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ARBITRARY AND GODLIKE DETERMINATIONS: INSANITY, NEUROSCIENCE, AND SOCIAL CONTROL IN MONTANA

Andrew King-Ries*

I. INTRODUCTION

In 1979, Montana broke from the rest of the nation and adopted a novel approach to dealing with the mentally ill who commit crimes: abolishing the insanity defense. The Montana Legislature discarded the insanity defense primarily out of concern about the unscientific nature of the mental health field and the resulting potential for its abuse as a defense.¹ The sponsor of the abolition legislation asserted that psychiatry was “unscientific,” psychiatrists made “arbitrary and godlike determinations,” and psychiatrists and social workers needed to be “removed” from the criminal justice system.²

Even though insanity was raised in less than one percent of all criminal trials,³ Montana embraced the notion that—from the perspective of society and crime victims—people with mental illness who commit crimes are criminals first and mentally ill second.⁴ After abolition, mental illness was no longer relevant as to whether the defendant was insane at the time of the crime; instead, mental illness became only relevant as to whether the defendant satisfied the elements of the crime charged.⁵ In doing so, the Montana Legislature eliminated insanity as an affirmative defense, but made a defendant’s mental illness potentially relevant to every criminal offense with a mental state element.

The bald reality of abolishing the insanity defense is that people who are insane—and were insane at the time of the offense—are convicted of crimes and treated like criminals. For this reason, the morality of Montana’s approach has been questioned. Is it appropriate to punish someone who, due

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1. Mont. H. Jud. Comm., *Hearing on H.B. 877*, 46th Legis., Reg. Sess. 12 (Feb. 20, 1979).

2. *Id.* Jeanne Matthews Bender, Student Author, *After Abolition: The Present State of the Insanity Defense in Montana*, 45 Mont. L. Rev. 133, 137 n. 30 (1984).

3. Daniel J. Nusbaum, Student Author, *The Craziest Reform of Them All: A Critical Analysis of the Constitutional Implications of “Abolishing” the Insanity Defense*, 87 Cornell L. Rev. 1509, 1562 (2002).

4. Mont. H. Jud. Comm., *supra* n. 1, at 12.

5. Stephanie C. Stimpson, Student Author, *State v. Cowan: The Consequences of Montana’s Abolition of the Insanity Defense*, 55 Mont. L. Rev. 503, 510 (1994).

to mental illness, could not exercise moral choices to engage in, or avoid, criminal conduct?⁶ Underlying this discussion is the question of whether the criminal law is justified as a response to a defendant's exercise of free will or if it is essentially an exercise in social control.

In the past 35 years, despite these concerns, the Montana Supreme Court has repeatedly affirmed the constitutionality of Montana's approach.⁷ In addition, while the United States Supreme Court has yet to rule directly on the constitutionality of abolishing the insanity defense, the Supreme Court has essentially found no constitutional restrictions on state legislatures in how they configure their approach to criminal treatment of the mentally ill.⁸ For the past 35 years, Montana has been at the forefront of a reconsideration of and restriction on the use of mental illness and defect as a defense in the criminal justice system.

That same 35 year period, however, has seen an explosion in the field of neuroscience—the study of the brain and the nervous system—largely as a result of new computer imaging techniques that allow study of the brain in action.⁹ In the past decade alone, neuroscience has discovered important correlations between brain abnormalities and criminal behavior.¹⁰ Developments in neuroscience—and insights into causality of criminality—will likely continue to develop at an exponential rate due to international investment and collaboration. For example, President Obama recently announced the formation of the BRAIN Initiative (Brain Research through Advancing Innovative Neurotechnologies).¹¹ Similar to the Human Genome Project, the initiative's goal is to map the activity of every neuron in the human brain.¹²

6. Michael Corrado, *The Case for a Purely Volitional Insanity Defense*, 42 Tex. Tech L. Rev. 481, 494 (2009).

7. *State v. Korell*, 690 P.2d 992, 997–998 (Mont. 1984).

8. *Clark v. Arizona*, 548 U.S. 735, 752 n. 20 (2006) (“We have never held that the Constitution mandates an insanity defense, nor have we held that the Constitution does not so require. This case does not call upon us to decide the matter.”).

9. The White House, *The BRAIN Initiative: Brain Research through Advancing Innovative Neurotechnologies*, <http://perma.cc/ZS5Y-9NQC> (<http://www.whitehouse.gov/BRAIN>) (accessed Jan. 31, 2015).

10. Andrea L. Glenn & Adrian Raine, *Neurocriminology: Implications for the Punishment, Prediction and Prevention of Criminal Behaviour*, 15 Nat. Revs. Neuroscience 54, 54 (2014).

