to "unconscious seeing." See generally WEISKRANTZ, *BLINDSIGHT*, *supra* note 203, at 26-27 (discussing studies in which patients had higher skin conductance responses, indicating brain activity, while reading familiar names or viewing familiar pictures, despite an inability to identify familiar names or pictures consciously). The full implications of attempts to locate conscious and unconscious processes are perhaps best illustrated in studies of individuals suffering from anosognosia. See V.S. RAMACHANDRAN & SANDRA BLAKESLEE, *PHANTOMS IN THE BRAIN: PROBING THE MYSTERIES OF THE HUMAN MIND* 127-57 (1998). Occasionally, anosognosia results when there is stroke damage to the right side of an individual's brain which leaves the individual paralyzed on the left side of the body. *Id.* at 127-28. Although the paralysis is obvious, anosognosics, who are totally sane and rational, insist that their lifeless limbs are functional. *Id.* In one study, when the researcher asked a patient to touch him on the nose, she claimed that she touched him even though her arm remained motionless at her side. *Id.* When asked to clap, she moved her good arm only but contended that she was clapping normally. *Id.* When the patient continually failed to tie her shoe, however, she stated that she had successfully tied it "with both hands," a reference that most non-paralyzed individuals typically would not mention. *Id.* at 138-39. According to the researcher, such a comment indicates that on some level, anosognosics may know that they are paralyzed and unable to accomplish the tasks asked of them, but deny the fact to preserve their self-esteem. *Id.* at 139. There also appears to be more at issue than denial. Anosognosia occurs almost entirely among individuals who are paralyzed on the left side, suggesting that the

research relevant to the criminal law concerns efforts to differentiate among varying types and levels of memory.

A recent study based on PET scans, for example, showed that false memories can be clearly differentiated from true memories.²⁷⁵ Subjects were asked to remember a list of words that experimenters read to them (on List A) and were then asked to identify the List A words when experimenters read to them a second list (List B). Some of the words on List A and List B were identical (for example, "car"). However, List B also contained some words that were similar to, but not the same as, some of the words on List A. For example, if "candy" and "cake" were on List A, the word "sweet" instead was on List B.²⁷⁶ If the subject said, incorrectly, that the word "sweet" was on List A, that would constitute a false memory. If the subject said, correctly, that the word "car" was on List A, that would constitute a true memory.²⁷⁷ During the PET scans, both true and false recollections lit up the area of the subject's brain that controls recall while the subject was being questioned. However, the PET scans for true words also lit up the area of the brain that distinguishes sound patterns and recognizes

neurological damage has occurred on the right side of the brain. *Id.* at 128. This supports the view that anosognosia reflects a problem with the brain's belief mechanism, not its perceptual mechanism. *Id.* at 134. It also suggests that the left side of the brain organizes and makes sense of sensory inputs in terms of a theoretical worldview and ignores those inputs that conflict with it. *Id.* at 135. In contrast, the right half of the brain acts as a sort of devil's advocate that forces the left brain to alter its world view when it is confronted with new information. *Id.* at 136. It appears that the damaged right hemisphere constricts the "devil's advocate," leaving the left brain free to engage in denial and delusion. *Id.* at 127-57; see also Daniel M. Wegner & Thalia Wheatley, *Apparent Mental Causation*, 54 AM. PSYCHOLOGIST 480, 480 (1999) (discussing an experiment showing that individuals "can arrive at the mistaken belief that they have intentionally caused an action that in fact they were forced to perform when they are simply led to think about the action just before its occurrence"; therefore, the actual causal mechanisms of behavior may be present in the unconscious, rather than conscious, mind). For a superb account of research on consciousness and intent, see generally WEGNER, *supra* note 208.

275. SCHACTER, *supra* note 173, at 182-91; Daniel L. Schacter et al., *Neuroanatomical Correlates of Veridical and Illusory Recognition Memory: Evidence From Positron Emission Tomography*, 17 NEURON 267, 267 (1996). Schacter emphasizes that "[t]he nonconscious world of implicit memory revealed by cognitive neuroscience differs markedly from the Freudian unconscious" and it is also "far more mundane." SCHACTER, *supra* note 173, at 190-91.

276. Schacter et al., *supra* note 275, at 268.

277. *Id.*

words; this is because the subject had actually “heard” the right word (“car”) the first time when the experimenter had read List A and had remembered how it had sounded when the experimenter read List B.²⁷⁸

Initially, researchers were asked if these findings could have implications in legal cases concerning repressed or recovered memories as well as consciousness. The researchers claimed that the science was still too complex and unrefined to use in that capacity.²⁷⁹ However, in *Harrington v. State*,²⁸⁰ a post-conviction hearing, an Iowa district court ruled for the first time²⁸¹ on the admissibility of another sort of brain technology, a new scientific test known as “brain fingerprinting,”²⁸² developed by Lawrence Farwell.²⁸³ In

278. SCHACTER, *supra* note 173, at 182-91; Schacter et al., *supra* note 275, at 268-70; see also Michael D. Rugg et al., *Dissociation of the Neural Correlates of Implicit and Explicit Memory*, 392 NATURE 595, 595-98 (1998) (detailing a study distinguishing between explicit and implicit memories).

279. Philip J. Hilts, *In Research Scans, Telltale Signs Sort False Memories From True*, N.Y. TIMES, July 2, 1996, at C3 (referring to Dr. Schacter's comments that it would be “farfetched” to use PET scans for examining false memories in the context of a trial because the process is still too complicated, and also expensive).

280. No. PCCV 073247 (Iowa Dist. Ct. Mar. 5, 2001) (order denying motion for a new trial) (no slip op., on file with author).

281. Nell Boyce, *Truth and Consequences: Scientists Are Scanning The Brain For Traces Of Guilty Knowledge*, U.S. NEWS & WORLD REP., Jan. 15, 2001, at 40; Chris Clayton, “Brain Fingerprints” As Defense?, NAT'L L.J., Nov. 20, 2000, at 4.

282. The technique is officially called “Farwell Brain Fingerprinting.” See Lawrence A. Farwell, *Brain Fingerprinting: A New Paradigm in Criminal Investigations and Counterterrorism*, at <http://www.brainwavescience.com> (last viewed Sept. 15, 2002) [hereinafter Farwell, Brainwavescience.com] (providing links to and reviewing media accounts, commentaries, and interviews concerning brain fingerprinting and the cases in which it has been used); see also Lawrence A. Farwell & Sharon S. Smith, *Using Brain MERMER Testing to Detect Knowledge Despite Efforts to Conceal*, 46 J. FORENSIC SCI. 135, 135 (2001); Lawrence A. Farwell, *Supplement to Forensic Science Report: Brain Fingerprinting Test on Terry Harrington* (Nov. 10, 2000), at <http://www.brainwavescience.com/HarringtonSupplement004figs.htm> (last visited Sept. 27, 2002) [hereinafter *Supplement*].

283. Lawrence A. Farwell is the Chief Scientist and Chairman of the Human Brain Research Laboratory in Fairfield, Iowa. A self-described cognitive psychophysiolgist, he has a Ph.D. in Biological Psychology from the University of Illinois. Prior to receiving his Ph.D., Farwell was a consultant to the Central Intelligence Agency on brain research and how such research can uncover hidden information. In addition, he was formerly a research associate in the Department of Psychiatry at Harvard Medical School. Transcript of Proceedings at 4-5, *Harrington v. State* (Iowa Dist. Ct. Nov. 14-15, 2000), (No. PCCV 073247) [hereinafter *Harrington Transcript*].

Harrington, the results of the brain fingerprinting test were introduced to prove that the petitioner, a suspect in a 1977 murder case, did not have details of the crime stored in his memory and therefore was never present at the crime scene.²⁸⁴ The *Harrington* court determined that at least a part of the science involved in brain fingerprinting was well established in the scientific community.²⁸⁵ For a range of reasons, however, the court dismissed the petition for a new trial²⁸⁶ and, Farwell's

284. *Harrington*, No. PCCV 073247, at 6-7. In 1977, Terry Harrington was charged with first-degree murder of a nighttime security guard who had been killed by a shotgun blast. *State v. Harrington*, 284 N.W.2d 244, 245-46 (Iowa 1979). In 1978, Harrington was tried, convicted, and sentenced to life in prison for the crime despite alibi testimony that he and several witnesses provided claiming that Harrington was at a concert with friends at the time of the murder. *Harrington*, No. PCCV 073247, at 6-7. In 1979, a state appellate court rejected Harrington's direct appeal. *Harrington*, 284 N.W. 2d at 251. In 1990, his application for post-conviction relief was also denied. *Harrington*, No. PCCV 073247, at 3. Finally, in 1993, the Eighth Circuit affirmed the district court's denial of Harrington's petition for *habeas corpus*. *Harrington v. Nix*, 983 F.2d 872, 876 (8th Cir. 1993) (per curiam). Eventually, in 2000, Harrington retained Farwell to conduct tests to evaluate the information stored in Harrington's brain that was relevant to the events of the night of the murder. Lawrence Farwell, *Forensic Science Report: Brain Fingerprinting Test on Terry Harrington*, at <http://www.brainwavescience.com/HarringtonTechReport005.htm>. The result of Farwell's first test was "information absent," with a statistical confidence of 99.9%. In other words, the test found that there was no information stored in Harrington's brain that matched the facts from the crime scene. *Id.* The result of Farwell's second test for alibi-relevant data was "information present," with a statistical confidence of 99.9%. *Id.* Therefore, Farwell claimed that the information stored in Harrington's brain matched his alibi scenario. *Harrington*, No. PCCV 073247, at 6-7.

285. *Harrington*, No. PCCV 073247, at 9. A brief overview of the science of brain fingerprinting can be found in *supra* note 282 and accompanying text. The court determined that "the P-300 effect is well established," but that the MERMER technique that Dr. Farwell used "is not well accepted in the scientific community." *Harrington*, No. PCCV 073247, at 9. The MERMER, along with Dr. Farwell's mathematical model, also have "not been independently tested" nor "subjected to peer review" and they are not "widely accepted in the scientific community of psycho-physiologists." *Id.* Lastly, the court noted that "choosing probe stimuli is subjective" and that "[t]he probe stimuli used by Dr. Farwell to test Harrington do not meet his own standards for selecting them." *Id.* at 10. For example, for more than twenty years, Harrington was privy to trial transcripts and exhibits. Such access throws doubt on Farwell's ability to select probe stimuli that were "sufficiently significant" to provide "specific details of the crime . . . known only to the perpetrator and the investigators." *Id.*

286. *Harrington*, No. PCCV 073247, at 19 (concluding that the newly discovered evidence of the P-300 effect and of information contained in police reports that was not provided to Harrington's attorney, in addition to the "inherently unreliable" recantation of a key witness's testimony, were not

claims to the contrary,²⁸⁷ did not clearly hold on the issue of the admissibility of the brain fingerprinting technique.²⁸⁸ It remains to be seen whether the *Harrington* court's ambiguous ruling will lead to the acceptance of the test in any jurisdiction.

Brain fingerprinting is based upon the principle that the human brain houses information about all kinds of cognitive activity, including the particulars of sensory perceptions and experienced events. Whenever a person recognizes an object or idea (such as the face of another person), his or her brain emits an electrical response.²⁸⁹ However, a person's brain does not emit details of an electrical response when such a stimulus is irrelevant or unfamiliar to him or her.²⁹⁰ In terms of the test's

sufficient to warrant the grant of a new trial).

287. The *Harrington* case provides no support for the headline in Farwell's website claiming "Brain Fingerprinting Ruled Admissible in Court." Farwell, Brainwavescience.com, *supra* note 282, at <http://www.brainwavescience.com>.

288. The *Harrington* court avoided a clear ruling on admissibility and did not indicate what evidentiary test was being used to determine brain fingerprinting's reliability, validity, or acceptance in the scientific community. See *Harrington*, No. PCCV 073247, at 9. However, Iowa follows a limited version of the test for scientific evidence that was established in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 588-96 (1993). See *Leaf v. Goodyear Tire and Rubber Co.*, 590 N.W.2d 525, 533 (Iowa 1999) ("We hold that trial courts are not required to apply the *Daubert* analysis in considering the admission of expert testimony. Nevertheless, trial courts may find it helpful, particularly in complex cases, to use one or more of the relevant *Daubert* 'considerations' in assessing the reliability of expert testimony.").

289. See *Harrington* Transcript, *supra* note 283, at 36-37 (direct testimony of Lawrence Farwell).

290. *Id.* at 38-39. A person's positive response to a stimulus occurs through what scientists call a P300 wave, a positive electrical charge that lasts for three-hundred milliseconds (on average) after the subject recognizes the stimulus. *Id.* at 37. The brain fingerprinting test measures this P-300 wave. *Id.* The human brain, however, does not store everything a person ever confronts. For information to be sufficiently significant in order to prompt a P-300 response from a person's brain, it must be noticeable in the context in which the person initially experienced it. See *id.* at 23-24, 36-37, 139-43. For example, a person would likely think it noteworthy if he perceived an elephant while sitting in a courtroom. *Id.* at 140. Later, when asked to recollect his day in court, that person would probably elicit a P-300 response when exposed to the word "elephant." *Id.* at 37, 140. Someone who works with elephants everyday at a zoo, however, might not elicit a P-300 response when exposed to the word "elephant" and asked about their work that day because, for them, the perception would probably not be all that significant. See *id.* at 139-43 (redirect testimony of Lawrence Farwell). Brain fingerprinting also extends beyond the P-300 effect by measuring a specific brainwave response called a MERMER (an acronym for Memory and Encoding Related Multifaceted Electroencephalographic Response). *Id.* at 18-19. The MERMER is a negative electrical reaction that a person's brain emits immediately after it produces the P-300 response. *Id.* Identification of the MERMER is guided by the same

forensic applications, brain fingerprinting can evaluate memory impressions in order to compare the facts from a crime scene (for example, the use of a specific murder weapon) with memory evidence involuntarily stored in the brain of a suspect or witness.²⁹¹

The presence of specific information in the suspect's brain that only the criminal would know is detected by a test system that requires the suspect to view words, phrases, or pictures on a computer screen.²⁹² During the viewing, the suspect's electrical brain responses to both neutral and crime-related images are measured using a sensor-equipped headband attached to the scalp, which transmits signals that are then subjected to computerized analysis. The analysis determines whether a particular electrical brain response has occurred, and, based on that outcome, provides the statistical likelihood that the crime-relevant details are present in the suspect's memory.²⁹³ According to Farwell, the technique has been tested over 150 times with 100% accuracy,²⁹⁴ and experts have

scientific principles as identification of the P-300 and the two procedures are complementary. See *id.* at 19 (noting that "the MERMER is frosting on the cake, of which the P300 [sic] is the cake"); see also *id.* at 47-48 (testifying that MERMER raises the statistical confidence of the tests to 99.99%); Farwell & Smith, *supra* note 282, at 137 (describing the components of the MERMER, one of which is P-300).

291. See *Harrington* Transcript, *supra* note 283, at 36-54, 136-37 (describing the higher level of accuracy achievable with MERMER); see generally Farwell, Brainwavescience.com, *supra* note 282, at <http://www.brainwavescience.com> (reviewing selected media accounts, commentaries, and interviews concerning brain fingerprinting and the cases in which it has been used).

292. The tester presents the suspect with three different categories of stimulus information: (1) target, (2) irrelevant, and (3) probe. *Harrington* Transcript, *supra* note 283, at 17-18. "Targets" are types of information that the tester knows the suspect will recognize. *Id.* at 36. Because targets predictably evoke a P-300 response, they allow the tester to establish a baseline for when the suspect recognizes items. *Id.* at 40. "Irrelevants" are types of information that the tester knows have no relevance to anything in the suspect's memory. *Id.* at 39. Because irrelevants predictably do not evoke a P-300 response, they establish a baseline for non-recognition. *Id.* at 40-41. "Probes" are types of information that the tester shows to the suspect to determine whether or not they evoke a P300 response. *Id.* at 40. The information is then compared with the suspect's test results with targets and irrelevants. *Id.* at 18, 40-41.

293. Farwell & Smith, *supra* note 282, at 136-37.

294. Interview with Dr. Lawrence Farwell: *Brain Fingerprinting and the Harrington Case*, at <http://www.brainscience.com/QandABrainFingerprinting001.htm> (last visited Sept. 15, 2002) [hereinafter *Farwell Interview*]. Farwell claims that the process of brain fingerprinting is similar to the widely

confirmed the scientific validity of using electrical brain signals to measure information-processing brain activity.²⁹⁵ At the same time, the test is not without its detractors, as is explained in *Harrington*.²⁹⁶ Experts have also expressed strong opinions that brain fingerprinting is not ready for forensic use—for example, the procedure is too subjective and scientists do not know how the measured information gets into a person's brain as a memory.²⁹⁷ In other words, the test “cannot distinguish between a real memory, a false memory or a dream memory.”²⁹⁸

The credibility of Farwell's claims awaits further testing and validation by other scientists—and not by this Article. Regardless, along with comparable kinds of research,²⁹⁹ brain fingerprinting undermines the more traditional views of consciousness and unconsciousness that the MPC presents.

5. How “Smart” is the Unconscious?

Developments in memory and consciousness research raise inviting questions for the criminal law: How “smart” or “dumb” is the unconscious?³⁰⁰ Are there things that the unconscious can know or learn that an individual was never consciously aware of?

accepted techniques of fingerprinting and DNA fingerprinting: evidence preserved from the crime scene is compared with evidence on the suspect's person to determine that suspect's presence at the crime scene. Lawrence A. Farwell, *Forensic Science Report: Brain Fingerprinting Test on Terry Harrington* (May 21, 2000), at <http://www.brainwavescience.com/HarringtonTechReport005.htm> [hereinafter *Forensic Science Report*]. Brain fingerprinting is more often possible than other types of fingerprinting, however, because the only requirements are the use of the suspect's brain and investigators' knowledge of certain crime-related details. See Tod W. Burke, *Brain 'Fingerprinting': Latest Tool for Law Enforcement*, LAW & ORDER June 1999, at 28, 29.

295. See Farwell Interview, *supra* note 294 (According to Farwell, experts largely agree that “we can accurately and scientifically measure information-processing activity using electrical brain signals”).

296. *Harrington v. State*, No. PCCV 073247, at 8-11 (Iowa Dist. Ct. Mar. 5, 2001) (order denying motion for a new trial) (no slip op., on file with author) (describing possible shortcomings of brain fingerprinting and a failure to meet probe selection standards).

297. *Id.* at 8.

298. *Id.*

299. See Shankar Vedantam, *The Polygraph Test Meets Its Match*, WASH. POST, Nov. 12, 2001, at A2 (discussing a study using brain scans to determine if subjects were lying).

300. See Loftus & Klinger, *supra* note 84, at 761-65 (addressing the question and concluding that “the unconscious may not be as smart as previously believed”).

These questions have generated substantial debate in the psychological community³⁰¹ and have inspired some compelling investigations. Studies show that there are some types of complex information that individuals learn far quicker and more effectively on the unconscious level than they could ever decipher on the conscious level.³⁰² However, it is the psychodynamic or “emotional” unconscious that can distort the way people perceive and behave, as well as the biases that they adopt.³⁰³ These kinds of unconsciously learned biases become

301. The intelligence of the unconscious appears to depend on what kind of information the individual is learning. Compare Greenwald, *supra* note 7, at 768 (noting that there are different levels of analysis at which the unconscious operates and has been tested, ranging from the unconscious processing of physical features, which requires a relatively low level of analysis, to the information encoded in multiword strings, which requires a higher level of analysis), with Pawel Lewicki et al., *Nonconscious Acquisition of Information*, 47 AM. PSYCHOLOGIST 796, 800 (1992) (noting that if “smart” means that the unconscious has “its own goals or specific motivations and being able to pursue them by triggering particular actions, such as those proposed in the psychoanalytic literature, then the answer to this question would be ‘no’; however, the answer to the question would be ‘yes’ if “smart” means “equipped to efficiently process complex information”).

302. Presumably, such knowledge is not accessible to an individual's consciousness “because it involves a more advanced and structurally more complex organization than could be handled by consciously controlled thinking.” Lewicki et al., *supra* note 301, at 796 (“A considerable amount of evidence indicates that as compared with consciously controlled cognition, the nonconscious information-acquisition processes are incomparably faster and structurally more sophisticated.”). Evidence suggests, for example, that subjects are able to learn complex and subtle rules unconsciously when they are playing (as in one study) a computer game on the basis of their increasing ability to “win” over time even though subjects are unaware that they are following a pattern and are unable to articulate why their chances of winning improve. *Id.* at 797-98. In this particular study, even when subjects were told that there was a winning pattern and were provided as much time as they wanted to study it, none of the subjects was able to even approximate the winning pattern. *Id.* This result held when the study's authors administered the test to psychology professors, or offered \$100 to college students who could decipher the rules. *Id.* For such complex tasks, psychologists rule out the fact that subjects could be engaged in instance learning, which involves automatic conscious learning. *Id.* at 796.

303. This association was tested in one study where volunteer college students were shown computer-generated and altered faces of “fair” or “unfair” college professors. See Thomas Hill et al., *The Role of Learned Inferential Encoding Rules in the Perception of Faces: Effects of Nonconscious Perpetuation of Bias*, 26 J. EXPERIMENTAL SOC. PSYCHOL. 350, 354-59 (1989). Unknown to the students, the distance between the eyes and mouths differed consistently between the “fair” professors and the “unfair” professors. *Id.* at 355. When shown another set of twenty faces and asked to judge intuitively who the students thought were fair, it became clear that the students were inferring fairness on the basis of facial proportions, although they were unable

all the more pronounced when there is an ambiguous or complex reality that the bias helps to interpret.³⁰⁴ The emotional unconscious also appears to be the basis for self-destructive habits that can possibly lead to criminal behavior.³⁰⁵

The research reviewed in this Part is new and going strong. Attorneys have applied some of it in criminal law cases. The findings confirm that there appears to be no acceptable scientific foundation for a dichotomy between conscious/unconscious or voluntary/involuntary, and that consciousness exists in degrees.³⁰⁶ The research also throws doubt on the viability of the criminal law's reliance on listed conditions that legal actors typically use for guidance in making determinations of unconsciousness.

Part III of this Article offers arguments to suggest that the criminal law's voluntary act dichotomies have been confusing in their legal applications, particularly with the common law's more traditional involuntary act groups as well as those groups listed in MPC section 2.01 and its Commentaries (e.g., somnambulism, epileptic seizure, reflex response).³⁰⁷ As the MPC Commentaries predicted, the voluntary act requirement, expressed in terms of the defenses of automatism and unconsciousness, can often conflict with other doctrines, most particularly with the defense of insanity.³⁰⁸ The potential consequences of such muddles are enormous, and they could be avoided.

III. WHEN DEFENSES COLLIDE: INVOLUNTARY ACTS VERSUS INSANITY³⁰⁹

This Part examines, in a variety of contexts, the perplexing

to articulate the reasons for their assessments. *Id.* at 357-58.

304. *Id.* at 359-61.

305. See text accompanying note 198, *supra* (explaining how "blind rage" may cause people to reach a point where they may be capable of murder).

306. See Hill et al., *supra* note 303, at 351, 353 (suggesting that unconsciously learned "rules" help in complex tasks such as facial recognition and language acquisition); see also Lewicki et al., *supra* note 301, at 796 (asserting that only the nonconscious mind can understand and apply especially complex rules).

307. See *supra* notes 29-64 and accompanying text.

308. See *supra* notes 73-83 and accompanying text.

309. The first section of this Part's structure, and many of the cases it discusses, are derived from Eunice Eichelberger's thorough annotation. See Eichelberger, *supra* note 42, at 1072-81.

ways courts have dealt with the automatism/unconsciousness involuntary act defense, and how it relates to the defense of insanity.³¹⁰ For pragmatic reasons only, this Article recognizes the practice of many courts and commentators, which is to treat the terms “automatism” and “unconsciousness” as virtual synonyms.³¹¹ However, these two terms can and should be distinguished: “If automatism is a defense, it is not because of unconsciousness; the actors in [cases where the automatism defense is raised] are not unconscious in any ordinary sense.”³¹² Automatism therefore may be separate from unconsciousness, or on different points on a continuum.³¹³

A. HOW COURTS HAVE USED AUTOMATISM AND
UNCONSCIOUSNESS AS A DEFENSE

Routinely, courts have held that automatism or unconsciousness constitutes a defense to a criminal charge.³¹⁴

310. For a comparative analysis of these defenses, see ROBERT F. SCHOPP, *AUTOMATISM, INSANITY, AND THE PSYCHOLOGY OF CRIMINAL RESPONSIBILITY: A PHILOSOPHICAL INQUIRY* 132-217 (1991). This Article will make reference to the intoxication defense although delving into that comparison too deeply is beyond this Article's bounds. For an analysis comparing unconsciousness and intoxication defenses, see Grant, *supra* note 18, at 1000-17.

311. See LAFAVE, *supra* note 74, at 405 (“A defense related to but different from the defense of insanity is that of unconsciousness, often referred to as automatism”); *infra* note 319 and accompanying text. *Black's Law Dictionary* defines “automatism” as “[a]ction or conduct occurring without will, purpose, or reasoned intention . . . ; behavior carried out in a state of unconsciousness or mental dissociation without full awareness.” *BLACK'S LAW DICTIONARY* 129 (7th ed. 1999). *Black's* defines “unconscious” as “[w]ithout awareness; not conscious.” *Id.* at 1527.

312. Corrado, *supra* note 18, at 1191.

313. See *supra* notes 39-44.

314. For an overview, see Eichelberger, *supra* note 42, at 1074-76. Courts have split on the allocation of the burden of proof. Some courts have expressed the view that the defense has only the burden of producing evidence of automatism or unconsciousness, thereby raising a reasonable doubt as to the defendant's consciousness at the time of the crime. See, e.g., *Gov't of the Virgin Islands v. Smith*, 278 F.2d 169, 173 (3d Cir. 1960) (holding that the trial court improperly placed the burden of proof on the defendant and that the defendant's burden was merely to go forward with the evidence to the extent necessary to raise a reasonable doubt to his consciousness and freedom from an epileptic seizure); *People v. Hardy*, 198 P.2d 865, 872 (Cal. 1948) (clarifying the holding in *People v. Nihell* to mean that the burden on the defendant of proving unconsciousness is merely the burden of producing evidence which would raise a reasonable doubt); *People v. Cruz*, 147 Cal. Rptr. 740, 754 (Cal. Dist. Ct. App. 1978) (holding that unconsciousness due to involuntary intoxication is a complete defense to a criminal charge and that the prosecution has the burden of proving beyond a reasonable doubt that a

This approach started with *Fain v. Commonwealth*,³¹⁵ where the Kentucky state court determined that an individual cannot be criminally responsible for acts committed while unconscious (in this case, somnambulism).³¹⁶ Many courts have upheld and expanded *Fain's* essential reasoning,³¹⁷ some explicitly holding that unconsciousness is a complete defense,³¹⁸ while a few

defendant was conscious during the commission of a crime); *People v. Maxey*, 104 Cal. Rptr. 466, 472 (Cal. Dist. Ct. App. 1972) (holding that the erroneous instruction on unconsciousness did not prejudice the defendant when the evidence showing that the defendant was conscious at the time of the shooting was overwhelming and the trial judge clarified the issue); *cf. People v. Williams*, 99 Cal. Rptr. 103, 119, 121 (Cal. Dist. Ct. App. 1971) (holding that jury instructions were prejudicial because they were incompatible with the view of expert witnesses that a person with psychomotor epilepsy could appear conscious while actually unconscious). Other courts have taken the position that the defendant has the burden of proving automatism or unconsciousness. *See, e.g., People v. Nihell*, 77 P. 916, 917 (Cal. 1904) (holding that the defendant has the burden of establishing that he was in an unconscious mental state); *State v. Caddell*, 215 S.E.2d 348, 363 (N.C. 1975) (affirming defendant's conviction for rape, and holding that unconsciousness is an affirmative defense with the burden resting on the defendant "to establish this defense, unless it arises out of the State's own evidence, to the satisfaction of the jury"); *Fulcher v. State*, 633 P.2d 142, 147 (Wyo. 1981) (holding that unconsciousness is an affirmative defense which the defendant must establish, because the "defendant is the only person who knows his actual state of consciousness").

315. 78 Ky. 183 (1879).

316. *Id.* at 188-89. *Fain* suggested a *mens rea* type of understanding of the voluntary act requirement, holding that an unconscious defendant could not form the criminal intention necessary for criminal culpability. *Id.* But see *ROLIN M. PERKINS, CRIMINAL LAW* 660 (1957) ("[T]he phrase 'voluntary act' means not more than the mere word 'act.'").

317. *See, e.g., People v. Grant*, 377 N.E.2d 4, 8 (Ill. 1978) ("Certain involuntary acts, i.e., those committed during a state of automatism, occur as bodily movements which are not controlled by the conscious mind . . . [A] person, in a state of automatism, who lacks the volition to control or prevent his conduct, cannot be criminally responsible for such involuntary acts."); *People v. Carlo*, 361 N.Y.S.2d 168, 170 (N.Y. App. Div. 1974) (per curiam) ("[C]riminal liability requires at the very least a 'voluntary act.'"); *People v. Marzulli*, 351 N.Y.S.2d 775, 776 (N.Y. App. Term 1973) (per curiam) ("[A]n involuntary act is not criminal."); *State v. Peterson*, 210 S.E.2d 883, 886 (N.C. 1975) ("[A] person cannot be held criminally responsible for acts committed while he is completely unconscious . . ."); *Greenfield v. Commonwealth*, 204 S.E.2d 414, 417 (Va. 1974) ("Where not self-induced, unconsciousness is a complete defense."); *State v. Utter*, 479 P.2d 946, 950 (Wa. 1971) ("An 'act' committed while one is unconscious is in reality no act at all. It is merely a physical event or occurrence for which there can be no criminal liability.").

318. *See, e.g., People v. Tiffith*, 91 Cal. Rptr. 176, 179-180 (Cal. Dist. Ct. App. 1970) (holding that unconsciousness is a complete defense to a criminal charge, but finding defendant had failed to prove that he had a concussion from a car accident); *People v. Moore*, 85 Cal. Rptr. 194, 198 (Cal. Dist. Ct.

courts have attempted to give content to the terms "unconsciousness" and/or "automatism."³¹⁹ Notably, some courts have suggested that different degrees of consciousness may result in different degrees of culpability. For example, in *People v. Newton*,³²⁰ the court differentiated diminished capacity, a partial defense, from unconsciousness, a complete defense, and required jury instructions on both in accordance with the evidence presented.³²¹ The *Newton* court noted that

App. 1970) (holding that a defendant suffering from a "schizophrenic fugue state" was entitled to jury instructions on unconsciousness as a complete defense); *People v. Edgmon*, 73 Cal. Rptr. 634, 638 & n.5 (Cal. Dist. App. 1968) (recognizing the defense of unconsciousness as a complete defense); *State v. Connell*, 493 S.E.2d 292, 296 (N.C. Ct. App. 1997) (holding that unconsciousness is a complete defense to the crime of taking indecent liberties with a child, and that the trial judge erred in failing to instruct the jury on unconsciousness); *Greenfield*, 204 S.E.2d at 417 (holding that unconsciousness is a complete defense to criminal homicide only when it is not self induced).

319. For example, the court in *Fulcher v. State*, 633 P.2d 142, 145 (Wyo. 1981), tried to come to grips with unconsciousness as follows: "The defense of unconsciousness perhaps should be more precisely denominated as the defense of automatism. Automatism is the state of a person who, though capable of action, is not conscious of what he is doing." More recently, the Indiana Supreme Court in *McClain v. State* defined automatism as "the existence in any person of behaviour of which he is unaware and over which he has no conscious control." 678 N.E.2d 104, 106 (Ind. 1997) (quoting Donald Blair, *The Medicolegal Aspects of Automatism*, 17 MED. SCI. LAW 167, 167 (1977) (internal citation omitted)). The court also relied on "[a] seminal British case" that defined automatism as "connoting the state of a person who, 'though capable of action, is not conscious of what he is doing.'" *Id.* at 106 (quoting *Bratty v. Attorney General of N. Ireland*, 3 All E.R. 523, 527 (1961) (internal citation omitted)). *McClain* noted that "[i]n the states that have addressed the issue, it is well-established that automatism can be asserted as a defense to a crime [T]he debate in these states has focused on the manner in which evidence of automatism can be presented." *Id.* at 106-07. A California jury instruction describes the defense of automatism:

A person who commits what would otherwise be a criminal act, while unconscious, is not guilty of a crime.

This rule of law applies to persons who are not conscious of acting but who perform acts while asleep or while suffering from delirium or fever, or because of an attack of [psychomotor] epilepsy, a blow on the head, the involuntary taking of drugs or the involuntary consumption of intoxicating liquor, or any similar cause.

CAL. JURY INSTRUCTIONS: CRIMINAL § 4.30 (6th ed. 1996) (alteration in original). Corrado offers an interesting explanation of automatism and voluntariness. He describes voluntary actions as actions that are "up to the actor." Corrado, *supra* note 18, at 1192. To be "up to an actor," actions must be spontaneous and purposive. *Id.* He suggests that automatistic behavior is spontaneous without being purposive, and therefore is not voluntary. *Id.* at 1211.

320. 87 Cal. Rptr. 394 (Cal. Dist. Ct. App. 1970).

321. See *id.* at 405-06.

"[u]nconsciousness . . . need not reach the physical dimensions commonly associated with the term (coma, inertia, incapability of locomotion or manual action, and so on); it can exist . . . where the subject physically acts but is not, at the time, conscious of acting."³²²

*State v. Sikora*³²³ provides another example of a court's handling of a theory of degrees of consciousness, particularly in the context of psychoanalysis. The appellant contended that the trial court committed reversible error by refusing to admit certain psychiatric testimony³²⁴ of the defense's expert, Dr. Noel C. Galen, a psychodynamic theorist.³²⁵ According to Galen, "mental disturbance and disorder, as distinguished from objective disease, are merely gradients"; people range from thinking quite normally to thinking very distortedly.³²⁶ Set "between the two extremes is a rather jagged line which is prone to and open to many variations."³²⁷ The court summed up its understanding of Galen's "thesis" as follows: "[M]an is a helpless victim of his genes and his lifelong environment; unconscious forces from within dictate the individual's behavior without his being able to alter it."³²⁸ While the court refused to overturn a jury verdict of life imprisonment based on Galen's testimony, it did note that "such psychiatric testimony properly serves a post-conviction purpose," namely as evidence to be considered in the sentencing or punishment phase.³²⁹ *Sikora* thus demonstrates a court's reluctance to accept a theory involving gradations of consciousness; as the court said, "[c]riminal responsibility must be judged at the level of the conscious."³³⁰ That reluctance, however, may be attributable to factors other than the theory's inherent viability, such as witness credibility.³³¹

322. *Id.* at 405. For an interesting commentary on *Newton*, see JOAN DIDION, *THE WHITE ALBUM* 26-33 (1979).

323. 210 A.2d 193 (N.J. 1965).

324. *Id.* at 194.

325. *Id.* at 197.

326. *Id.*

327. *Id.*

328. *Id.* at 198.

329. *Id.* at 204.

330. *Id.* at 202.

331. *See id.* The *Sikora* court subtly intimated that Galen might not have been entirely believable by referring to his seemingly specious logic in testimony in another case. *See id.*

In *United States v. Berri*,³³² the United States Court of Military Appeals seemed more amenable than the *Sikora* court to expert testimony suggesting gradations of consciousness. In *Berri*, the defendant was convicted of attempted murder, maiming, and assault intentionally inflicting grievous bodily harm.³³³ Experts for the defense testified that at the time of the offense, the defendant suffered from Post-Traumatic Stress Disorder (or post-Vietnam Syndrome), and was consequently unable “to appreciate the nature and quality or wrongfulness of his acts.”³³⁴ The experts described the defendant’s “severe mental disease or defect”³³⁵ in various ways: “he’d be aware of behavior, but he might think it’s a dream”;³³⁶ “some of the layers of consciousness were gone”;³³⁷ “[h]e was aware of much of the conduct, but it was as if he was watching someone else do it”;³³⁸ and “the accused was a person seeing a crystal clear, silent world, observing himself go about doing things with no awareness consciously, internal subjective conscious awareness of what and why it was happening.”³³⁹ When asked what the defendant “knew” when he fired his gun, the expert witness replied, “it’s a question of what we mean by he.”³⁴⁰ The expert’s testimony therefore indicates the difficulty of classifying the defendant’s conduct as either conscious or unconscious. The court affirmed the finding of the Court of Military Review, holding that testimony regarding the accused’s mental state was relevant to specific intent.³⁴¹ The trial judge’s instruction, the court continued, prevented *Berri* from advancing “a *legitimate* defense theory to the factfinder.”³⁴²

B. HOW COURTS HAVE DISTINGUISHED AUTOMATISM AND UNCONSCIOUSNESS FROM INSANITY

Courts have explicitly recognized automatism or unconsciousness as a distinct defense from insanity. According

332. 33 M.J. 337 (C.M.A. 1991).

333. *Id.* at 338.

334. *Id.* at 339.

335. *Id.*

336. *Id.* at 340 n.8.

337. *Id.* at 340.

338. *Id.*

339. *Id.*

340. *Id.* at 341 (emphasis omitted).

341. *Id.* at 344.

342. *Id.* (emphasis added).

to the court in *Fulcher v. State*,³⁴³ for example, “[a]utomatism may be caused by an abnormal condition of the mind capable of being designated a mental illness or deficiency. Automatism may also be manifest in a person with a perfectly healthy mind.”³⁴⁴ The *Fulcher* court, in particular, emphasized the different consequences of an insanity defense as compared with automatism or unconsciousness:³⁴⁵ Unconsciousness acts as a complete defense, concluding all action against a defendant upon acquittal, but acquittal by reason of insanity usually results in the commitment of the defendant to a mental institution.³⁴⁶ Other courts have employed similar kinds of reasoning.³⁴⁷

343. 633 P.2d 142 (Wyo. 1981).

344. *Id.* at 145.

345. *See id.*

346. *Id.*; see also *McClain v. State*, 678 N.E.2d 104, 109 (Ind. 1997) (explaining that automatism should not be regarded by the courts as a species of insanity because merging the two defenses “could result in confinement, at least temporarily, not of the insane but of the sane. This is a significant deprivation of liberty for an automatistic defendant where the outcome of the commitment hearing is a foregone conclusion.”); *State v. Caddell*, 215 S.E.2d 348, 360 (N.C. 1975) (noting that “the defenses of insanity and unconsciousness are not the same in nature,” and “[a]s a consequence, the two defenses are not the same in effect, for a defendant found guilty by reason of unconsciousness, as distinct from insanity, is not subject to commitment to a hospital for the mentally ill”); Michael J. Davidson & Steve Walters, *United States v. Berri: The Automatism Defense Rears Its Ugly Little Head*, ARMY LAW., Oct. 1993, at 17, 18-19 (“The majority of authorities distinguish automatism from insanity because the unconsciousness at the time of the [crime] need not be the result of a mental disease or defect, and a criminal defendant found not guilty by reason of unconsciousness—as distinct from insanity—is not subject to commitment . . .”).

347. *See, e.g., People v. Martin*, 197 P.2d 379, 383 (Cal. 1948) (distinguishing the unconsciousness defense from the insanity defense and holding that the trial jury was properly instructed on unconsciousness); *People v. Methever*, 64 P. 481, 483 (Cal. 1901) (discussing distinctions between the unconsciousness defense from the insanity defense and holding that the trial court did not err in failing to instruct on unconsciousness when the defendant had pled insanity), *overruled on other grounds by People v. Gorshen*, 336 P.2d 492, 502 (Cal. 1959); *People v. Rothrock* 68 P.2d 364, 366 (Cal. Dist. Ct. App. 1937) (distinguishing the unconsciousness defense from the insanity defense and finding that the trial court did not err in refusing a continuance to secure evidence concerning sanity when the defendant had plead unconsciousness); *McClain*, 678 N.E.2d at 107-08 (holding that evidence of automatism resulting from sleep deprivation is relevant to the issue of voluntariness and distinguishing the automatism defense from the insanity defense); *Caddell*, 215 S.E.2d at 363 (noting that “unconsciousness, or automatism, is a complete defense to a criminal charge, separate and apart from the defense of insanity,” and that it is an affirmative defense); *State v. Weatherford*, 416 N.W.2d 47, 55 (S.D. 1987) (recognizing that insanity and unconsciousness are two “separate

Contrariwise, other courts have held automatism or unconsciousness to be a species of the insanity defense.³⁴⁸ For example, in *Loven v. State*,³⁴⁹ the Texas Court of Appeals specifically noted that “states of unconsciousness or automatism, including epileptic states, are includable in the defense of insanity.”³⁵⁰ Similarly, in *Lucas v. Commonwealth*,³⁵¹ the court construed automatism (chronic alcoholism, abnormal brain waves, possible epilepsy and probable amnesia) as grounds for a jury determination of the defendant’s sanity.³⁵²

C. HOW COURTS HAVE RESPONDED TO THE MOST COMMON AUTOMATISM/UNCONSCIOUSNESS DEFENSES

1. Epileptic Seizures

Some courts have held that epilepsy constitutes an automatism or unconsciousness defense when a defendant suffered from an epileptic seizure at the time of the charged offense,³⁵³ but not before.³⁵⁴ In turn, other courts have treated

and distinct” defenses).

348. See, e.g., *Reeves v. State*, 27 S.E.2d 375, 380-381, 385 (Ga. 1943) (discussing a defense of unconsciousness due to head injuries as a type of “delusional insanity” defense and holding that it was the prerogative of the jury to accept or reject the defendant’s statements); *Hollander v. State*, 296 N.E.2d 449, 451-52 (Ind. Ct. App. 1973) (holding that automatism, in this instance a “fugue” state of mind, is a species of insanity defense), *overruled by McClain*, 678 N.E.2d at 106 n.4 (Ind. 1997); *Futrell v. Commonwealth*, 437 S.W.2d 487, 489 (Ky. Ct. App. 1969) (holding that defendant’s contention that he was suffering a “blackout” when he molested a young girl was adequately covered by insanity defense instructions and did not require jury instructions on unconsciousness); *Fisher v. State*, 47 N.W.2d 349, 353 (Neb. 1951) (addressing a defense of unconsciousness as a type of insanity defense, the court held that the trial court did not err in refusing an instruction concerning the defendant’s conscious mental state on the ground that she had not denied the applicability of the legal presumption of sanity); *State v. Bunk*, 73 A.2d 249, 255 (N.J. 1950) (referring to a defense of unconsciousness due to “a syncope or blackout spell” as a type of insanity defense and holding that the trial court did not err in refusing the defendant’s requested changes in jury instructions concerning insanity).

349. 831 S.W.2d 387 (Tex. Ct. App. 1992).

350. *Id.* at 391.

351. 112 S.E.2d 915 (Va. 1960).

352. *Id.* at 921.

353. See, e.g., *Gov’t of the Virgin Islands v. Smith*, 278 F.2d 169, 174-75 (3d Cir. 1960) (recognizing that unconsciousness resulting from an epileptic seizure may negate *mens rea*); *People v. Anderson*, 406 P.2d 43, 53 (Cal. 1965) (reversing a conviction and holding that the trial judge should have given an

the defense of epilepsy as part of an insanity defense.³⁵⁵ Epilepsy is not a defense, however, where an epileptic disregards a known condition,³⁵⁶ or voluntarily induces the

instruction on the issue of diminished capacity, despite the defendant's plea of unconsciousness due to a psychomotor epileptic seizure, and also noting that states of diminished capacity and unconsciousness are not antithetical); *United States v. Olvera*, 15 C.M.R. 134, 138 (C.M.A. 1954) (holding that an epileptic fugue reflects an absence of criminal liability).

354. Notably, the state of possessing an epileptic condition is not grounds for relieving liability; the accused must establish that the particular offense charged was caused by an epileptic episode. See *Starr v. State*, 213 S.E.2d 531, 532 (Ga. Ct. App. 1975) (addressing a defense of unconsciousness due to epilepsy as a type of insanity defense, the court held that an epileptic is entitled to such a defense only during an attack or seizure); see also *State v. Pettay*, 532 P.2d 1289, 1291 (Kan. 1975) (holding that if an epileptic is not suffering a seizure at the time he commits a crime, he is criminally responsible); *People v. Jandelli*, 455 N.Y.S.2d 728, 733 (N.Y. Crim. Term 1982) (denying a motion to set aside a guilty verdict where the defendant, accused of murdering his sister, claimed that at the time he was suffering from Penfield's Automatism and had no control over his actions even though the prosecution countered his defense with testimony indicating that the defendant's conduct and recollections were inconsistent with symptoms of Penfield's Automatism); *People v. Magnus*, 155 N.Y.S. 1013, 1014 (N.Y. Gen. Sess. 1915) (noting that being an epileptic does not relieve an accused from criminal responsibility and stating "it is only when he is unconscious of the act which he is committing that he is not answerable criminally").

355. See, e.g., *Cook v. State*, 271 So.2d 232, 233 (Fla. Dist. Ct. App. 1973) (referring to a defense of unconsciousness due to epilepsy as a type of insanity defense); *State v. Wilson*, 514 P.2d 603, 606 (N.M. 1973) (addressing a defense of unconsciousness due to psychomotor epileptic seizure as a type of insanity defense and holding that the defendant's sanity was an issue to be determined by the jury); *People v. Higgins*, 159 N.E.2d 179, 183, 189 (N.Y. 1959) (addressing an unconsciousness defense due to epilepsy as an insanity defense; holding that a finding that the defendant was sane at the time of the crime was contrary to the weight of the evidence; and recognizing four types of epilepsy identified by experts, including psychomotor epilepsy, "during which the patient is out of contact but has seemingly purposeful movements"); *Zimmerman v. State*, 215 S.W. 101, 105 (Tex. Crim. App. 1919) (recognizing an unconsciousness defense due to epilepsy as an insanity defense and stating that the fact that the defendant was subject to seizures would not change the rule requiring the defendant to satisfy the jury that at the time of the crime his mind was in such a condition that he did not know the nature and quality of the act).

356. See *People v. Decina*, 138 N.E.2d 799, 803, 807 (N.Y. 1956) (holding that the defendant may be tried for criminal negligence in the operation of a vehicle resulting in the death of four children, where the "defendant knew he was subject to epileptic attacks and seizures that might strike at any time," and did in fact have a seizure, during which he lost control of the car he was driving (emphasis omitted)). *Decina* implicates the issue of "time-framing" in a determination of voluntariness. As Dressler points out, "if a court constructed an extremely narrow time-frame—specifically, the conduct at the instant the car struck the victims—[the defendant's] conduct did not include a

epileptic state.³⁵⁷

In *People v. Magnus*,³⁵⁸ the court reversed a conviction of disorderly conduct based on “undisputed medical evidence” that the defendant was suffering from “epileptoid automatism.”³⁵⁹ According to the court, a person with such a disorder “is capable of committing an act which is apparently under his control and suggested or prompted by the operation of his mind, but the act may be accompanied by an abnormal and unnatural consciousness, in which case it is automatic and beyond the power of inhibition.”³⁶⁰ The court noted that being an epileptic does not relieve an accused from criminal responsibility; the defendant has to be unconscious at the time of the act.³⁶¹ In cases where an epilepsy defense has not been successful,³⁶² the cases have often involved attempts by the defendant to characterize epilepsy as insanity.³⁶³

voluntary act. A broader time-frame, however, would include the voluntary acts of entering the car, turning the ignition key, and driving.” DRESSLER, *supra* note 26, at 91. *But cf.* *People v. Freeman*, 142 P.2d 435, 439 (Cal. 1943) (holding that the trial court erred in instructing the jury to find the defendant guilty of reckless disregard in negligent homicide by automobile regardless of the fact that defendant was unconscious due to epilepsy at time of accident).

357. See, e.g., *State v. Welsh*, 508 P.2d 1041, 1044 (Wash. Ct. App. 1973) (holding that the new jury should be instructed, on remand, to the effect that unconsciousness is not a complete defense when an epileptic seizure is voluntarily induced by intoxication).

358. 155 N.Y.S. 1013 (N.Y. Gen. Sess. 1915).

359. *Id.* at 1014.

360. *Id.*

361. *Id.*

362. See, e.g., *People v. Glover*, 65 Cal. Rptr. 219, 222-23 (Cal. Dist. Ct. App. 1967) (holding that the trial judge was correct in not instructing on diminished capacity in the guilt phase of the trial when no expert testimony was offered that the defendant suffered an epileptic seizure during the crime); *People v. Gambacorta*, 90 N.E. 809, 812 (N.Y. 1910) (responding to a motion for a new trial based on affidavits that purported to show that the defendant was an epileptic and holding that there was no evidence that the defendant was suffering from a seizure at the time of the murder); *People v. Furlong*, 79 N.E. 978, 982 (N.Y. 1907) (holding that the evidence clearly showed that the defendant acted with a conscious and intelligible motive, and was not under the influence of an epileptic seizure while committing a murder).

363. See, e.g., *People v. Modesto*, 398 P.2d 753, 757 (Cal. 1965) (reversing on other grounds, but supporting a verdict finding the defendant legally sane while undergoing a psychomotor epileptic seizure at the time he committed murder); *Quattlebaum v. State*, 46 S.E. 677, 677-78 (Ga. 1904) (addressing a defense of unconsciousness as a type of insanity defense and holding that the jury had sufficient evidence to find that an epileptic defendant was “of sound mind” during the offense).

2. Somnambulism

Somnambulism, or sleepwalking, may also constitute a defense,³⁶⁴ so long as the defendant claiming the condition had no agency in producing it.³⁶⁵ Like epilepsy, somnambulism has been recognized as a species of insanity.³⁶⁶ In addition, somnambulism has been accepted as a defense when the charged offense was arguably purposive, or regarded as expressing an unconscious desire.³⁶⁷ Nevertheless, even when

364. See generally Peter Fenwick, *Somnambulism and the Law: A Review*, 5 BEHAV. SCI. AND LAW 350 (1987) (discussing the use of somnambulism as a defense in English law); Grant, *supra* note 18, at 997 (noting that automatism encompasses the involuntary acts of a somnambulist and discussing relevant case law throughout the United States).

365. See, e.g., *Stewart v. Peters*, 958 F.2d 1379, 1387 (7th Cir. 1992) (suggesting, in dicta, that the actions of an automaton or sleepwalker could not be intentional); *Lewis v. State*, 27 S.E.2d 659, 665 (Ga. 1943) (holding that an unconscious or somnambulist state "may be" a defense and anyone producing such a state through intoxication is not entitled to such a defense); cf. *United States v. Bailey*, 585 F.2d 1087, 1118 (D.C. Cir. 1978) (Wilkey, J., dissenting) (explaining that if "a prisoner has an epileptic fit [where] he falls over the prison wall, or if he sleepwalks out the prison gate, or if he is carried out . . . by other prisoners, then [no] actus reus [necessary for] escape exist[s] because the prisoner has not performed a volitional act").

366. See, e.g., *Tibbs v. Commonwealth*, 128 S.W.2d 871, 874 (Ky. Ct. App. 1910) (holding the evidence, that the defendant was a somnambulist and was in a state of no self-control, constituted an insanity defense); *Bradley v. State*, 277 S.W. 147, 149 (Tex. Crim. App. 1925) (holding that somnambulism was recognized as a species of insanity, and therefore the trial court's refusal to grant a jury instruction on the somnambulism defense was prejudicial error). A major distinction in discussions of automatism is that of sane versus insane automatisms. Sane automatisms are considered to be those that are brought on by external factors. Insane automatisms are brought on by internal factors, and are "prone to recur and possibly cause violence." Fenwick, *supra* note 364, at 350. Using a sane automatism as a defense results in acquittal, while using an insane automatism as a defense usually leads to the defendant being committed for psychiatric treatment. Mark W. Mahowald & Carlos H. Schenck, *Medical-Legal Aspects of Sleep Medicine*, 17 NEUROLOGIC CLINICS 215, 221 (1999). Generally, the sleep disturbances discussed in this Article have been considered sane automatisms. Mahowald and Schenck have suggested two alternatives to this paradigm: first, a category of acquittal for specific types of diagnoses, and second, a two-stage trial, one stage for the *actus reus* (jury trial) and one stage for the *mens rea* (judge accompanied by medical advisors). *Id.* Whether somnambulism is a sane or insane automatism is a matter of intense debate, and the issue was before the Supreme Court of Canada in the appeal of the *Parks* case. See *Regina v. Parks*, [1992] 95 D.L.R.4th 27; see also *infra* notes 446-74 and accompanying text (discussing the *Parks* case).

367. See Mahowald & Schenck, *supra* note 366, at 221; see also WILLIAMS, *supra* note 25, at 12 (noting that "sleepwalking is a difficult case, because the conduct of a sleep-walker may be purposive (though not recollected on

expert testimony suggested a lack of control on the part of the defendant due to somnambulism, the defense has been unsuccessful.³⁶⁸

3. Concussion and Physical Trauma

Courts have held that concussion or severe trauma, such as a blow to the head, may form the basis of a successful defense. Such cases often involve appellate courts finding that the trial court erred in refusing instructions on unconsciousness due to concussion or physical trauma.³⁶⁹ In other cases, concussion has been invoked unsuccessfully as a defense.³⁷⁰

waking), and may be regarded as expressing unconscious desire" (citations omitted)). See generally Bernadette McSherry, *Getting Away With Murder? Dissociative States and Criminal Responsibility*, 21 INT'L J.L. & PSYCHOL. 163, 163-76 (1998) (discussing disassociative states and sane/insane automatism). Several articles have examined the possibilities of violent behavior related to sleep. In one example, a 43-year old man had been suffering from somnambulism since the age of five. See Carlos H. Schenck & Mark W. Mahowald, *A Polysomnographically Documented Case of Adult Somnambulism With Long-Distance Automobile Driving and Frequent Nocturnal Violence*, 18 SLEEP 765, 765-66 (1995). He had performed such complex activities as driving and taking a shower during sleepwalking episodes. *Id.* at 766. His behavior was often violent, as he would wield knives and baseball bats, and would punch and even attempt to strangle his wife. *Id.* His driving episode occurred when he was 25: He ran out of his house, opened a screen door, got into his car, and drove to his parents' house, waking them up by pounding on their door. *Id.* The patient was treated with clonazepam, and the somnambulism episodes ceased. *Id.* at 768. Driving while in a somnambulistic state is seen again in *Parks*, discussed *infra* notes 446-74 and accompanying text.

368. See *United States v. Foster*, No. ACM 29283, 1993 WL 76323, at *1 (A.F.C.M.R. March 8, 1993) (convicting the defendant of sodomy and indecent acts with his daughter and rejecting a defense that the defendant was a diagnosed sleepwalker who "awoke in his daughter's room").

369. See, e.g., *People v. Roerman*, 10 Cal. Rptr. 870, 877 (Cal. Dist. Ct. App. 1961) (holding that the trial court erred in omitting requested jury instructions when evidence supported the possibility of unconsciousness due to concussion); *People v. Cox*, 153 P.2d 362, 366 (Cal. Dist. Ct. App. 1944) (holding that the trial court erred in refusing to accept medical testimony that the defendant was unconscious due to a blow on the head, and erred by not instructing the jury on unconsciousness as a defense); *Newsome v. Commonwealth*, 154 S.W.2d 737, 740 (Ky. Ct. App. 1941) (requiring jury instructions to acquit if there is evidence that a defendant was unconscious due to a wound in his throat); *Carter v. State*, 376 P.2d 351, 358 (Okla. Crim. App. 1962) (holding that on remand the new jury should be instructed on the defense of unconsciousness, and that the defendant was criminally liable if he drove his automobile knowing that he was subject to spells of unconsciousness as a result of a prior train-automobile collision).

370. See, e.g., *People v. Sedeno*, 518 P.2d 913, 922 (Cal. 1974) (holding that

In *Polston v. State*,³⁷¹ the defendant, who had been drinking, was kicked in the head during an altercation, apparently knocking him unconscious.³⁷² After regaining consciousness, the defendant found his girlfriend, who had been dancing with another man, and bit off two-thirds of her nose, which could not be reattached.³⁷³ The court held that the trial court properly refused requested instructions on unconsciousness due to the concussion because there was insufficient evidence to support such instructions.³⁷⁴ In the course of its holding, the court articulated the elements necessary to establish the defense of concussion-based automatism, which required the defendant to have a "healthy mind" and to behave "in a state of unconsciousness . . . devoid of criminal intent."³⁷⁵

4. Hypnotism, Mental Disease, and Emotional Trauma

Courts recognize that a defendant may use an automatism defense for involuntary acts committed while in a hypnotic

neither a blow to the defendant's head nor his testimony that he took a police officer's gun in a reflex action required the trial judge to grant, sua sponte, a jury instruction on unconscious defense); *People v. Wilburn*, 321 P.2d 452, 455 (Cal. 1958) (affirming a conviction for first-degree murder and holding that the evidence showed that the defendant was conscious at time of the crime, despite defendant's contention that he was unconscious as a result of being shot by a retired police officer during the robbery); *People v. Methever*, 64 P. 481, 482-83 (Cal. 1901) (distinguishing the unconsciousness defense from the insanity defense and holding that the trial court did not err in failing to instruct on unconsciousness when the defendant pled insanity, and claimed that at the time of the crime he was unconscious due to "injuries received upon his head"), *overruled on other grounds by* *People v. Gorshen*, 336 P.2d 492, 502 (Cal. 1959); *State v. Gish*, 393 P.2d 342, 351-352, 358 (Idaho 1964) (holding that the trial court did not err in refusing the defendant's request for jury instructions that clarified the meaning of "unconscious mind," and finding no evidentiary support for defendant's contention that he was suffering from emotionally induced amnesia resulting from a blow to the head preceding the homicide).

371. 685 P.2d 1 (Wyo. 1984).

372. *Id.* at 3.

373. *Id.* at 3-4.

374. *Id.* at 4.

375. *Id.* at 6. In total, the court listed six interlinking elements:

(a) The actor must be a person with a healthy mind (b) who because of a concussion (c) resulting from a brain injury (d) that is a simple brain trauma with no permanent aftereffects (e) acts in a state of unconsciousness (f) in which his actions are devoid of criminal intent.

Id. (citations omitted).

state.³⁷⁶ Courts, however, seem reluctant, in practice, to grant the defense.³⁷⁷ In turn, mental disease has occasionally provided a successful automatism defense.³⁷⁸ Courts often find evidence insufficient to substantiate a defense or instruction based on emotional trauma, however.³⁷⁹

376. Davidson & Walters, *supra* note 346, at 17. See generally Swain, *supra* note 138, at 1509 (discussing hypnosis in a legal context); Jack Solomon, Note, *Hypnotism, Suggestibility and the Law*, 31 NEB. L. REV. 575, 577-81 (1952) (discussing the nature of hypnosis and the legal problems it poses); see also *People v. Dunigan*, 421 N.E.2d 1319, 1338 (Ill. Ct. App. 1981) (finding that "an automatism defense is available to a defendant who lacks the volition to control or present 'involuntary acts' which 'may have been committed' during . . . hypnosis"); but see LAFAVE, *supra* note 74, § 3.2(c), at 209-10 (noting that the hypnotism defense has been rejected where attempted and that there are differences of opinion regarding whether hypnotic acts are involuntary).

377. See, e.g., *United States v. Phillips*, 515 F.Supp. 758, 759-65 (E.D. Ky. 1981) (holding that where a defendant claimed she was under her husband's hypnotic suggestion during the shooting of two United States Marshals, the prosecution could offer testimony that a few weeks earlier, the defendant fired shots at a neighbor, suggesting the defendant could form an intent to commit a violent act); *People v. Worthington*, 38 P. 689, 691 (Cal. 1894) (reversing a conviction for second-degree murder on other grounds, the court held that there was no evidence to support the defendant's contention that she was hypnotized at the time of the murder); *People v. Marsh*, 338 P.2d 495, 496, 498 (Cal. Ct. App. 1959) (holding that the trial court did not err "in refusing to permit the defense to conduct a demonstration of hypnosis in the courtroom," in a prosecution for escape from a state prison in which the defendant attributed his escape to hypnotic suggestion given to him by a fellow inmate).

378. See, e.g., *People v. Wilson*, 427 P.2d 820, 828, 830 (Cal. 1967) (holding that unconsciousness is a complete defense to a criminal charge and determining that the lower court had denied the defendant due process of law by refusing a defense of unconsciousness due to mental disease); *People v. Lisnow*, 151 Cal. Rptr. 621, 624 (Cal. App. Dep't Super. Ct. 1978) (holding that the "defense of unconsciousness due to mental illness would constitute a complete defense to such a criminal charge in the trial to determine guilt or innocence," and therefore the trial court denied the defendant due process by refusing to allow him to prove such a defense).

379. See, e.g., *People v. Bufarale*, 14 Cal. Rptr. 381, 386 (Cal. Dist. Ct. App. 1961) (affirming a conviction for second-degree murder, the court held that the trial jury was properly instructed to find the defendant not guilty if they found that the murder was an unconscious act); *People v. Gibson*, 206 P.2d 375, 380-82 (Cal. Dist. Ct. App. 1949) (holding that although the trial court erred in rejecting testimony regarding the effect of emotional trauma on the defendant's state of consciousness, the ruling was not prejudicial because his own testimony clearly established that he was conscious when he murdered his wife), *overruled on other grounds by People v. Wetmore*, 583 P.2d 1308, 1312-13 (Cal. 1978); *State v. Grimsley*, 444 N.E.2d 1071, 1075 (Ohio Ct. App. 1982) (holding that the evidence failed to establish that the secondary personality of an individual with multiple personality disorder was conscious and her acts voluntary); *Commonwealth v. Crosby*, 279 A.2d 73, 76 (Pa. 1971) (holding that for unconsciousness to be considered a defense it cannot be the

Overall, courts seemed to be swayed by a number of legitimate and predictable factors in determining whether to grant a defense based on automatism/unconsciousness: the facts of the case, the quality of the expert, the type and severity of the defendant's condition. Courts are split, however, on whether to grant either automatism/unconsciousness or insanity for nearly all of the conditions that can qualify for an involuntariness defense.³⁸⁰ Apart from conducting an empirical analysis of a large set of cases to assess which factors are driving courts in either direction (e.g., toward or away from insanity), one can only surmise about the underlying reasons (e.g., courts' concerns about the defendant's dangerousness).³⁸¹ Regardless, for the defendant, the consequences can be extremely disparate, ranging from total acquittal to a long civil commitment. If neither defense is acceptable, in the most serious cases the defendant can receive the death penalty. Part IV considers a number of potential solutions for these kinds of discrepancies that introduce unfairness into the criminal justice system as well as hinder the system's efforts at deterrence.

IV. REFORMING THE VOLUNTARY ACT CONUNDRUM

There are several possible solutions to the problems created by the voluntary act requirement. This Part first examines two approaches: (1) eliminate an explicit voluntary act requirement altogether or, (2) if the requirement is

result of emotion caused by the commission of a criminal act).

380. See *supra* notes 343-75 and accompanying text.

381. Certainly, the MPC drafters emphasized concerns about recurring dangerousness as a reason why a defendant's condition might be considered insane rather than sane but involuntary. See *supra* text accompanying notes 79-82 (discussing the MPC's reliance on the insanity defense). Likewise, other countries, such as England, consistently classify as insanity violent conduct that may be considered sane but involuntary in the United States (such as sleepwalking or epilepsy). See, e.g., *Regina v. Burgess*, 2 All E.R. 769, 774-76 (C.A. 1991). The predominant justification stems from fears about dangerousness. For example, in *Burgess*, the English Court of Appeal, Criminal Division, held that the defendant's violence while sleepwalking was a form of insane (rather than non-insane) automatism primarily because of the possibility that the acts could be repeated in the future. *Id.* For this reason, the *Burgess* court also explicitly refused to follow the Canadian decision in *Regina v. Parks*, [1990] 56 C.C.C. (3d) 449, *aff'd* [1992] 95 D.L.R.4th 27, 28, in which the Supreme Court of Canada ultimately found the defendant's sleepwalking to be an act of non-insane automatism that warranted acquittal of all charges. *Burgess*, 2 All E.R. 769, 774-75. See *infra* notes 446-74 and accompanying text.

retained, base the requirement on social morals, not science. Ultimately, this Article recommends a three-part voluntary act requirement that provides defendants with sufficient constitutional protections and advances the goals of the criminal justice system.

A. ELIMINATE AN EXPLICIT VOLUNTARY ACT REQUIREMENT
ALTOGETHER

One approach to the voluntary act conundrum is to eliminate entirely an explicit statement of the requirement. For example, the federal criminal code³⁸² and some states³⁸³ have never adopted an explicit voluntary act requirement.³⁸⁴ States that have no explicit statutory requirement generally do have an implicit requirement that is specified in a variety of possible ways. For example, the state statutes contain some sort of involuntary conduct defense or a comparable intermediate voluntary act provision.³⁸⁵ State legislatures generally offer very little explanation for why they failed to codify the explicit voluntary act provisions they had initially proposed at the inception of the MPC.³⁸⁶ Presumably, these states viewed other alternatives more favorably. Regardless, since the time of the MPC's 1979 update of revised statutes,³⁸⁷ it appears that states have moved away from, not toward, adopting an explicit statutory requirement.

There are more straightforward reasons explaining the absence of an explicit voluntary act provision in the federal criminal code beyond the federal code's differences in structure (unlike the MPC, it has no general part)³⁸⁸ and the code's organizational problems.³⁸⁹ As the MPC Commentaries acknowledge,³⁹⁰ the first proposed federal criminal code did have a voluntary act provision.³⁹¹ However, the final draft of

382. See *supra* note 34 and accompanying text.

383. See *supra* notes 30-33 and accompanying text.

384. See *supra* notes 30-34 and accompanying text.

385. See *supra* notes 30-32, 36 and accompanying text.

386. See *supra* note 32 and accompanying text. Nor has Maine specifically explained why in 1981 it repealed the provision it once had. See *supra* note 31 and accompanying text.

387. See *supra* notes 165-69 and accompanying text.

388. See *supra* note 34 and accompanying text.

389. See *id.*

390. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 216 n.4.

391. Originally, the proposed federal code stated that "[a] person commits an offense only if he voluntarily engages in conduct, including an act, an

the federal criminal code submitted to Congress omitted the word "voluntary."³⁹² According to the federal code's drafters, "[t]he issue of the voluntariness of the conduct, *i.e.*, whether or not it is conscious and the result of determination or effort" was not stated explicitly in the final draft because it would have "limited utility" and would also "raise the possibility of evasion of limitations placed on defenses such as intoxication and mental illness through inquiries as to voluntariness."³⁹³ Indeed, as mentioned, the MPC Commentaries recognized the conflict that a voluntary act requirement could have with the insanity and intoxication provisions.³⁹⁴

There are other more practical reasons for eliminating the voluntary act requirement. For example, it is not clear how significant or widely used the voluntary act requirement is in those states that still maintain it. In the early 1960s, H.L.A. Hart claimed that courts had only "rarely" considered the requirement and he questioned how much they actually accepted it.³⁹⁵ Even assuming that the MPC's provision somehow improved courts' embrace of the voluntary act requirement, it is still unknown how often courts actually use it. There appear to be no statistics available that provide this kind of information.³⁹⁶ There also are relatively few appellate

omission, or possession, in violation of a statute which provides that the conduct is an offense." 1 WORKING PAPERS OF THE NATIONAL COMMISSION ON REFORM OF FEDERAL CRIMINAL LAWS § 301(a) (1970); *see also* MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 216 n.4 (quoting the Brown Commission's draft proposal).

392. MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 216 n.4 (quoting the Brown Commission's draft proposal).

393. FINAL REPORT OF THE NATIONAL COMMISSION ON REFORM OF FEDERAL CRIMINAL LAWS, PROPOSED NEW FEDERAL CRIMINAL CODE § 301 cmt. at 27 (1971); *see also* MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 216 n.4 (quoting the Brown Commission's Final Report). For a criticism of this stance, *see* Weinreb, *supra* note 64, at 106-18.

394. *See supra* notes 78-83 and accompanying text.

395. H.L.A. Hart, *Acts of Will and Legal Responsibility*, in FREEDOM AND THE WILL 38, 41 (D. Pears ed., 1963) (claiming that the voluntary act requirement "has only rarely been considered by the courts" and questioning whether "the courts actually do accept the general doctrine"); *see also* H.L.A. Hart, *Acts of Will and Responsibility*, in THE JUBILEE LECTURES OF THE FACULTY OF LAW, UNIVERSITY OF SHEFFIELD 115, 115-16 (O. R. Marshall ed., 1960) (noting the author's failure to "find in any legal writings any clear or credible account of what it is for conduct to be voluntary . . . in the sense required"). *But see* Murphy, *supra* note 139, at 334 (arguing in defense of the classical distinction of voluntary/involuntary acts and contending that Hart's "objections misfire" and his view "is seriously defective").

396. *See* Theodor Eisenberg & Kevin M. Clermont, *Judicial Statistical*

court decisions turning on the concept of the defendant's involuntariness.³⁹⁷ The reasons for this dearth of appellate review are not mysterious. Since a prosecutor cannot appeal an acquittal, cases in which a defendant succeeds with an involuntariness defense would not create an appellate opinion.³⁹⁸ Likewise, because it is not known how frequently prosecutors accept defendants' claims of involuntariness, it is also not known how often prosecutors decline to bring charges in such cases or why (for example, statutory mandate or the exercise of prosecutorial discretion).³⁹⁹

In light of all of these considerations, why have an explicit voluntary act requirement? The strongest response is that the requirement, like culpability, is axiomatic and therefore one of the pillars of the criminal law.⁴⁰⁰ Conceptually, it drives all other important doctrinal developments.⁴⁰¹ Without the foundation of an explicit recognition of a voluntary act, basic principles of liability (e.g., *mens rea*)⁴⁰² as well as proportionality of punishment,⁴⁰³ would be seriously threatened. An explicit statement also serves a number of other critical functions—it may aid the interpretation of unresolved issues that depend on the concept of voluntariness, it may help legislatures in drafting criminal law statutes by offering a uniform and set statement of principles, and it can provide clear and open notice to the public of a principle of liability that safeguards their constitutional rights under the Eighth Amendment⁴⁰⁴ and lies at the foundation of criminal

Inquiry Form, at <http://teddy.law.cornell.edu:8090/questata.htm> (last updated Nov. 15, 1998) (Professors Eisenberg and Clermont may be collecting data on defenses in the future).

397. Saunders, *supra* note 18, at 448.

398. *Id.*

399. *Id.*

400. See Weinreb, *supra* note 64, at 105; *supra* notes 24-28, 37-38 and accompanying text.

401. See *supra* notes 24, 65-66 and accompanying text.

402. See *supra* notes 65-66 and accompanying text.

403. See generally Kent Greenawalt, *Punishment*, in III ENCYCLOPEDIA OF CRIME & JUSTICE 1282 (Joshua Dressler et al. eds., 2d ed. 2002) (overviewing issues concerning the justification for punishment); Lloyd L. Weinreb, *Desert, Punishment and Criminal Responsibility*, 49 LAW & CONTEMP. PROBS. 47, 48-53 (Summer 1986) (discussing the inadequacy of pure retributive and utilitarian theories of punishment and the intermediary role desert must play in society's assessment of the punishment an individual deserves).

404. See *Powell v. Texas*, 392 U.S. 514, 532 (1968) (upholding a conviction for public drunkenness and distinguishing from *Robinson v. California* under the rationale that the defendant "was convicted, not for being a chronic

laws.⁴⁰⁵

For these reasons, arguments presuming that only a relatively few number of people use an involuntary act defense—and therefore the defense cannot be that important—are not entirely relevant. The voluntary act requirement is influential in so many other ways.⁴⁰⁶ Empirical evidence also shows that other important criminal law doctrines are applied relatively sparingly, such as the insanity defense⁴⁰⁷ and the death penalty.⁴⁰⁸ Yet, despite their numerical limits, both the insanity defense⁴⁰⁹ and the death penalty⁴¹⁰ are powerful forces

alcoholic, but for being in public while drunk on a particular occasion”); *Robinson v. California*, 370 U.S. 660, 665-66 (1962) (holding that a conviction based on the defendant’s “status” or “chronic condition” of being a narcotics addict was “cruel and unusual punishment in violation of the Eighth and Fourteenth Amendments”) (citing *Francis v. Resweber*, 329 U.S. 459, 469-70 (1947)).

405. See Weinreb, *supra* note 64, at 106.

406. See *supra* notes 37-38 and accompanying text.

407. Statistics show that not only is the insanity defense rarely invoked, its success rate is very low. See generally Michael L. Perlin, *Unpacking the Myths: The Symbolism Mythology of Insanity Defense Jurisprudence*, 40 CASE W. RES. L. REV. 599, 648-49 (1989-90) (noting the tendency of the public and the legal profession to grossly overestimate the number of insanity verdicts). For example, nationally, insanity acquittals probably constitute no more than 0.2% of terminated felony prosecutions. NAT’L MENTAL HEALTH ASS’N, MYTHS & REALITIES: A REPORT OF THE NATIONAL COMMISSION ON THE INSANITY DEFENSE 15 (1983). Data from New York specifically demonstrate a similar pattern. Defendants raise the insanity defense about once in every 600 to 700 cases and the defense is successful in about 25% of the cases in which it is invoked. *Id.*

408. Although the rate of executions has increased in recent years, it still remains less than the 2% high reported during the Depression Era. See Deborah W. Denno, *Getting to Death: Are Executions Constitutional?*, 82 IOWA L. REV. 319, 366 & n.282 (1997) (explaining that this country’s record high of 199 executions in 1935 has not been equalled since that time); see also Death Penalty Information Center, Statistics on the Death Penalty (2002), at <http://www.deathpenaltyinfo.org/facts.html#1> (last visited Oct. 17, 2002) (listing the number of individuals executed per year since 1976); <http://www.deathpenaltyinfo.org/percapita.html> (last visited Oct. 17, 2002) (providing state execution rates since April 10, 2002). Starting in 1930, the National Bureau of the Census began gathering “death by execution” statistics in all states. RAYMOND PATERNOSTER, CAPITAL PUNISHMENT IN AMERICA 9 (1991). When the annual number of executions is compared to the annual number of homicides, the data show that during the 1930s and 1940s, when the rates of execution in this country were the highest (along with high rates of homicide), fewer than 2 out of 100 homicides resulted in an execution (i.e., less than 2%). That rate dropped to less than 1 in 100 after the mid-1950s and dropped further to less than 1 in 1,000 by the mid-1960s (0.1%). PATERNOSTER, *supra*, at 9-11.

409. DRESSLER, *supra* note 26, at 335 (noting that “few doctrines of

in the criminal law. In this sense, the numbers do not matter; instead, basic principles of liability do.

B. IF THERE IS A VOLUNTARY ACT REQUIREMENT, BASE IT ON SOCIAL MORALS, NOT SCIENCE

Another approach to the voluntary act conundrum is to render the science of consciousness and voluntariness irrelevant and view cases as fundamentally moral questions about responsibility. After all, the science is complex. According to the more skeptical commentators, its achievements are doubtful.⁴¹¹ Why not simply say that certain defendants are culpable because they violate society's moral code? Attorneys can then cease trying to complicate matters by incorporating scientific discoveries that can be difficult to understand and perhaps even more difficult to prove when applied to criminal behavior.

This approach, while appealingly straightforward, is naïve about the extent to which scientific knowledge pervades our moral code. Mass media and the proliferation of information have made us a society composed of "lay scientists," who use such information to make a wide range of choices—personal, professional, and certainly moral.⁴¹² To presume some clear morals-science dividing line ignores the extensive intertwining of the two. After all, the public's fervent embrace of psychoanalytic theory propelled that theory's impact on the MPC's development.⁴¹³ Likewise, the impetus behind the creation of a number of the MPC's provisions,⁴¹⁴ as well as, of course, recent Supreme Court cases,⁴¹⁵ is to bring science into

criminal law engender more controversy than the defense of insanity").

410. Denno, *supra* note 407, at 321-24 (explaining the Supreme Court's jurisprudence on why "death is different" from other kinds of punishments).

411. See generally JOHN HORGAN, *THE UNDISCOVERED MIND: HOW THE HUMAN BRAIN DEFIES REPLICATION, MEDICATION, AND EXPLANATION* (1999) (contending that the workings of human consciousness are so complex that it is absurd to think that scientific methods and techniques will explain it effectively any time soon).

412. See Carl Meyer, *Science, Medicine, and the U.S. Common Law Courts*, in *EXPERT WITNESSING: EXPLAINING AND UNDERSTANDING SCIENCE* 1, 45 (Carl Meyer ed., 1999).

413. See *supra* notes 125-65 and accompanying text.

414. See, e.g., MODEL PENAL CODE 1985, *supra* note 21, § 210.3 cmt. at 61-65 (discussing the extreme mental or emotional disturbance defense).

415. See, e.g., *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 588 (1993) (stating that scientific testimony does not have to be "generally accepted" to be admissible).

the courtroom so that it can assist jurors in their determinations and make their decisions as factually based as possible.⁴¹⁶ Scientific evidence can help constrain application of a wrong-minded (and anti-science) moral code that unfairly punishes defendants who are not legally culpable.

Legal trends reflect the jurisprudential value placed on science as well as the need to enhance the accuracy and modernity of a jury's decision making. They, however, by no means discard the significance of society's norms and morals. "Science can tell us how many chromosomes are in the nucleus of a normal human cell, but science cannot tell us what it is to be a normal human, a question for law, with all its normative and contingent difficulties."⁴¹⁷

C. A PROPOSAL FOR A THREE-PART VOLUNTARY ACT REQUIREMENT

The decision to retain a voluntary act requirement prompts concerns about how the criminal law should create a comprehensible guideline that can incorporate recent research on consciousness. One possible standard is to adopt a range of conscious states that reflect the brain's representations of memory (from clearly conscious phenomena to clearly unconscious or nonconscious events).⁴¹⁸ While this degrees-of-consciousness continuum may be workable for cognitive scientists, it is an impractical way for ordering a legal roadmap for assessing voluntariness. There is enormous diversity in the ways that people can become unconscious as well as the situations and acts they may experience. The law must draw lines. A legal standard must also allow room for social mores and an assessment of the defendant's particular situation. A defendant's volitional capacity cannot be evaluated in a vacuum.⁴¹⁹

416. See generally CRIMINAL AND SCIENTIFIC EVIDENCE: CASES, MATERIALS, PROBLEMS (Robert J. Goodwin & Jimmy Gurule eds., 1997) (exploring how the law of evidence is applied in criminal cases).

417. Robert A. Bohrer, *The Fundamental Differences Between Science and Law*, in EXPERT WITNESSING: EXPLAINING AND UNDERSTANDING SCIENCE 41, 44 (Carl Meyer ed., 1999).

418. See *supra* notes 218-20 and accompanying text.

419. See, e.g., *United States v. Olvera*, 15 C.M.A. 134, 138 (1954) ("[E]ven a person who has lost contact with reality to the extent of developing a 'psychotic delusion' may be held criminally accountable if—within the framework of delusion—he recognized that he was engaged in the performance of an act considered reprehensible by society [L]egal

1. Composition of the Three-Part Requirement

In light of this dilemma, this Article recommends several changes. The first change is to adopt a simple limiting definition of "voluntary conduct" that meshes well with the criminal law's traditional depiction of voluntariness in the MPC, but without all the complicated and dated baggage. Lloyd Weinreb's suggested definition meets these requirements: "A person does not engage in conduct voluntarily if the conduct is not subject to [that person's] control."⁴²⁰ This designation of voluntary conduct is left open conceptually for two reasons: it can accommodate new research on voluntariness, as well as keep the main statement of criminal liability accurate, even if it is incomplete.⁴²¹

This Article's recommended requirement also has a number of advantages relative to those used by most states and the MPC's section 2.01. First, the focus on "control" avoids the Cartesian dualism inherent in a voluntary act requirement expressed in mind/body language and interpreted with respect to either *mens rea* (unconsciousness) or *actus reus* (automatism).⁴²² This dualist structure has confused courts⁴²³

responsibility must be appraised in accordance with the framework within which the subject was acting at the time.").

420. Weinreb, *supra* note 64, at 112 (emphasis added); see also MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 215 (defining the term "voluntary" as "conduct that is within the control of the actor"). For a philosophical analysis of what could constitute a "control requirement," see Douglas Husak, *Does Criminal Liability Require an Act?*, in PHILOSOPHY AND THE CRIMINAL LAW: PRINCIPLE AND CRITIQUE 60, 77-82 (Anthony Duff ed., 1998). For arguments concerning why the concept of "control" has problems of its own, see Greenawalt, *supra* note 28, at 935-56. Likewise, this Article contends that even though the word "control" is appropriate in the context of delimiting involuntary acts, that does not mean it is necessarily appropriate in other kinds of determinations, such as assessing whether a dangerous sex offender should require civil commitment. See, e.g., *Kansas v. Crane*, 122 S. Ct. 867, 870 (2002) (adopting a "lack of control" standard for determining the civil commitment of sex offenders). *Crane* recognizes "that in cases where lack of control is at issue, 'inability to control behavior' will not be demonstrable with mathematical precision. It is enough to say there must be proof of serious difficulty in controlling behavior." *Id.*

421. Weinreb, *supra* note 64, at 113.

422. See R.A. DUFF, INTENTION, AGENCY AND CRIMINAL LIABILITY: PHILOSOPHY OF ACTION AND THE CRIMINAL LAW 158-59 (1990) (discussing the drawbacks of the dualist view); Saunders, *supra* note 18, at 461 ("The search for a causal connection between volition and act has long been one of the central aspects of the mind-body problem.").

423. See *supra* Part III.

and it misrepresents current science.⁴²⁴

The proposed definition's exclusion of specific examples of unconsciousness and involuntariness also allows a more flexible approach to assessing the meaning of lack of control. For example, substantial evidence suggests that a person's sleepwalking and reflex responses may at times be conduct that is not subject to that person's control.⁴²⁵ Yet, there are circumstances when people experiencing these states can in fact control their behavior, particularly if they are given notice that it may happen.⁴²⁶

The use of the word "control" also provides a normative anchor for jurors to interpret scientific evidence on conscious and unconscious influences and the degrees of mental states existing between those two poles. Jurors generally know what it means to be in or out of control of their behavior, and consciousness research can further inform them. However, there must be some limits on the reach of the meaning of the word "control" so that it cannot include such out of control behavior as addiction⁴²⁷ or dangerous sexual offenses.⁴²⁸ This is where social norms and values can contextualize the science of involuntariness. Jury instructions can elaborate on the facts of the case and the science at issue, perhaps defining the terms "conscious" and "unconscious," if they are relevant, and putting them in the context of the law and science of the case.⁴²⁹

424. See *supra* Part II.

425. See *supra* notes 364-68 and accompanying text.

426. See Weinreb, *supra* note 64, at 112 ("Given notice, a person may be able to control conduct which we would ordinarily regard as reflexive."). The writers of Australia's Model Criminal Code excluded the word "reflex" from their list of involuntary acts because of evidence that some individuals, such as exceptional athletes, can control their reflex responses. See *supra* note 75 and accompanying text.

427. See Greenawalt, *supra* note 28, at 935.

428. See *supra* note 420 and accompanying text (discussing *Kansas v. Crane*, 122 S. Ct. 867 (2002)).

429. In general, model jury instructions on voluntary acts do not provide much guidance beyond the state statute. See, e.g., COMMITTEE ON CRIMINAL JURY INSTRUCTIONS OF THE OFFICE OF COURT ADMINISTRATION, THE SUPREME COURT JUSTICES ASSOCIATION AND THE COUNTY JUDGES ASSOCIATION OF THE STATE OF NEW YORK, CRIMINAL JURY INSTRUCTIONS, NEW YORK 500 (1983) ("When a definition of a voluntary act is required, the following instruction may be used: A person commits a voluntary act when he performs such an act consciously and as a result of his own physical effort and his own mental decision to do so."). On the other hand, the model jury instructions for California and some other states are relatively more detailed. See THE COMMITTEE ON STANDARD JURY INSTRUCTIONS, CRIMINAL, OF THE

This new voluntary act standard is not enough by itself. It requires further restructuring to reflect three major concerns associated with prior involuntariness cases. First, there is a concern that potentially dangerous individuals may be acquitted if the court determined they acted involuntarily. Second, there is the worry that even when individuals acted involuntarily, they may be subject to commitment under the insanity provisions because courts fear the consequences of a total acquittal or they are confused about what kinds of behavior constitutes insanity as opposed to involuntariness. Third, there is a realization that, depending on the circumstances, a defendant attempting an involuntary act defense can receive sanctions ranging from total acquittal (if the defense succeeds) to the death penalty (if the defense fails). Cases with comparable facts may result in radically different punishments. Indeed, the potential for this extreme range in sentencing may drive some of the inconsistencies and apparent injustices associated with the voluntary act requirement.

In response to these concerns, this Article recommends that the voluntary act requirement constitute three parts: (1) voluntary acts, (2) involuntary acts, and (3) semi-voluntary acts. The third category of semi-voluntary acts—which is new—would include individuals who were either previously shoehorned into the first two categories or wrongly given the insanity defense. This approach, which is described in the following sections, presumes that individuals are “both more

SUPERIOR COURT OF LOS ANGELES COUNTY, CALIFORNIA, CALIFORNIA JURY INSTRUCTIONS-CRIMINAL, Part 4.30 at 198 (6th ed. 1996). California's model jury instructions state

A person who while unconscious commits what would otherwise be a criminal act, is not guilty of a crime.

This rule of law applies to persons who are not conscious of acting but who perform acts while asleep or while suffering from a delirium or fever, or because of an attack of [psychomotor] epilepsy, a blow on the head, the involuntary taking of drugs or the involuntary consumption of intoxicating liquor, or any similar cause.

Unconsciousness does not require that a person be incapable of movement.

Evidence has been received which may tend to show that the defendant was unconscious at the time and place of the commission of the alleged crime for which [he or she] is here on trial. If, after a consideration of all the evidence, you have a reasonable doubt that the defendant was conscious at the time the alleged crime was committed, [he or she] must be found not guilty.

Id.

and less responsible than was commonly thought."⁴³⁰

a. *Involuntary Acts*

Involuntary acts would be defined quite narrowly and generally restricted to a set of circumstances where an individual's lack of control warrants a total acquittal. The classic example derives from early English history: "[I]f A by pushing B against C pushes C over a precipice A and not B is guilty of pushing C over the precipice."⁴³¹ New and traditional medical/psychological conditions would be considered as contributing to involuntary acts, but these conditions also would be narrowly confined. In addition, there would be relatively more detailed jury instructions specifying the requirement for the defendant's lack of control.

b. *Semi-Voluntary Acts*

Semi-voluntary acts would include two main groups of individuals: those who acted involuntarily or semi-voluntarily but demonstrate the potential to be dangerous again (for example, a violent sleepwalker),⁴³² and those who acted semi-voluntarily but appear to have relatively greater control over their behavior than "true" involuntary actors. The main purpose of the semi-voluntary category is to prevent courts from labeling as insane individuals who seem likely to engage in recurrent acts but who do not evidence the kind of mental disease or defect that would make them eligible for commitment under the insanity provision.⁴³³

430. MOORE, *supra* note 18, at 1674.

431. 2 SIR JAMES FITZJAMES STEPHEN, A HISTORY OF THE CRIMINAL LAW OF ENGLAND 100 (London, MacMillan 1883).

432. There seems to be a treatment available for nearly every kind of disorder relating to unconsciousness. For example, healthy adult sleepwalkers have in some cases been treated successfully through therapy that helps them to identify and cope with stressors in a beneficial way. Hypnosis and medication also have been used with varying degrees of success. See generally SLEEP DISORDERS SOURCEBOOK (Jennifer Swanson ed., 1999) (describing various sleep disorders and treatment options); Richard M. Berlin & Usman Qayyum, *Sleepwalking: Diagnosis and Treatment Through the Life Cycle*, 27 PSYCHOSOMATICS 755 (1986) (discussing the diagnosis and treatment of sleepwalking in children, adults, and the elderly).

433. See MODEL PENAL CODE 1985, *supra* note 21, § 4.01(1), at 163 ("A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality [wrongfulness] of his conduct or to conform his conduct to the requirements of law.").

A comparably important purpose is to put such individuals on notice that they may be capable of acting violently again so that they can attempt to prevent comparable acts from recurring. This approach comports with the MPC's emphasis that voluntary conduct need only *include* a voluntary act.⁴³⁴ The classic MPC case is the epileptic defendant who drives a car (a voluntary act) knowing that he is subject to epileptic seizures (an involuntary act). When the car goes out of control and people are killed because the epileptic defendant has a seizure, the defendant is indicted for criminal negligence in the operation of a vehicle resulting in death.⁴³⁵ This indictment is based on the defendant's voluntary conduct preceding the seizure as well as his negligent *mens rea* that existed at the time he entered and drove the car.⁴³⁶ The focus is on the defendant's awareness of the risk of engaging in a potentially dangerous involuntary act.

The MPC and other state codes apply a similar (but more complicated) approach to acts committed as a result of voluntary intoxication, a topic relevant to, but beyond, this Article's bounds.⁴³⁷ Based on cultural and moral expectations,

434. See *id.* § 2.01 cmt. 1 at 217. The § 2.01(1) "formulation does not state that liability must be based on the voluntary act or the omission *simpliciter*. The requirement is that conduct that *includes* such action or omission occur." *Id.*

435. See *id.* at 218 n.12 (citing *People v. Decina*, 138 N.E.2d 799, 803-04 (N.Y. 1956)); see also *supra* note 356 and accompanying text (discussing *Decina* in the context of another epileptic seizure case).

436. See MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 1 at 218 n.12

437. Defendants have used the Model Penal Code's intoxication defense for two reasons that are consistent with the voluntary act requirement's automatism/unconsciousness defenses: to prove that no physical act was committed, and to prove that there was no mental state required by the offense. See *id.* § 2.08 at 349 & cmt. 1 at 353. To disprove a voluntary act under § 2.08, the MPC drafters suggested that intoxication may be accorded its "full probative significance, whatever that may be," when an actor seeks to negate an element of the offense involving actual physical activity. *Id.* at 353. At the same time, however, MPC § 2.01(2)(b) "admits the possibility that an actor could be unconscious because of intoxication . . . liability might still be based on voluntary behavior prior to unconsciousness." *Id.* Regardless, "nearly every jurisdiction takes the view that, although involuntariness ordinarily exculpates persons of responsibility for what they do, it does not exculpate persons whose involuntariness is the product of prior voluntary intoxication." Peter Westen, *Egelhoff Again*, 36 AM. CRIM. L. REV. 1203, 1217 (1999). As the MPC Drafters point out, "the act of drinking itself, though perhaps 'voluntary,' would not suffice to meet [the voluntariness] requirement unless it were undertaken with the requisite culpability as to the actual result that ensued." MODEL PENAL CODE 1985, *supra* note 21, § 2.08 cmt. 1 at 353 n.10. Westen makes a similar point: "[W]hat prevents a voluntarily

legislatures and courts presume that individuals are aware of the risks of engaging in involuntary, but criminal, acts when they become voluntarily intoxicated.⁴³⁸ For example, courts have recognized that intoxicated offenders commit a disproportionate number of crimes, particularly crimes of violence.⁴³⁹ According to some studies, they commit nearly half of all homicides.⁴⁴⁰

c. *Voluntary Acts*

Voluntary acts, as this Article has stated, constitute conduct subject to an individual's control.⁴⁴¹ The next step is to determine the individual's mental state, which also incorporates different levels of conscious awareness.⁴⁴²

intoxicated person from relying on resulting unconsciousness as a defense is . . . the act [voluntarily ingesting intoxicants] under circumstances in which the person knows or should know that doing so creates an unjustified risk of harm to others." Westen, *supra*, at 1217. In place of the specific/general intent "rule" with regard to intoxication, MPC § 2.08 attempts to capture its "net effect." MODEL PENAL CODE 1985, *supra* note 21, § 2.08 cmt. 1 at 354. Stated briefly, that "net effect" (courts' concretizing of the vague specific/general dichotomy) has operated as follows: Intoxication evidence could be adduced to disprove the elements of purpose or knowledge, where either sufficed to establish the offense, but intoxication evidence would be precluded to disprove recklessness or negligence, where either sufficed to establish the offense. *Id.* at 356-57.

438. The MPC Commentaries note that the case for "a special rule for drunkenness in relation to awareness of the risk in recklessness," MODEL PENAL CODE 1985, *supra* note 21, § 2.08 cmt. 1 at 358, draws strength from a fundamental point: Awareness of the potential consequences of excessive drinking on the capacity of human beings to gauge the risks incident to their conduct is now so dispersed in our culture that it is not unfair to postulate a general equivalence between the risks created by the conduct of the drunken actor and the risks created by that actor's conduct in becoming drunk. *Id.* at 358-59. Becoming so drunk as to destroy temporarily the actor's powers of perception and judgment is conduct that plainly has no affirmative social value to counterbalance the potential danger. The actor's moral culpability lies in engaging in such conduct. *Id.* In other words, the drafters of MPC § 2.08(2) seem to derive a moral conclusion from a utilitarian calculus: Engaging in socially valueless activity warrants "moral culpability"; becoming drunk is just as risky, hence as culpable, as drunken conduct. Because of the "recklessness floor" read into many "general intent" crimes, intoxication usually has been precluded as a defense to such crimes, regardless of the intoxication's effect on the actor's awareness or knowledge of the risks involved in pursuing actions. *Id.*

439. See *Egelhoff v. Montana*, 518 U.S. 37, 49 (1996) (stating that a large number of crimes are committed by intoxicated offenders).

440. *Id.* at 50 (citing studies).

441. See *supra* note 420 and accompanying text.

442. The topic of how research on consciousness would illuminate the

2. Application of the Three-Part Requirement

The proposed three-part standard is suitably flexible so that it can be applied in a wide range of circumstances. It also resolves the public's discomfort with doctrines that force all-or-

different levels of *mens rea* is explored elsewhere. See Deborah W. Denno, *Rethinking Criminal Intent* (draft in progress, on file with author). However, the MPC does focus on consciousness and varying degrees of awareness when assessing an individual's mental state, as the italicized terminology of Model Penal Code § 2.02 demonstrates below:

Section 2.02. General requirements of culpability

(1) *Minimum Requirements of Culpability.* Except as provided in Section 2.05 [concerning violations], a person is not guilty of an offense unless he acted purposely, knowingly, recklessly or negligently, as the law may require, with respect to each material element of the offense.

(2) *Kinds of Culpability Defined.*

Purposely.

A person acts purposely with respect to a material element of an offense when:

(i) if the element involves the nature of his conduct or a result thereof, it is his *conscious object* to engage in conduct of that nature or to cause such a result; and

(ii) if the element involves the attendant circumstances, he is *aware* of the existence of such circumstances or he believes or hopes they exist.

Knowingly.

A person acts knowingly with respect to a material element of an offense when:

(i) if the element involves the nature of his conduct or the attendant circumstances, he *is aware* that his conduct is of that nature or that such circumstances exist; and

(ii) if the elements involves a result of his conduct, he *is aware* that it is practically certain that his conduct will cause such a result.

Recklessly.

A person acts recklessly with respect to a material element of an offense when he *consciously disregards* a substantial and unjustifiable risk that the material element exists or will result from his conduct. The risk must be of such a nature and degree that, considering the nature and purpose of the actor's conduct and the circumstances known to him, its disregard involves a gross deviation from the standard of conduct that a law-abiding person would observe in the actor's situation.

Negligently.

A person acts negligently with respect to a material element of the offense when he *should be aware* of a substantial and unjustifiable risk that the material element exists or will result from his conduct. The risk must be of such a nature and degree that the actor's failure to perceive it, considering the nature and purpose of his conduct and the circumstances known to him, involves a gross deviation from the standard of care that a reasonable person would observe in the actor's situation.

MODEL PENAL CODE 1985, *supra* note 21, § 2.02, at 225-26 (emphases added).

nothing choices.⁴⁴³ The question remains, how would the three-part standard work in the “real” world?

This section examines six cases in some detail, showing how the distinctions among these three parts can be made. In order to better differentiate semi-voluntary acts from the two other poles of behavior, the analysis relies for guidance on some of the ten criteria followed in the “interest of justice” dismissal statutes adopted in most states.⁴⁴⁴ These criteria, which reflect

443. See generally PAUL H. ROBINSON & JOHN M. DARLEY, *JUSTICE, LIABILITY AND BLAME: COMMUNITY VIEWS AND THE CRIMINAL LAW* (1995) (presenting a research study based on the public’s sense of justice on issues of criminal law formation).

444. See generally James L. Buchwalter, Annotation, *Dismissal of State Criminal Charge in Furtherance of, or in Interest of, Justice*, 71 A.L.R. 1 (5th ed. 1999) (reviewing and discussing the interest of justice statutes throughout the country). This Article uses New York’s relatively more detailed interest of justice statute for purposes of illustration because it has served as a nationwide model. John F. Wirenius, *A Model of Discretion: New York’s “Interests of Justice” Dismissal Statute*, 58 ALB. L. REV. 175, 176, 177 (1994) (noting that New York “has gone to unusual lengths to deal appropriately” with interest of justice cases and that the New York statute “as it has developed in fact is a boldly innovative schema which has been held up as a model for other states with less well-enunciated criteria”). The pertinent provision of New York’s interest of justice statute operates as follows:

1. An indictment or any count thereof may be dismissed in furtherance of justice . . . [if] such dismissal is required as a matter of judicial discretion by the existence of some compelling factor, consideration or circumstance clearly demonstrating that conviction or prosecution of the defendant upon such indictment or count would constitute or result in injustice. In determining whether such compelling factor, consideration, or circumstance exists, the court must, to the extent applicable, examine and consider, individually and collectively, the following:
 - (a) the seriousness and circumstances of the offense;
 - (b) the extent of harm caused by the offense;
 - (c) the evidence of guilt, whether admissible or inadmissible at trial;
 - (d) the history, character and condition of the defendant;
 - (e) any exceptionally serious misconduct of law enforcement personnel in the investigation, arrest and prosecution of the defendant;
 - (f) the purpose and effect of imposing upon the defendant a sentence authorized for the offense;
 - (g) the impact of a dismissal upon the confidence of the public in the criminal justice system;
 - (h) the impact of a dismissal on the safety or welfare of the community;
 - (i) where the court deems it appropriate, the attitude of the complainant or victim with respect to the motion;
 - (j) any other relevant fact indicating that a judgment of conviction would serve no useful purpose.

significant principles in the criminal law, include the “(a) seriousness and circumstances of the offense,” “(d) the history, character and condition of the defendant,” as well as “(g) the impact of a dismissal on the safety or welfare of the community.”⁴⁴⁵ *Regina v. Parks*⁴⁴⁶—a classic sleepwalking case—is the first to illustrate how this new standard would operate.

a. *The Classic Case of Somnambulism: Kenneth Parks*

In *Parks*,⁴⁴⁷ the twenty-three-year-old defendant fell asleep one evening on his couch while watching an episode of *Saturday Night Live*.⁴⁴⁸ That night, the show was hosted by Dennis Hopper and it contained some rather violent humor.⁴⁴⁹ Later—it was unclear exactly when—Parks arose, got into his car, and drove fourteen miles across town and through three traffic lights to reach his in-laws’ house.⁴⁵⁰ There, he proceeded to stab and beat his mother-in-law to death and attack his father-in-law, nearly killing him.⁴⁵¹

Parks immediately went to the police and gave himself up.⁴⁵² He did not deny what he had done.⁴⁵³ His lawyers, however, marshaling a team of experts,⁴⁵⁴ claimed that the events that took place that evening occurred during an episode of sleepwalking and were therefore involuntary.⁴⁵⁵ Parks was totally acquitted of all charges, including unpremeditated homicide and attempted homicide.⁴⁵⁶

Parks’s attorneys contended that Parks was truly

N.Y. CRIM. PROC. LAW § 210.40(1) (McKinney 1993).

445. *Id.* § 210.40(1) (a), (d), (g). For an interesting discussion of how a defendant’s character could play a role in criminal cases, see Sherry F. Colb, *The Character of Freedom*, 52 STAN. L. REV. 235, 236-53 (1999) (reviewing LAWRIE REZNEK, *EVIL OR ILL? JUSTIFYING THE INSANITY DEFENSE* (1997)).

446. [1992] 95 D.L.R.4th 27.

447. *Id.*

448. See R. Broughton et al., *Homicidal Somnambulism: A Case Report*, 17 SLEEP 253, 255 (1994).

449. *Id.* at 255 n.1.

450. *Id.* at 255.

451. *Parks*, 95 D.L.R.4th at 31.

452. *Id.*

453. *Id.*

454. *Id.* at 28.

455. Broughton et al., *supra* note 448, at 251.

456. *Parks*, 95 D.L.R.4th at 28. Parks was acquitted because somnambulism is considered a sane automatism by the Canadian courts. *Id.*

unconscious when he acted and he also was highly unlikely to be dangerous again. For example, (1) both of Parks's attacks seemed entirely motiveless and Parks turned himself into the police; (2) over one-third of Parks's extended family had a marked history of sleepwalking and Parks himself suffered various sleep disturbances when he was observed in a sleep lab; (3) two of Parks's prison cell mates described incidents where Parks sat up in bed and talked in his sleep; (4) experts testified that Parks's sleepwalking was a rare event triggered by a combination of precipitating factors (sleep deprivation and high stress) that were unlikely to recur together; and (5) avoidance of this stress combination in addition to treatment would likely prevent further violence.⁴⁵⁷ Indeed, after his acquittal, Parks was put on medication and his sleepwalking episodes ceased.⁴⁵⁸

Parks's acquittal is consistent with current law,⁴⁵⁹ accepting the court's presumption that Parks was actually sleepwalking and therefore unconscious. This case can also be examined another way, however, using the ten "(a-j)" criteria listed in the interest of justice statute as a guide.⁴⁶⁰ First, (a) Parks's acts were, of course, extremely serious (murder and attempted murder) as were the circumstances surrounding them (the brutality of the stabbing and beating). Clearly, (b) the extent of harm caused was nearly as grave as it could be. On the other hand, (d) Parks's character seemed strongly in his favor because of a lack of motive (he apparently got along well with his in-laws) and he had no personal gain from killing them, financial or otherwise.⁴⁶¹ His problems with sleepwalking and his family history of sleepwalking also were accepted as "real." Even the prosecution never challenged the conclusion that Parks was sleepwalking when he killed and assaulted his in-laws.⁴⁶²

There was, however, a great deal of stress in Parks's life at the time and this had caused him a number of sleep disturbances and tensions within his family. A year before the

457. *Id.* at 31-53; Broughton et al., *supra* note 448, at 257-63.

458. Broughton et al., *supra* note 448, at 260.

459. *See supra* notes 13, 24-38 and accompanying text.

460. *See supra* note 444 and accompanying text.

461. Broughton et al., *supra* note 448, at 259-61.

462. *Id.* at 263. The prosecution had argued that Parks's acts should be classified as insane automatism, but the court decided to classify somnambulism as a sane automatism. *See id.*

attacks on his in-laws, Parks began to acquire a mass of gambling debts, which he tried to hide by taking funds from his family savings and embezzling at work.⁴⁶³ These acts cost him his job and he was charged with theft.⁴⁶⁴ Parks was forced to put his house up for sale to cover his debts, but his gambling continued.⁴⁶⁵

After renewed confrontation by his wife over his gambling, Parks agreed to attend his first meeting of Gamblers Anonymous.⁴⁶⁶ Parks and his wife then made plans to discuss his gambling problems and financial difficulties with both of their families.⁴⁶⁷ The evening before they were to make these family visits, Parks committed his violence.⁴⁶⁸

If Parks was truly sleepwalking and unconscious, there is (c) no evidence of guilt because he was not acting voluntarily and (f) there would be no purpose and effect of imposing a sentence on him.⁴⁶⁹ Presumably, deterrence would be either limited or ineffective, and retribution unjust under the circumstances. Expert testimony and statistics on sleepwalkers also would suggest that (h) Parks's dismissal would not be a threat to the safety or welfare of the community because repeated violent sleepwalking is very rare.⁴⁷⁰ At the same time, however, it seems that the expert testimony was based on the presumption that Parks would be taking medication and following a more stress-free life.⁴⁷¹ The public may not (g) feel confident in the criminal justice system knowing that Parks was free and unsupervised.⁴⁷²

It is this concern with Parks's potential for recurring violence and his medical history that makes the *Parks* case fall into an ambiguous gray area. A balancing test of all the factors involved in the case suggests that other courts may not acquit

463. *Id.* at 254.

464. *Id.*

465. *Id.*

466. *Id.* at 254-55.

467. *Id.*

468. *Id.* at 255.

469. *See supra* note 444 and accompanying text (listing the ten criteria followed in the "interest of justice" dismissal statutes).

470. *See supra* note 451 and accompanying text.

471. *See supra* note 457 and accompanying text.

472. According to Justices Lamer and Cory, the trial court should make an order to "keep the peace" by imposing on Parks certain conditions (e.g., specific treatment) consistent with the trial court's preventive powers. *Regina v. Parks*, 95 D.L.R.4th 27, 30 (Lamer C.J.C., Cory J. concurring, dissenting).

someone like Parks.⁴⁷³

Parks's history of sleep and financial disorders is a double-edged sword; the evidence appears exculpatory for this particular incident but inculpatory considering his potential for future dangerousness. Indeed, the prosecution in the Parks case argued on appeal that Parks's sleepwalking should be classified as insane automatism because Parks could be violent again and because sleepwalking was a "disease of the mind" that warranted institutionalization.⁴⁷⁴

This Article's recommendation of a three-part requirement can prevent such gray area behaviors from being classified as insane or voluntary because of a court's concern that they may recur, particularly because the odds are so much against it. Classifying Parks's behavior as semi-voluntary would preclude an unqualified acquittal for him, but, at the same time, avoid the injustice of putting someone like Parks in an institution for the criminally insane. It also would discourage the temptation to classify his behavior as voluntary. This same reasoning can apply to other types of scenarios, as the following cases show.

b. Somnambulism with a Motive: Mrs. Cogdon

A fitting example for probing this Article's three-part requirement is the case of the infamous Mrs. Cogdon,⁴⁷⁵ whose story is a focal point in criminal law casebooks.⁴⁷⁶ While in a somnambulist state, Mrs. Cogdon "left her bed, fetched an axe from the woodheap, entered [her daughter] Pat's room, and struck her two accurate forceful blows on the head with the blade of the axe, thus killing her."⁴⁷⁷

The prosecution did not contest the evidence provided by Mrs. Cogdon's physician, or that of a psychiatrist and a psychologist.⁴⁷⁸ All three experts indicated that Mrs. Cogdon

473. For example, at around the same time, the English Court of Appeal, Criminal Division, refused to follow *Parks* and decided that sleepwalking is a form of insane automatism. *Regina v. Burgess*, 2 All E.R. 769, 774-75 (C.A. 1991); see also *supra* note 381 (discussing *Burgess*). Moreover, the Supreme Court of Canada has recently shown the limited effect *Parks* has on other kinds of disorders. See *Regina v. Stone*, [1999] 173 D.L.R.4th 66, 103-113.

474. See *Parks*, 95 D.L.R.4th at 28-29; *supra* note 462 and accompanying text.

475. Norval Morris, *Somnambulist Homicide: Ghosts, Spiders, and North Koreans*, 5 RES JUDICATAE 29, 29-30 (1951).

476. See KADISH & SCHULHOFER, *supra* note 206, at 178-79.

477. Morris, *supra* note 475, at 30.

478. *Id.*

was not psychotic, but afflicted by “a form of hysteria with an overlay of depression, and that she was of a personality in which such dissociated states as fugues, amnesias, and somnambulistic acts are to be expected.”⁴⁷⁹ The experts also agreed that if she had been awake at the time, she would not be eligible for an insanity defense.⁴⁸⁰

While the experts did not speculate about Mrs. Cogdon’s motives, they considered her account of why she killed her daughter “transparently insufficient”.⁴⁸¹ According to Mrs. Cogdon, she was defending Pat during a dream in which she believed there was a war “all around the house,” that soldiers were in Pat’s room, and that one soldier was on the bed attacking Pat.⁴⁸² This dream had been preceded by two others.⁴⁸³ In the first, Mrs. Cogdon spoke with ghosts she said were sitting on the end of her bed and told her they had “come to take Pattie.”⁴⁸⁴ In the second dream, which occurred the night before the murder, Mrs. Cogdon awakened while “violently brushing” Pat’s face in an effort to remove spiders that Mrs. Cogdon thought were all over Pat.⁴⁸⁵ The next morning, Mrs. Cogdon informed a doctor about the dream and they discussed future psychiatric treatment in light of other problems Mrs. Cogdon had mentioned.⁴⁸⁶

Norval Morris’s account of the Mrs. Cogdon case stresses that “[o]n the conscious level, at least, there was no reason to doubt Mrs. Cogdon’s deep attachment to her daughter”; indeed, Mr. Cogdon testified that Mrs. Cogdon “absolutely adored” Pat.⁴⁸⁷ The experts, however, “hinted” that Mrs. Cogdon’s unconscious was telling a different story.⁴⁸⁸ Mrs. Cogdon’s “emotional motivation” for killing Pat seemingly stemmed from Mrs. Cogdon’s “acute conflict situation” with her own parents as well as her “very great sexual frustration” within her marriage.⁴⁸⁹ She “over-compensated” for such frustration by

479. *Id.*

480. *Id.*

481. *Id.*

482. *Id.*

483. *Id.* at 29.

484. *Id.*

485. *Id.*

486. *Id.*

487. *Id.*

488. *Id.* at 30.

489. *Id.*

over-protecting Pat: "Her exaggerated solicitude for her daughter was a conscious expression of her subconscious emotional hostility to her, and the [dreams] were projections of that aggression."⁴⁹⁰ Ultimately, the jury believed Mrs. Cogdon and she was acquitted.⁴⁹¹

The criminal law has allowed for mitigation in cases where defendants claim that unconscious emotional forces have taken hold, but it is primarily in the context of the insanity defense or the partial defense of extreme mental and emotional disturbance.⁴⁹² Like *Parks*, the facts in *Cogdon* are a double-edged sword. While Mrs. Cogdon was given an unqualified acquittal, another court may regard the evidence more ambiguously. For example, Mrs. Cogdon's mental, emotional, and situational circumstances suggest that she could possibly engage in more violence while sleepwalking. Mr. Cogdon appears to be a prime target. These facts, along with Mrs. Cogdon's psychiatric history, could have bolstered a finding of

490. *Id.*

491. *Id.*

492. See e.g., *Pollard v. United States*, 282 F.2d 450, 453-55 (6th Cir. 1960) (holding that the presumption of the defendant's sanity was overcome based in part on neuropsychiatric evidence that the defendant's ineptly attempted bank robberies could be attributed in part to unconscious feelings of guilt following a neighbor's murder of the defendant's wife and infant child while the defendant was at work); *People v. Casassa*, 404 N.E.2d 1310, 1315-17 (N.Y. 1980) (referring to unconscious emotional factors underlying extreme mental and emotional disturbance); WILLARD GAYLIN, *THE KILLING OF BONNIE GARLAND: A QUESTION OF JUSTICE* 213-41 (1982) (discussing the psychoanalytic rationales of Richard Herrin's conscious and unconscious motivations in killing Bonnie Garland in the context of both the insanity defense and the extreme mental and emotional disturbance defense). For a discussion of theoretical and conceptual issues, see EHRENZWEIG, *supra* note 130, at 207-41; Moore, *supra* note 18, at 1563. For a discussion of partial defenses and how they relate to unconsciousness and insanity, see *supra* notes 46-52 and accompanying text. Under the MPC, a person who would be guilty of murder is instead guilty of the lesser offense of manslaughter if it were determined that the person killed the victim while suffering from an "extreme mental or emotional disturbance [EMED] for which there is a reasonable explanation or excuse." MODEL PENAL CODE 1985, *supra* note 21, § 210.3(1)(b) at 43. The reasonableness of the explanation or excuse is "determined from the viewpoint of a person in the actor's situation under the circumstances as he believes them to be." *Id.* This provision has two parts: subjective and objective. The subjective part is the EMED requiring not that the defendant possess a state of mind comparable to mental illness, but rather feelings sufficiently intense to cause a loss of self control at the time of the murder. The objective part requires a reasonable explanation or excuse for the EMED that caused the person to lose control and kill; however, it is subjective to the extent that it is determined "from the viewpoint of the person in the actor's situation." *Id.* cmt. 5 at 61-64.

insane automatism. Again, this Article's three-part requirement could preclude determinations of insanity or voluntariness in such gray area situations if the behavior were instead considered semi-voluntary.

c. *Somnambulism Without an Apparent Motive: Scott Falater*

The extreme range of possible sanctions applicable to some involuntariness claims is illustrated by one of the most publicized defenses of sleepwalking in the United States—the 1999 Scott Falater case.⁴⁹³ Falater, age 43, was accused of murdering his wife of twenty years after she was found face down in their pool and stabbed forty-four times.⁴⁹⁴ After Falater stabbed his wife, he changed his bloody clothes, put the knife in the wheel well of his car,⁴⁹⁵ and then, according to a neighbor's eyewitness testimony, returned to his wife's body, dragging it into the pool and holding his wife's head under water.⁴⁹⁶

Falater claimed that he was sleepwalking for the entire incident.⁴⁹⁷ Like Kenneth Parks, Falater also brought in a team of prominent experts, including Roger Broughton, who

493. For an account of the facts and circumstances surrounding the case, see Jerry Kammer, *Head-to-Head Issues*, ARIZ. REPUBLIC, June 25, 1999, at A13 [hereinafter Kammer, *Head-to-Head*] (summarizing the prosecution and defense arguments and in particular their opposing expert witnesses); Jerry Kammer et al., *Jury in Sleepwalking Murder Trial Says Second Attack Key to Verdict*, ARIZ. REPUBLIC, June 27, 1999, at A23 [hereinafter Kammer, *Jury in Sleepwalking Murder Trial*] (reporting post trial reactions, including comments from the jurors); Memorandum of Janet E. Tatman, Clinical Psychologist, Well Being Systems, P.L.L.C., Initial Sleep Disorders Consultation (Aug. 29, 1997) (on file with author) (outlining Scott Falater's history of sleep disorder and the events leading up to the night of the murder); ABC 20/20: *The Sleeping Killer* (ABC Television Broadcast, transcript #99062505-j11, June 25, 1999) (including a short interview with Scott Falater and selections from court proceedings); CNN Breaking News: *Verdict to be Read in Falater Murder Trial* (CNN television broadcast, transcript #99062501 V00, June 25, 1999) (discussing the major issues of the case with Greta Van Susteran, CNN legal analyst, prior to the reading of the verdict); Phoenix Police Department Report, DR # 70087351 (Jan. 16, 1997) (on file with author) (reporting the crime scene details of the murder of Yarmila Falater).

494. CNN Breaking News: *Verdict to be Read in Falater Murder Trial*, *supra* note 493.

495. Kammer, *Head-to-Head*, *supra* note 493, at A13.

496. Phoenix Police Department Report, *supra* note 493 (statement of Greg Koons).

497. Kammer, *Head-to-Head*, *supra* note 493, at A13; CNN Breaking News: *Verdict to be Read in Falater Murder Trial*, *supra* note 493.

had successfully testified for the defense in the *Parks* case.⁴⁹⁸ According to his experts, Falater had a number of disorders that supported his claims: a history of sleepwalking; brainwave patterns consistent with those of someone who sleepwalks; sleep deprivation at the time of the incident, which often brings on sleepwalking episodes; and no apparent motive to murder his wife.⁴⁹⁹ However, the jury's decision to reject Falater's defense and convict him of first-degree murder relied on two key factors: Falater's complex behaviors during the episode, most particularly, the second (drowning) attack on his wife, and the evidence that Falter never sought medical help for his sleepwalking.⁵⁰⁰

There were a number of aspects of the Falater case, however, that accentuate the need for gradations in a voluntary act requirement. First, the sanctions sought by the defense and prosecution represented both possible poles of punishment: While the defense claimed that Falater was an unconscious sleepwalker who should be totally acquitted, the prosecution claimed that Falater should get the death penalty.⁵⁰¹ By raising the involuntariness defense of sleepwalking, Falater was essentially precluded from bringing other kinds of defenses that would have resulted in a more intermediary result (such as the partial defense of diminished capacity).⁵⁰² There also was no evidence that Falater suffered from a mental disease or defect sufficient to constitute insanity, and he never made that claim. Second, some of the jurors commented that the expert testimony from both sides, which they "weighed heavily," was confusing because of the all-or-nothing characterizations that each side presented concerning Falater's mental state.⁵⁰³

498. *CNN Breaking News: Verdict to be Read in Falater Murder Trial*, *supra* note 493.

499. *Id.*

500. See Kammer, *Jury in Sleepwalking Murder Trial*, *supra* note 493 (reporting jurors' statements that the second attack "removed their 'reasonable doubt'").

501. See *id.*

502. In *People v. Newton*, 87 Cal Rptr. 394, 406-07 (Cal. Dist. Ct. App. 1970), discussed *supra* notes 320-22 and accompanying text, the court allowed jury instructions for both an involuntary act defense and a diminished capacity defense. There is no evidence that Falater's attorneys requested both types of jury instructions. Regardless, such a request could be more difficult with a sleepwalking defense that historically has been associated with lack of consciousness as opposed to a reflex reaction defense such as Newton's that may be more easily characterized either way.

503. See Kammer, *Jury in Sleepwalking Murder Trial*, *supra* note 493.

For both of these reasons, experts who provide critical testimony in involuntary act cases feel particular pressure because their testimony is forced artificially into extremes. For example, Mark Mahowald, director of the Minnesota Regional Sleep Disorders Clinic at the Hennepin County Medical Center in Minneapolis, and one of the country's foremost experts on sleepwalking violence, refuses to become involved in criminal cases.⁵⁰⁴ He claims that the adversarial nature of a trial necessitates a dichotomous determination in cases where facts and circumstances typically "tend to be shaded in gray."⁵⁰⁵

Granted, there are all sorts of line drawing dilemmas throughout the criminal law. As this Article has contended, however, the problems with the voluntary act requirement are particularly troublesome.⁵⁰⁶ Where does this leave Scott Falater under this Article's proposed three-part standard? The standard provides some latitude in determining how such a case can be handled and allows an alternative apart from the forced endpoints that the prosecution and the defense represented.⁵⁰⁷

d. *Drug Ingestion: Ilo Grundberg*

While somnambulism is the classic involuntary act defense, there are many other kinds of conditions linked to involuntariness that illustrate the complexity of these determinations—ranging from concussion to hypoglycemia to blackouts.⁵⁰⁸ The voluntary ingestion of legal, therapeutic, drugs (apart from alcohol) can constitute a particularly complicated causal sequence because the condition is at least in part externally induced (the defendant chooses to consume a drug). Some cases, however, like *Grundberg v. Upjohn Company*,⁵⁰⁹ seem relatively more straightforward.

On June 19, 1988, Ilo Grundberg, age 57, shot her eighty-three-year-old mother eight times in the head, although she

After the trial one juror commented, "[t]hat's what made the deliberations so hard. We had two groups of experts that were telling us the exact opposite things. It came down to a choice of whose experts do you believe."

504. Jeffrey Stryker, *Sleepstabbing: The Strange Science of Sleep Behaviour and One Verdict: Guilty!*, SALON.COM, July 8, 1999, at <http://www.salon.com/health/feature/1999/07/08/sleepwalking>.

505. *Id.*

506. *See supra* Part III.

507. *See supra* Part IV.C.1.b.

508. *See supra* Part III.B-C.

509. 813 P.2d 89 (Utah 1991).

could not explain why.⁵¹⁰ The act seemed to be totally unmotivated. According to the testimony of a court-appointed psychiatrist, Grundberg had killed involuntarily because of her extreme reaction to Halcion, a sleeping pill that she took for insomnia.⁵¹¹ As a result, the state dismissed its charges.⁵¹² Grundberg then sued Upjohn Company, the manufacturer of Halcion, for \$21 million in a product liability action that settled prior to trial.⁵¹³

The settlement included a confidentiality agreement, so detailed facts about the case are not known.⁵¹⁴ It is known, however, that Grundberg had been taking Halcion for thirteen months before she shot and killed her mother; she testified that she had no memory of the shooting; adverse side effects to Halcion increase with length of usage; and by 1987, Upjohn Company was aware of twenty-four reports of murders, attempted murders, and physical threats linked to Halcion.⁵¹⁵ At the same time, the circumstances in Grundberg's life were not going well.⁵¹⁶ She was taking various medications for chronic depression and anxiety along with Halcion.⁵¹⁷ Her job loss six months before the murder prompted Grundberg to move with her mother to Hurricane, Utah, where they lived together in a mobile home.⁵¹⁸ On the day of the murder, Grundberg consumed Valium and codeine as well as Halcion, and shot her mother that evening.⁵¹⁹ On the basis of facts like these, her lawyers were able to successfully establish causal

510. Steven R. Reed, *A Tale of Two Attorneys vs. Drug Halcion; Unlikely Pair Joined to Win Landmark Case*, HOUS. CHRON., Nov. 29, 1992, State Section, at 1.

511. Todd Paul Meyers, *Halcion Made Me Do It: New Liability and a New Defense-Fear and Loathing in the Halcion Paper Chase*, 62 U. CIN. L. REV. 603, 611 (1993).

512. *Id.*

513. *Id.*; see also Grundberg, 813 P.2d at 90, 104 (stating the facts surrounding Grundberg's complaint against UpJohn).

514. Grundberg's case has since spurred comparable types of criminal and civil claims. A year after her settlement, for example, Upjohn was successfully sued in a Texas civil district court trial in conjunction with another murder case. See Reed, *supra* note 510; see also Myers, *supra* note 511 (examining civil and criminal litigation in relation to Halcion).

515. Tim Friend, *Halcion: Sleep Aid or Nightmare? Doubts Linger on Effects of Psycho-Drugs*, USA TODAY, May 28, 1992, at A1.

516. See Grundberg, 813 P.2d at 104.

517. *Id.*

518. See *id.*

519. *Id.*

connections between Grundberg's ingestion of Halcion and her violence.⁵²⁰

As in the *Parks* case, the *Grundberg* case can be seen through another set of lenses. The facts in *Grundberg* cut both ways. For example, if charges against Grundberg had not been dropped, it is possible that another court could have held that Grundberg was eligible for the insanity defense or that she acted voluntarily—in other words, that she was a murderer. The main purpose of the semi-voluntary act category is to prevent courts from labeling as insane individuals who do not show the kind of mental disease or defect that would make them suitable for commitment under the insanity provision, and who seem unlikely to engage in recurrent acts, assuming such acts are even remotely predictable. The category also prevents people from getting a sentence they may not deserve if a court determined that they acted voluntarily.

Unlike alcohol, taking therapeutic psychotropic drugs can often have unforeseeable effects that involve changes in people's conscious levels of awareness as well as their circumstances. This Article's proposed three-part requirement is forward looking in terms of the kinds of cases and conditions that the legal system can expect to see more of in the future. For example, psychotropic drugs are now increasingly prescribed for a vast array of symptoms, including stress.⁵²¹ It is possible that these prescription trends will lead to a surge in the kinds of cases that would rely on a defense of

520. *See id.*

521. *See generally* JOSEPH GLENMULLEN, PROZAC BACKLASH: OVERCOMING THE DANGERS OF PROZAC, ZOLOFT, PAXIL, AND OTHER ANTIDEPRESSANTS WITH SAFE, EFFECTIVE ALTERNATIVES (2000) (presenting a zealous criticism of the increasing and inappropriate use of Prozac and its pharmacological relatives, and noting the potential consequences of such use, including violence and suicide); FRED TEITELBAUM ET AL., 2001 DRUG TREND REPORT 3 (June 2002), available at <http://www.express-scripts.com> (last visited Sept. 21, 2002) (explaining that, between 2000 and 2001, about 37.3% of the 16.9% increase in drug costs was due to increased utilization and 5.9% due to the introduction of new drugs in 2001; in turn, nearly "two-thirds of the utilization increase is due to the use of more prescriptions per utilizer and one-third to more members using prescription drugs"); Christine Gorman, *The Science of Anxiety*, TIME, June 10, 2002, at 46 (discussing the ever-expanding range of drugs used to treat stress, anxiety, and depression); Mark Olfson et al., *National Trends in the Outpatient Treatment of Depression*, 287 J. AM. MED. ASS'N 203, 206-07 (2002) ("The proportion of individuals treated for depression who received a prescribed psychotropic medication increased from 44.6% in 1987 to 79.4% in 1997," suggesting "an increased emphasis on pharmacologic treatments" relative to psychotherapy and other treatments).

unconsciousness or automatism when the effects of these drugs are unpredictable or they mix badly with an individual's use of other drugs.

e. *Brain Cyst: Herbert Weinstein*

*People v. Weinstein*⁵²² illustrates the conceptual overlap between an involuntary act and the insanity defense.⁵²³ In 1991, Herbert Weinstein, a 64-year-old semi-retired advertising executive, was charged with second-degree murder for killing his wife after she scratched his face during an argument about their children.⁵²⁴ Weinstein strangled his wife and then threw her body out the window so that it would look like a suicide.⁵²⁵ Results of a positron emission tomography (PET) scan and skin conductance response tests indicated the existence of both a frontal lobe arachnoid cyst and metabolic imbalances in Weinstein's brain⁵²⁶—evidence that the court considered reasonable in making a diagnosis of insanity.⁵²⁷ According to Weinstein's attorneys, Weinstein suffered from organic cerebral defects that impaired his judgment during periods of stress; in this case, the stress occurred when his wife scratched his face during a heated dispute.⁵²⁸

Weinstein was believed to be the first case in which a court rendered admissible at trial testimony concerning the results of PET scans to determine a defendant's insanity.⁵²⁹ Another facet of Weinstein's insanity defense rested on Antonio Damasio's application of his "somatic marker theory" to Weinstein.⁵³⁰ Damasio is a renowned neuroscientist who has

522. 591 N.Y.S.2d 715 (N.Y. Sup. Ct. 1992).

523. Daniel A. Martell, *Causal Relation Between Brain Damage and Homicide: The Prosecution*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY 184, 186-87 (1996); Norman Relkin et al., *Impulsive Homicide Associated With an Arachnoid Cyst and Unilateral Frontotemporal Cerebral Dysfunction*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra*, at 179.

524. *Weinstein*, 591 N.Y.S.2d at 717; Martell, *supra* note 523, at 184.

525. Relkin, *supra* note 523, at 173.

526. See Zachery Weiss, *The Legal Admissibility of Positron Emission Tomography Scans in Criminal Cases: People v. Spyder Cystkopf*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra* note 523, at 203.

527. *Weinstein*, 591 N.Y.S.2d at 723-24 (finding that the PET and skin conductance response test results passed the relevant test of admissibility).

528. Cerisse Anderson, *Brain Scan Deemed Admissible at Trial: Guilty Plea Follows Insanity Defense Ruling*, N.Y.L.J., Oct. 20, 1992, at 1.

529. *Id.* But cf. Weiss, *supra* note 526, at 206 (stating that in California courts PET scans have been admitted in at least 11 previous murder cases).

530. Martell, *supra* note 523, at 186.

published widely on consciousness disorders.⁵³¹

According to Damasio's theory, some individuals with frontal lobe damage (like Weinstein) fail to "mark" with accurate emotional signals those behaviors that are socially acceptable, even though they are able to conceptualize a broad range of acceptable behaviors.⁵³² Without these markers to guide them, they cannot select the correct way to respond to a particular situation when considering a choice of suitable response options.⁵³³ Presumably, Weinstein failed to screen out selectively competing unconscious thoughts, which in turn impaired his emotional and behavioral responses.⁵³⁴ As Damasio stated in his report for the *Weinstein* case,

The assault and killing of [Weinstein's] second wife constitutes a radical departure from his usual comportment. We think it is probably significant that this behavior came in response to an equally unusual event, i.e., the fact that his wife attacked him physically by scratching his face. Confronted with an unusual provocation he was unable to select the most appropriate response option. It is reasonable to assume that his inability to respond correctly is part of the same defect that so limits his emotional and psychophysiological responses, and also that such a defect is due to his long-standing neurological condition.⁵³⁵

Weinstein also could have claimed that he really did not act at all—"that an intense rage produced a dissociative state of automatism."⁵³⁶ Most states of consciousness have an emotional component that is capable of totally taking over awareness. Individuals feeling blind rage may not consciously experience their emotional memory, even during acts of

531. See *supra* notes 235-41 and accompanying text.

532. ANTONIO R. DAMASIO, DESCARTES' ERROR: EMOTION, REASON, AND THE HUMAN BRAIN 173-75 (1994); Damasio et al., *supra* note 236, at 82.

533. Damasio et al., *supra* note 236, at 82. Damasio describes his "somatic marker" theory as follows: "Because [such individuals] are deprived of a natural qualifying marker, they must depend instead on a reasoned cost-benefit analysis of numerous and often conflictual options (involving both immediate and future consequences). The adequacy and the speed of response selection are degraded accordingly." *Id.*

534. See *supra* Part II.D.3-5 (discussing the overlap of conscious and unconscious processes and their impact on an individual's behavior).

535. Martell, *supra* note 523, at 187.

536. Stephen J. Morse, *Brain and Blame*, 84 GEO. L.J. 527, 541 n.28 (1996); see also Stephen J. Morse, *Brain and Blame*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra* note 523, at 231 (stating that "impulsivity is one sensible and less 'jargony' term to characterize the problem of people with somatic marking deficits"); Relkin et al., *supra* note 523, at 179 (characterizing Weinstein as acting in a "reflexively aggressive manner" when killing his wife).

murder.⁵³⁷

The *Weinstein* case can be viewed in yet another way, however, which is consistent with this Article's three-part requirement. While Weinstein's acts and the circumstances surrounding them were brutal, his character appeared strong on many levels. For example, corroborated evidence indicated that Weinstein had no record of violent behavior or indeed any kind of psychiatric disturbance or illness. He did not drink to excess or use illegal drugs, even before (he claimed) the argument with his wife. Apart from some insignificant memory loss (e.g., his failure to remember telephone numbers), Weinstein had a clean bill of mental health and was also financially solvent. In turn, he and his wife had a full sex life without, apparently, extramarital relationships.⁵³⁸

At the same time, a number of Weinstein's decisions and behaviors were questionable. Immediately after he killed his wife, Weinstein undertook a series of steps to make his wife's death resemble a suicide. He threw her body out of the window, scoured and cleansed the murder scene, changed and discarded his bloody clothes, and washed up.⁵³⁹

Interviews with family members also indicated that Weinstein, like Parks, had a gambling problem that caused him serious debt.⁵⁴⁰ Although Weinstein's wife kept a substantial amount of money from a prior marriage, she refused to give Weinstein money to gamble.⁵⁴¹ Indeed, in the weeks before her death, Weinstein attempted to convince his wife to become involved with the Hemlock Society.⁵⁴² One psychiatrist considered this attempt "significant [because Weinstein] staged the crime scene to look like his wife had committed suicide."⁵⁴³ In addition, Weinstein reportedly assisted in his first wife's suicide (she was terminally ill) and proposed aiding the suicide of his father-in-law.⁵⁴⁴ Lastly,

537. See TAYLOR, *supra* note 9, at 30.

538. Relkin et al., *supra* note 523, at 173-74.

539. Martell, *supra* note 523, at 184.

540. *Id.* at 193; see also *supra* note 465 and accompanying text (discussing Kenneth Parks's problems with gambling).

541. Martell, *supra* note 523, at 193.

542. *Id.* at 192 (noting that Weinstein's records "showed appointments with the Hemlock Society, a group devoted to suicide, in the weeks before his wife's murder").

543. *Id.*

544. *Id.* at 193.

Weinstein showed little remorse for his wife's death⁵⁴⁵ and started dating within months after the incident; indeed, he remarried right before commencing his prison sentence of seven to twenty-one years.⁵⁴⁶ Ultimately, Weinstein pled guilty under a plea bargain with the district attorney and was convicted of first-degree manslaughter.⁵⁴⁷

Under this Article's three-part analysis, a key issue would be whether Weinstein's behavior could constitute a threat to the safety or welfare of the community. While most arachnoid cysts are congenital—suggesting that Weinstein had the cyst since birth—⁵⁴⁸ they “are not usually considered to be lesions that promote abnormal aggression.”⁵⁴⁹ Rather, large cysts, like Weinstein's, are associated with a range of relatively benign complaints, such as headaches, dizziness, or mental impairments; some people have no symptoms whatsoever.⁵⁵⁰ Until Weinstein killed his wife, he showed no overt symptoms linked to the cyst, apart from a period at age 22 when he had two months of headaches with an unexplained cause.⁵⁵¹ He also has not committed additional acts of violence while serving his prison sentence.⁵⁵² Alternatively, some evidence indicates that Weinstein could be a danger. Weinstein's cyst expanded during his adult life, suggesting it may be a factor in later life problems.⁵⁵³ While in prison, he may not confront the kinds of “novel and threatening” environments that apparently contributed to his violence toward his wife.⁵⁵⁴ How would Weinstein act upon release when he is in a less controlled

545. Relkin et al., *supra* note 523, at 175.

546. *Id.* at 174.

547. Martell, *supra* note 523, at 193.

548. *Id.* at 184.

549. Relkin et al., *supra* note 523, at 172; see also Martell, *supra* note 523, at 184 (describing Weinstein's cyst as rather “typical,” and noting that in many cases similar kinds of cysts will go undetected throughout a person's life).

550. Relkin et al., *supra* note 523, at 172. While these are minor complaints, other more serious complaints from cysts include “multiple sclerosis-like sensorimotor impairments and epilepsy.” *Id.*

551. *Id.* at 173.

552. *Id.* at 174. This information is accurate as of 1996. *Id.*

553. *Id.* at 177-78 (noting that tests performed on Weinstein following his arrest showed a three centimeter shift of the left middle cerebral artery (MCA) relative to the right MCA as compared to an angiogram given in 1948 which showed a normally configured MCA, thereby indicating “indirect evidence of the cyst's . . . enlargement” later in Weinstein's life).

554. See *id.* at 179.

environment? The public may lose confidence in a criminal justice system if Weinstein was acquitted and committed violence again.

Weinstein's background of neurological disorders and compulsive gambling indicates that he could be dangerous in the future, despite his age and history of nonviolence. This Article's new semi-voluntary classification offers an alternative to the insanity defense as well as the suggestion that Weinstein acted voluntarily. For example, Norman Relkin, a behavioral neurologist who conducted a range of tests on Weinstein, contended that Weinstein's "volitional freedom was compromised by the cyst,"⁵⁵⁵ in ways that affected his conscious awareness and ability to "know" what he was doing.⁵⁵⁶ As Relkin explained, "[a]n important step in the process of 'knowing' is disturbed in such patients, relating to the perception of 'gut feelings' and their integration with other components of conscious experience."⁵⁵⁷ This assertion does not suggest complete involuntariness on Weinstein's part; nor does it necessarily indicate insanity. The semi-voluntary category offers a compromise between the two, relying on the new consciousness research.

Of course, not everyone agrees with Relkin's assessment of Weinstein. Others suggest that the cyst could not have contributed to Weinstein's violence.⁵⁵⁸ Classifying Weinstein's behavior as semi-voluntary, however, offers an alternative to an unqualified acquittal as well as to the insanity defense if there is agreement that he did not act voluntarily.

f. Encephalitis: Peter Bradley

Peter Bradley's unconsciousness defense derived from his

555. Richard M. Restak, *Brain Damage and Legal Responsibility*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra* note 523, at 170 (1996).

556. Relkin et al., *supra* note 523, at 181.

557. *Id.*

558. See Samuel Jan Brakel et al., *Neuropsychiatry at the Courtroom Gates: Selective Entry or Anything Goes?*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra* note 523, at 220 (stating that there appears to be no "scientific consensus on the relationship if any between PET scan patterns and criminal tendencies"); Martell, *supra* note 523, at 188 (emphasizing that there is an overall lack of data on the relationship between PET findings and violence); Helen S. Mayberg, *Medical-Legal Interferences from Functional Neuroimaging Evidence*, in 1 SEMINARS IN CLINICAL NEUROPSYCHIATRY, *supra* note 523, at 198 (noting that "the sensitivity and specificity of . . . PET to identify cause-specific abnormalities has not been determined, nor have clear correlations with specific clinical findings been described").

infliction with encephalitis, a very rare viral infection that causes inflammation of the brain. Left untreated, the disorder can lead to brain damage or death.⁵⁵⁹

After Bradley boarded a commercial plane on March 16, 2000, his medical condition purportedly fueled his attempt to interfere with flight crew members and attendants.⁵⁶⁰ While in flight, Bradley created a disturbance when he made frequent trips to the bathroom,⁵⁶¹ began taking off his clothes, wandered from seat to seat, and muttered incoherent nonsense.⁵⁶² When he finally did obey attendants and sat in the first class section of the plane, he began threatening to kill other passengers.⁵⁶³ He then tried and failed to open an exit door.⁵⁶⁴ Bradley's disruptions did not stop there, however. He broke open the cockpit door and attempted to gain access to the throttle and fuel controls.⁵⁶⁵ Bradley's efforts were thwarted when other passengers wrestled him and the co-pilot restrained him with plastic ties.⁵⁶⁶ When the flight landed, it was met by police who whisked Bradley to the local hospital.⁵⁶⁷

After weeks of research, the prosecution and defense agreed that Bradley's seemingly motiveless attack was caused by an "extremely rare reaction to encephalitis."⁵⁶⁸ According to the consulted neurologists, Bradley acted "in a delirious state" that he did nothing to provoke.⁵⁶⁹ He had no traces of drugs or alcohol in his blood, and his only medication was for high blood pressure.⁵⁷⁰ Bradley's actions made no sense to lawyers and

559. AM. JUR. 3d *Proof of Facts*, Attorney's Illustrated Medical Dictionary E20 (2002); ANDREW W. COLMAN, A DICTIONARY OF PSYCHOLOGY 242 (2001).

560. Bob Egelko, *U.S. Willing to Drop Charges in Jet Attack: Passenger Threatened Crew While Ill*, S.F. CHRON., Dec. 19, 2000, at A26.

561. Dave Birkland & Lynda V. Mapes, *Passengers Hailed in Midair Fracas: Help in Subduing Man May Have Saved Alaska Jet, Official Says*, SEATTLE TIMES, Mar. 18, 2000, at A15, available at 2000 WL 5526394.

562. Mary Ann Lickteig, *Mental Exam Ordered for Man Who Went Berserk on Alaska Flight*, SEATTLE POST-INTELLIGENCER, available at <http://seattlepi.nwsource.com/local/fly18.shtml> (Sept. 14, 2002).

563. Egelko, *supra* note 560, at A26.

564. Birkland & Mapes, *supra* note 561, at A5.

565. Egelko, *supra* note 560, at A26.

566. Lickteig, *supra* note 562.

567. *Id.*

568. Kim Curtis, *Encephalitis, Not Air Rage: Prosecutors and Defense Agree*, ABCNEWS.COM, Oct. 20, 2000, at <http://abcnews.go.com/sections/travel/DailyNews/cockpitattack001020.html>.

569. *Id.*

570. Nathan Odgaard, *Blue Springs Man Charged with Interfering with*

doctors, nor to friends and family who knew him well. He had no record of mental or behavioral problems and no history of drug or alcohol abuse.⁵⁷¹

Doctors seeking potential explanations for Bradley's behavior were alerted to the possibility of viral encephalitis when they noted that his spinal fluid had an unusually high protein count.⁵⁷² Bradley's encephalitis would have been exacerbated by lack of sleep, headaches, hypertension medication, and changing air pressure—conditions to which Bradley was subjected at the time of his threatening behavior.⁵⁷³ Experts have commented, however, that "agitated delirium" is a very rare reaction to encephalitis; "lethargy and confusion" are far more frequent responses.⁵⁷⁴ According to Bradley's attorney, the encephalitic delirium made Bradley unconscious during his actions, and his case merited dismissal.⁵⁷⁵

Bradley was indicted by a federal grand jury on the felony charges of "assaulting a flight crew member and committing an act of violence that was likely to endanger others on the plane."⁵⁷⁶ Eight months after the incident occurred, federal prosecutors agreed to dismiss the charges as long as Bradley remained under court supervision through an eighteen month pretrial diversion program.⁵⁷⁷ Prosecutors noted that jurors would be hesitant to convict Bradley at trial since the expert psychiatrists involved in this case uniformly stated that Bradley had been "either medically unconscious or temporarily insane."⁵⁷⁸ The court, while expressing reservations, agreed to abide by the decision of the court's pretrial services office, and Bradley was subsequently admitted to the diversion program.⁵⁷⁹

This final determination for Bradley is conceptually consistent with this Article's new semi-voluntary act category.

Flight, EXAMINER NEWS, Mar. 20, 2000, at http://examiner.net/stories/032000/new_new30001.shtml (Sept. 14, 2002).

571. Curtis, *supra* note 568.

572. *Id.*

573. *Id.*

574. *Id.*

575. *Id.*

576. Egelko, *supra* note 560, at A26.

577. *Id.*

578. *Id.*

579. See Eric Brazil, *Air Rage: Berserk Passenger Tries to Crash British* 747, S.F. CHRON., Dec. 29, 2000, at A1, available at 2000 WL 6501284.

The court did not need to turn to the insanity defense's mental disease or defect model (and institutionalization for Bradley) to preclude a dismissal. However, because Bradley was harmful, even in a non-blameworthy way, the public may feel more confident in the criminal justice system knowing that Bradley was in some kind of pretrial diversion program. This type of resolution illustrates the practical and justice-seeking appeal of a three-part standard.

3. The Diversity and Range of Semi-Voluntary Acts

This Article's three-part requirement provides some middle ground for the criminal justice system. It offers a compromise sanction for behavior that, under the current system, warrants dispositions ranging anywhere from outright acquittal to the death penalty.

The three-part requirement also can apply in a variety of other circumstances, including those cases that push the "outer edge" of what can be considered involuntary. In *Torsney v. Gold*,⁵⁸⁰ for example, a psychomotor epilepsy defense was used on behalf of the defendant police officer, Robert Torsney, who had shot and killed a fifteen-year-old boy without provocation or justification. Torsney was found not guilty by reason of mental disease or defect for second-degree murder based upon evidence that his impulsive shooting was attributable to epilepsy.⁵⁸¹ However, rather shockingly, Torsney was released from institutionalization shortly after his commitment because doctors determined that he was symptom free and had never shown signs of epilepsy.⁵⁸² While there were conditions attached to Torsney's release—including the stipulation that his release could be revoked and a court could recommit him if he were a danger to others⁵⁸³—Torsney could never be prosecuted for the murder. At the same time, there was evidence that Torsney showed many signs of impulsivity and personal instability,⁵⁸⁴ and the black community⁵⁸⁵ and

580. 394 N.E.2d 262 (N.Y. 1979). For an excellent account of the *Torsney* case, see WILLIAM J. WINSLADE & JUDITH WILSON ROSS, *THE INSANITY PLEA* 133-58 (1983).

581. *Torsney*, 394 N.E.2d at 263-64; WINSLADE & ROSS, *supra* note 580, at 141.

582. *Torsney*, 394 N.E.2d at 268; WINSLADE & ROSS, *supra* note 580, at 143-56.

583. *Torsney*, 394 N.E.2d at 263-64.

584. *Id.* at 274-75 (Wachtler, J., dissenting); WINSLADE & ROSS, *supra* note 580, at 145.

appellate court judges⁵⁸⁶ greeted his release with "outrage." The outcry was understandable. If Torsney's conduct had been classified as semi-voluntary instead, this new category would have been a far more accurate appraisal of his condition than insanity.

Another unconsciousness defense that lies on the fringe of science relates to the increasing study of multiple personality disorder (MPD).⁵⁸⁷ Elyn Saks suggests that the same legal reasoning that allows for the successful use of an unconsciousness defense in sleepwalking cases should apply to individuals suffering from MPD. Both a sleepwalker and an altered personality of an MPD individual act with knowledge and intent while carrying out complex criminal behaviors.⁵⁸⁸ Courts acquit individuals for crimes committed while sleepwalking because the sleepwalkers' "ordinary, waking selves do not govern their actions."⁵⁸⁹ Likewise, Saks claims that because the altered personalities (e.g., A and B) are different in the mind of the individual with MPD, "personality A" cannot understand or control the behavior of "personality B." Therefore, personality A cannot be punished for any criminal acts that personality B may cause.⁵⁹⁰ While there are no set legal precedents for the courts to follow in MPD cases, some courts find that evidence of MPD alone merits acquittal. Yet other courts investigate the mental state of each individual altered personality ("A" and "B"), or only the altered personality believed to have committed the crime (for example,

585. WINSLADE & ROSS, *supra* note 580, at 143 (noting that "[t]he black community was outraged" when upon Torsney's release, his attorney stated his plans to file for disability based on Torsney's mental illness).

586. *Id.* at 147 (stating that the appellate court judges were "appalled" and expressed "outrage" on the arguments requesting Torsney's release).

587. See generally IAN HACKING, *REWRITING THE SOUL: MULTIPLE PERSONALITY AND THE SCIENCES OF MEMORY* (1995) (discussing recent and historical studies of MPD); MARTHA STOUT, *THE MYTH OF SANITY: DIVIDED CONSCIOUSNESS AND THE PROMISE OF AWARENESS* (2001) (describing multiple personality disorder and other dissasociative disorders).

588. ELYN R. SAKS & STEPHEN H. BEHNKE, *JEKYLL ON TRIAL: MULTIPLE PERSONALITY DISORDER AND CRIMINAL LAW* 693 (1997); Elyn R. Saks, *Multiple Personality Disorder and Criminal Responsibility*, 25 U.C. DAVIS L. REV. 383, 435 (1992); see also Sherry F. Colb, *The Three Faces of Evil*, 86 GEO. L.J. 677, 683 (1998) (reviewing ELYN R. SAKS & STEPHEN H. BEHNKE, *JEKYLL ON TRIAL: MULTIPLE PERSONALITY DISORDER AND CRIMINAL LAW* (1997)).

589. Saks, *supra* note 588, at 435.

590. *Id.*

only "B").⁵⁹¹

The focus on such relatively exotic conditions⁵⁹² should not downplay the applicability of an unconsciousness defense to more traditional kinds of conditions. Parts II and III of this Article indicated how wide ranging such conditions can be and how often they can be classified under the umbrella of insanity when semi-voluntariness would be more appropriate. Scientific research continues to show the increasing complexity of human behavior and thought.⁵⁹³ It seems only reasonable and just that the criminal law should reflect these discoveries, within, of course, the practical bounds of the criminal justice system.

Incorporating consciousness research should make attorneys knowledgeable of the kinds of involuntariness defenses they can and should be offering their clients, particularly in high stakes cases involving a potential death penalty. A striking illustration of such attorney ignorance is the case of Tracy Housel, an American with British citizenship who was recently executed.⁵⁹⁴ It was not until years after Housel's 1986 conviction and death sentence that Harvard doctors and endocrinologists working for his appeal discovered that Housel suffered from a rare form of hypoglycemia. The condition induced blackouts and mood swings for much of Housel's life when his blood sugar was low.⁵⁹⁵ There is some evidence that Housel's medical condition could have contributed to the murders he committed.⁵⁹⁶ It is not known whether introducing such evidence at Housel's trial would have had any impact. However, it most definitely would have enabled jurors to view the case in an alternative way fitting with the protective purpose of the criminal law's voluntary act requirement.

591. *Id.* at 386-87.

592. See SAKS & BEHNKE, *supra* note 589, at 8 (stating that MPD affects between 0.1 and 1 % of the population).

593. See *supra* Part II.D.

594. Matthew Engel, *Briton on Death Row Executed*, THE GUARDIAN (London), Mar. 13, 2002, at A7, LEXIS, News Library, Guardian File; David Rose, *Mother's Last-Ditch Clemency Plea for Briton on Death Row*, THE OBSERVER (London), Feb. 10, 2002, at A10, LEXIS, News Library; Observer File.

595. Rose, *supra* note 594.

596. *Id.*

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The contributions of consciousness research could enlighten many other aspects of the criminal law, most particularly interpretations of *mens rea* standards if the focus turned to voluntary acts.⁵⁹⁷ For example, the MPC requires that a person acting *purposely* have as their *conscious object* to engage in a certain kind of conduct or cause a certain result.⁵⁹⁸ What should *conscious object* mean in light of the new consciousness research?

The more challenging analysis with consciousness research involves the MPC's *knowledge* requirement. A person acts *knowingly*, for example, when "he *is aware* that it is practically certain that his conduct will cause" a particular result.⁵⁹⁹ What should the term "awareness" mean in this context? If there is really very little that people are aware of, at least consciously, how should we conceptualize such a standard? The terms "purposely" and "conscious object,"⁶⁰⁰ as well as the terms "recklessly" and "consciously disregards,"⁶⁰¹ appear to be relatively more straightforward because they require explicitly some degree of conscious thought. Likewise, the "negligence" standard of "should be aware"⁶⁰² is based on people's normative expectations of what they anticipate from others.

Yet, all the *mens rea* terms are vague. Questions about these definitions show that *mens rea* is simply an attempt to legally classify the workings of the human mind. Consciousness research can help make this effort more accurate.

The research findings also suggest the potential for looking at other MPC provisions differently—attempt, for example—or the remaining inchoate crimes, because there is relatively less conduct by which to gauge liability and more emphasis on the defendant's mental state. This approach also applies to other crimes or aggravating factors dependent on the defendant's mental state, such as bias crimes. Encouraging a paradigm shift in the criminal law is less a goal of such examinations

597. See generally Denno, *supra* note 442.

598. MODEL PENAL CODE 1985, *supra* note 21, § 2.02, at 225 (emphasis added).

599. *Id.* § 2.02(2)(b) (emphasis added).

600. *Id.* § 2.02(2)(a).

601. *Id.* § 2.02(2)(c).

602. *Id.* § 2.02(d).

than is the continual need to reassess and update doctrines that have a life-altering impact on those coming through the criminal justice system.

CONCLUSION

This Article examined the criminal law's voluntary act requirement, particularly in the context of the MPC, which leaves the work of defining voluntariness to the courts. Generally, courts have adopted the terms "unconsciousness" and "automatism" to correspond, respectively, to the voluntary act requirement's *mens rea* and *actus reus* crime elements. Discussion showed how the MPC's voluntary act requirement reflects the Freudian psychoanalytic conception of a conscious/unconscious dichotomy, which was a familiar way to view the world in the 1900s. Although the MPC's voluntary act provision was impressively progressive at the time of the MPC's inception in 1962, it no longer reflects the MPC's goal of infusing modern interdisciplinary sciences into the law. This Article concludes that there appears to be no acceptable scientific rationale for a voluntary act dichotomy because consciousness and unconsciousness range along a continuum.

After reviewing selected aspects of the new consciousness research, this Article examined how the voluntary act requirement conflicts conceptually and substantively with other key criminal law defenses, primarily insanity. The issue is troublesome because courts may adjudicate like individuals differently based upon their confused comprehension of these defenses and the science that underlies them. After considering possible solutions to this dilemma, this Article proposed that the voluntary act requirement should be substantially simplified and constitute three parts: (1) voluntary acts, (2) involuntary acts, and (3) semi-voluntary acts. The third category of semi-voluntary acts takes cases from the first two categories under the presumption that current criminal law paradigms are both too harsh and too lenient, depending on the type of person being adjudicated. This Article offered no recommendations concerning how these three-part categories should be handled procedurally because that topic, while very important, is fodder for a much larger inquiry than can be handled here.

This Article showed that consciousness research can be consciousness-raising. It makes us aware of the inadequacies in our legal paradigms and some of the ways they can be

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rectified and modernized. Perhaps, with time, it will make us more fully aware of the ways individuals suffer because of them.

APPENDIX

Voluntary Act Requirements in State Statutes: Then and Now

EXPLICIT VOLUNTARY ACT REQUIREMENT			
State⁶⁰³	State code or proposed state code provision explicitly requiring a voluntary act, as of 1979⁶⁰⁴	Current state code provision explicitly requiring a voluntary act	Statutory language of current state code provision explicitly requiring a voluntary act
		Current state code provision defining a voluntary act (if statute contains such a provision)	Statutory language of current state code provision defining a voluntary act (if statute contains such a provision)
Alabama	ALA. CODE §§ 13A-2-1(2), 3 (1994)	ALA. CODE (1994) § 13A-2-3	The minimum requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform an act which he is physically capable of performing.
		ALA. CODE § 13A-2-1(2)	VOLUNTARY ACT. An act performed consciously as a result of effort or determination, and such term includes the possession of property if the actor was aware of his physical possession or control thereof for a sufficient time to have been able to terminate it.

603. This Appendix compares the voluntary act requirement statutes and proposed codes existing on January 1, 1979, with state statutes in effect on January 1, 2001. *See supra* note 30 and accompanying text.

604. The 1979 information is based on MODEL PENAL CODE 1985, *supra* note 21, § 2.01 cmt. 2 at 218 n.14. With a few exceptions, research collected in the Model Penal Code Commentaries ended on January 1, 1979. *Id.* at 214 n.†.

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EXPLICIT VOLUNTARY ACT REQUIREMENT			
Arizona	ARIZ. REV. STAT. ANN. §§ 13-105(32) to -201 (West 2001)	ARIZ. REV. STAT. ANN. § 13-201 (West 2001)	The minimum requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform a duty imposed by law which the person is physically capable of performing.
		ARIZ. REV. STAT. ANN. § 13-105(37) (West 2001)	"Voluntary act" means a bodily movement performed consciously and as a result of effort and determination.
Arkansas	ARK. CODE ANN. § 41-202(1) (Michie 1977)	ARK. CODE ANN. § 5-2-204(a) (Michie 1997)	A person does not commit an offense unless his liability is based on conduct that includes a voluntary act or the omission to perform an act which he is physically capable of performing.
Colorado	COLO. REV. STAT. §§ 18-1-501(9), -502 (2001)	COLO. REV. STAT. § 18-1-502 (2001)	The minimum requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform an act which he is physically capable of performing
		COLO. REV. STAT. ANN. § 18-1-501(9) (West 2001)	"Voluntary act" means an act performed consciously as a result of effort or determination, and includes the possession of property if the actor was aware of his physical possession or control thereof for a sufficient period to have been able to terminate it.

EXPLICIT VOLUNTARY ACT REQUIREMENT			
Delaware	DEL. CODE ANN. tit. 11, §§ 242-243 (2001)	DEL. CODE ANN. tit. 11, § 242 (2001)	A person is not guilty of an offense unless liability is based on conduct which includes a voluntary act or the omission to perform an act which the person is physically capable of performing.
		DEL. CODE ANN. tit. 11, § 243 (2001)	"Voluntary act" means a bodily movement performed consciously or habitually as a result of effort or determination, and includes possession if the defendant knowingly procured or received the thing possessed or was aware of the defendant's control thereof for a sufficient period to have been able to terminate possession.
Hawaii	HAW. REV. STAT. §§ 702-200, -201 (1976) (amended 1986)	HAW. REV. STAT. ANN. § 702-201 (1993)	In any prosecution it is a defense that the conduct alleged does not include a voluntary act or the voluntary omission to perform an act of which the defendant is physically capable.
			"Voluntary act" means a bodily movement performed consciously or habitually as the result of the effort or determination of the defendant.
Illinois	ILL. COMP. STAT. ANN. §§ 4-1, -2 (West 1972 & Supp. 1988)	720 ILL. COMP. STAT. ANN. 5/4- 1 (West 1993)	A material element of every offense is a voluntary act, which includes an omission to perform a duty which the law imposes on the offender and which he is physically capable of performing.

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EXPLICIT VOLUNTARY ACT REQUIREMENT			
Indiana	IND. CODE ANN. § 3-41-2-1(a) (Michie 1979)	IND. CODE ANN. § 35-41-2-1(a) (Michie 1998)	A person commits an offense only if he voluntarily engages in conduct in violation of the statute defining the offense. However, a person who omits to perform an act commits an offense only if he has a statutory, common law, or contractual duty to perform the act.
Kentucky	KY. REV. STAT. ANN. §§ 501.010 (3), .030(1) (Michie 1975)	KY. REV. STAT. ANN. § 501.030(1) (Michie 1999)	A person is not guilty of a criminal offense unless . . . [h]e has engaged in conduct which includes a voluntary act or the omission to perform a duty which the law imposes upon him and which he is physically capable of performing
		KY. REV. STAT. ANN. § 501.010(3) (Michie 1999)	"Voluntary act" means a bodily movement performed consciously as a result of effort or determination and includes the possession of property if the actor was aware of his physical possession or control thereof for a sufficient period to have been able to terminate it.
Maine	ME. REV. STAT. ANN. tit. 17-A, § 51 (repealed 1981)	ME. REV. STAT. ANN. tit. 170A, §31 (West 1983)	A person commits a crime only if he engages in voluntary conduct. Voluntary conduct includes an act or voluntary omission. <i>See also</i> State v. Case, 672 A.2d 586, 589 (Me. 1996) (holding that to constitute voluntary conduct for which a person could be held criminally liable, the "act must be the result of an exercise of defendant's conscious choice to perform [it], and the not result of reflex, convulsion, or other act over which the person has no control" (alteration in original)).

EXPLICIT VOLUNTARY ACT REQUIREMENT			
Missouri	MO. ANN. STAT. § 562.011 (West 1999)	MO. ANN. STAT. § 562.011(1) (West 1999)	A person is not guilty of an offense unless his liability is based on conduct which includes a voluntary act.
		MO. ANN. STAT. § 562.011(2)	A "voluntary act" is (1) A bodily movement performed while conscious as a result of effort or determination; or (2) An omission to perform an act of which the actor is physically capable.
Montana	MONT. CODE ANN. §§ 45-2-101(25), -202 (1979)	MONT. CODE ANN. § 45-2-202 (2001)	A material element of every offense is a voluntary act, which includes an omission to perform a duty which the law imposes on the offender and which he is physically capable of performing, except for deliberate homicide under 45-5-102(1)(b) for which there must be a voluntary act only as to the underlying felony.
		MONT. CODE ANN. § 45-2-101(32) (2001)	An "involuntary act" means an act that is: (a) a reflex or convulsion; (b) a bodily movement during unconsciousness or sleep; (c) conduct during hypnosis or resulting from hypnotic suggestion; or (d) a bodily movement that otherwise is not a product of the effort or determination of the actor, either conscious or habitual.
New Hampshire	N.H. REV. STAT. ANN. § 626:1(I) (1996)	N.H. REV. STAT. ANN. § 626:1(I) (1996)	A person is not guilty of an offense unless his criminal liability is based on conduct that includes a voluntary act or the voluntary omission to perform an act of which he is physically capable.
New Jersey	N.J. STAT. ANN. § 2C:2-1(a) (2001)	N.J. STAT. ANN. § 2C:2-1(a) (West 1995)	A person is not guilty of an offense unless his liability is based on conduct which includes a voluntary act or the omission to perform an act of which he is physically capable.
		N.J. STAT. ANN. § 2C:2-1(a) (West 1995)	A bodily movement that is not a product of the effort or determination of the actor, either conscious or habitual, is not a voluntary act within the meaning of this section.

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EXPLICIT VOLUNTARY ACT REQUIREMENT			
New York	N.Y. PENAL LAW §§ 15.00(2), 15.10 (McKinney 1998)	N.Y. PENAL LAW § 15.10 (McKinney 1998)	The minimal requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform an act which he is physically capable of performing.
		N.Y. PENAL LAW § 15.00(2) (McKinney 1998)	“Voluntary act” means a bodily movement performed consciously as a result of effort or determination, and includes the possession of property if the actor was aware of his physical possession or control thereof for a sufficient period to have been able to terminate it.
Ohio	OHIO REV. CODE ANN. §§ 2901.21(A)(1), (C)(2)	OHIO REV. CODE ANN. § 2901.21(A)(1) (Andersen 2000)	[A] person is not guilty of an offense unless . . . (1) The person's liability is based on conduct that includes either a voluntary act, or an omission to perform an act or duty that the person is capable of performing
		OHIO REV. CODE ANN. § 2901.21(D)(2) (definition of involuntary act) ⁶⁰⁵	Reflexes, convulsions, body movements during unconsciousness or sleep, and body movements that are not otherwise a product of the actor's volition, are involuntary acts.
Oregon	OR. REV. STAT. §§ 161.085(2), .095(1) (1983)	OR. REV. STAT. § 161.095(1) (2001)	The minimal requirement for criminal liability is the performance by a person of conduct which includes a voluntary act or the omission to perform an act which the person is capable of performing.
		OR. REV. STAT. § 161.085(2) (2001)	“Voluntary act” means a bodily movement performed consciously and includes the conscious possession or control of property.

605. This provision describes bodily movements that are not voluntary.

EXPLICIT VOLUNTARY ACT REQUIREMENT			
Pennsylvania	PA. CONS. STAT. ANN. § 301(a) (West 1998)	PA. CONS. STAT. ANN. § 301(a) (West 1998)	A person is not guilty of an offense unless his liability is based on conduct which includes a voluntary act or the omission to perform an act of which he is physically capable.
Texas	TEX. PENAL CODE ANN. § 6.01(a) (Vernon 1974 & Supp. 1994)	TEX. PENAL CODE ANN. § 6.01(a) (Vernon 1994)	A person commits an offense only if he voluntarily engages in conduct, including an act, an omission, or possession.
Utah	UTAH CODE ANN. §§ 76-1-601(1), -2-101(1) (1978) (amended 1983)	UTAH CODE ANN. § 76-2-101(1) (1999)	No person is guilty of an offense unless his conduct is prohibited by law and: (1) He acts intentionally, knowingly, recklessly, with criminal negligence, or with a mental state otherwise specified in the statute defining the offense, as the definition of the offense requires
		UTAH CODE ANN. § 76-1-601(1) (1999)	"Act" means a voluntary bodily movement and includes speech.

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NO EXPLICIT VOLUNTARY ACT REQUIREMENT		
State	Likely location of voluntary act requirement if state code or proposal, as of 1979, had contained such a requirement	Likely location of voluntary act requirement if current code were to contain such a requirement
Connecticut	CONN. GEN. STAT. ANN. §§ 53a-3, -5 (West 1972)	CONN. GEN. STAT. ANN. §§ 53a-3, -5 (West 2001) (Definitions; Criminal Liability)
Florida	FLA. STAT. ch. 775 (1979) (Definitions; General Penalties)	FLA. STAT. ANN. §§ 775.01-.25 (West 2000 & Supp. 2002) (Definitions; General Penalties)
Iowa	IOWA CODE ANN. chs. 701-02 (West 1979)	IOWA CODE ANN. §§ 687-747 (West 1993 & Supp. 2002) (Criminal Law, General Provisions and Definitions)
Minnesota	MINN. STAT. § 609.02 (1972) (Criminal Code; Definitions)	MINN. STAT. ANN. § 609.02 (West 2002) (Criminal Code; Definitions)
Nebraska	NEB. REV. STAT. § 28-109 (23) (Supp. 1978)	NEB. REV. STAT. § 28-109(23) (1996) (defining "voluntary act" as "an act performed as a result of effort or determination," but lacking a voluntary act requirement)
New Mexico	N.M. STAT. ANN. ch. 30 (Michie 1978)	N.M. STAT. ANN. § 30-1-4 (Michie 1994) (requiring an "act" for the commission of an offense, but not qualifying the required "act" with "voluntary" or a similar adjective)
North Dakota	N.D. CENT. CODE § 12.1-02-01(1) (1997)	N.D. CENT. CODE § 12.1-02-01(1) (1997) (requiring an "act" for the commission of an offense, but not qualifying the required "act" with "voluntary" or a similar adjective)
Virginia	VA. CODE ANN. §§ 18.2-1 to -17 (Michie 1975)	VA. CODE ANN. §§ 18.2-1 to -17 (Michie 1996) (Crimes, In General)
Washington	WASH. REV. CODE ANN. ch. 9A.08 (West 1977)	WASH. REV. CODE ANN. §§ 9A.04.010-.88.140 (West 2000 & Supp. 2002) (Principals of Liability)
Wisconsin	WIS. STAT. ANN. §§ 939.01-.23 (1958 & Supp. 1981)	WIS. STAT. ANN. §§ 939.01-.74 (West 1996 & Supp. 2001) (General Provisions)
District of Columbia	D.C. CODE ANN. §§ 22-101 to -109 (West 1967 & Supps. 1970, 1979)	D.C. CODE ANN. §§ 22-101 to -5215 (2001 & Supp. 2002) (Criminal Offenses)

"IMPLICIT VOLUNTARY ACT" REQUIREMENT			
State	Provision mentioned in Commentaries	Current statutory provision	Current statutory language
	Context in which Commentaries mention provision		
California (proposal)	CAL. S.B. 27 § 2002(a)(1) & (2)	CAL. PENAL CODE § 26(4) (West 1999)	"Persons who committed the act charged without being conscious thereof" are not capable of committing the crime.
	Proposed code would have required "general intent," defined as conscious and willing performance of the act constituting the offense.		
Idaho	Not mentioned in Model Penal Code & Commentaries § 2.01 cmt. 1 at 218 n.14.	IDAHO CODE § 18-201(2) (Michie 1997)	"Persons who committed the act charged without being conscious thereof" are not capable of committing the crime.
Nevada	Not mentioned in Model Penal Code & Commentaries § 2.01 cmt. 1 at 218 n.14.	NEV. REV. STAT. ANN. § 194.010(4) (Michie 2001 & Supp.)	"Persons who committed the act charged without being conscious thereof" are not capable of committing the crime.
Oklahoma (proposal)	OKLA. (1975 p) §§ 1-110(3), -201(a)	OKLA. STAT. ANN. tit. 21, § 152(6) (West 1983 & Supp. 2002)	"Persons who committed the act charged without being conscious thereof" are not capable of committing the crime.
	Commentaries compare, without comment, Oklahoma's proposal to Georgia's provision.		
South Dakota	Listed with state codes containing no explicit voluntary act requirement. <i>But see</i> S.D. CODIFIED LAWS § 22-3-1(4) (Michie 1979) (same as current	S.D. CODIFIED LAWS § 22-3-1(4) (Michie 1998)	"Persons who committed the act charged without being conscious thereof" are not capable of

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	provision)		committing the crime.
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INTERMEDIATE REQUIREMENT			
State	Provision mentioned in Commentaries	Current code provision containing voluntary act requirement	
	Language of provision mentioned in Commentaries	Language of current code provision containing voluntary act requirement	
Vermont (proposal)	VT. (p) §§ 1.1.3, 1.1.4	None; see VT. STAT. ANN. tit. 13, §§ 1-14 (1998) (Crimes and Criminal Procedure, General Provisions)	
	Commentaries note that Vermont's proposed code required the equivalent of a voluntary act without using the word "voluntary."		
Louisiana	LA. REV. STAT. ANN. § 14:8 & Reporter's cmt. (West 1974)	LA. REV. STAT. ANN. § 14:8 & Reporter's cmt. (West 1997)	
	The Commentaries note that the Louisiana code, read in conjunction with the Reporter's Comments following the applicable section, required a voluntary act.	Louisiana's current code defines criminal conduct as consisting of an "act or failure to act that produces criminal consequences," and the Reporter's Comment following the section defines "act" as "an external manifestation of will which produces consequences."	
Georgia	GA.CODE ANN. § 26-601 (Harrison 1983)	GA.CODE ANN. § 16-2-1 (Harrison 1999)	
	Commentaries note that Georgia's provision required the concurrence of an act or omission and either intention or criminal negligence (MPC misquotes).	"A 'crime' is a violation of a statute . . . in which there is a joint operation of an act or omission to act and intention or criminal negligence."	
Georgia (presumption)	GA. CODE ANN. § 26-603 (Harrison 1983)	GA. CODE ANN. §§ 16-2-3, 16-2-4 (Harrison 1999)	

	The Commentaries note that the Georgia code contained a rebuttable presumption that the "acts of a person of sound mind and discretion are . . . the product of a person's will"	Georgia current code contains the same rebuttable presumption, and also presumes, subject to rebuttal, that every person is of sound mind and discretion.
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INTERMEDIATE REQUIREMENT		
Kansas	KAN. STAT. ANN. § 21-3201 (1974) (requiring willful or wanton conduct)	KAN. STAT. ANN. § 21-3201 (1995) (stating that criminal intent is an essential element of every crime, and may be established through proof that defendant's conduct was intentional or reckless)
	The Commentaries compared Kansas's provision to Georgia's.	
Puerto Rico	P.R. LAWS ANN. §§ 3022(27), 3061 (1984)	P.R. LAWS ANN. § 3022(27) (1984) (defining "voluntarily" as implying an "aim or will to commit the act"); P.R. LAWS ANN. § 3061 (1984) (requiring intent or criminal negligence for a person to be penalized for an act or omission regarded as a crime); P.R. LAWS ANN. § 3153 (1984) (stating that unconsciousness at the time of the act precludes liability)
	The Commentaries compared Puerto Rico's provision to Georgia's.	

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