11. The White House, *supra* n. 9.

12. *Id.*; see also Nat'l Insts. of Health, *The BRAIN Initiative: Brain Research through Advancing Innovative Neurotechnologies (BRAIN)*, <http://perma.cc/4RXA-TRPE> (<http://braininitiative.nih.gov>) (accessed Jan. 31, 2015) [hereinafter *Brain Initiative Report*] (“By accelerating the development and application of innovative technologies, researchers will be able to produce a revolutionary new dynamic picture of the brain that, for the first time, shows how individual cells and complex neural circuits interact in both time and space. Long desired by researchers seeking new ways to treat, cure, and even prevent brain disorders, this picture will fill major gaps in our current knowledge and provide unprecedented opportunities for exploring exactly how the brain enables the human body to record, process, utilize, store, and retrieve vast quantities of information, all at the speed of thought.”).

Significantly, neuroscientific insights into criminality are returning questions about criminal treatment of the mentally ill to the fore.¹³ These questions will likely become more difficult as neuroscience produces greater specificity and moves from correlation to causation. Neuroscience developments have the potential to challenge notions of criminality as independent choice and to force explicit recognition of the social control aspects of the criminal law. Nowhere is this more likely to occur than in Montana. Due to the legislature's abolition of the insanity defense, mental disease or defect is now relevant to every criminal offense that requires a mental state. In other words, in an effort to remove the unscientific, arbitrary, and god-like determinations of psychiatrists from the criminal justice system, the Montana Legislature has opened the door to neuroscience evidence that is far more scientific and compelling, and therefore has a greater capacity to confound jurors. In addition, the legislature's effort to prevent the use of insanity as a defense in a tiny fraction of cases has made neuroscience evidence potentially admissible in nearly every criminal trial.

II. THE 1979 ABOLITION OF THE INSANITY DEFENSE IN MONTANA

In 1979, Montana became the first state in the country to abolish the insanity defense.¹⁴ Obviously, coming two years before John Hinckley was found not guilty by reason of insanity for shooting President Reagan, the Hinckley acquittal was not an influence on the Montana Legislature. Nor does it appear that the Legislature reacted to a high-profile insanity acquittal in Montana. Rather, the Legislature seems to have been influenced by events outside of Montana and primarily motivated by concern over the misuse of psychology in general.¹⁵ As a result, the Montana Legislature adopted a radical new approach to insanity that cloaked social control interests in assertions of free will.

In the 1979 session, the Legislature considered two bills relating to the insanity defense. House Bill 877, sponsored by freshman Republican Representative Michael Keedy, proposed to abolish the defense of insanity.¹⁶ Senate Bill 495, sponsored by Democratic Senator Thomas Towe, sought to add to the insanity defense alternative sentencing options for persons suffering from a mental disease or defect.¹⁷ After Senator Towe's bill was tabled

13. Stephen J. Morse, *Brain Overclaim Redux*, 31 L. & Inequal. 511 (2013); Stephen J. Morse, *Psychopathy and Criminal Responsibility*, 1 Neuroethics 205 (2008); Laura Reider, Student Author, *Toward a New Test for the Insanity Defense: Incorporating the Discoveries of Neuroscience into Moral and Legal Theories*, 46 UCLA L. Rev. 289 (1998).

14. Henry J. Steadman et al., *Maintenance of an Insanity Defense under Montana's "Abolition" of the Insanity Defense*, 146 Am. J. Psych. 357, 357 (1989).

15. Mont. H. Jud. Comm., *supra* n. 1, at 12.

16. *Id.*

17. Mont. Sen. Jud. Comm., *Minutes of Meeting*, 46th Legis., Reg. Sess. 4 (Mar. 21, 1979).

in the House, the Senate Judiciary Committee—of which Senator Towe was a member—agreed to work on House Bill 877, and amended it to add alternative sentencing for persons with mental disease or defect.¹⁸ As a result of that compromise, the final legislation abolished the insanity defense and only allowed evidence of a mental disease or defect to be admissible at trial for the purpose of determining whether the defendant had the mental state for the charged offense.

During the consideration of House Bill 877, there was no mention of any specific criminal case in the testimony before the House Judiciary Committee, the Senate Judiciary Committee, or the notes from the Free Joint Conference Committee.¹⁹ Rather, the concern largely seemed to be over the abuse of the system and the unreliability of expert testimony. House Bill 877's sponsor, Representative Keedy, testified before the House Judiciary Committee and expressed strong opposition to psychiatric testimony.²⁰ Keedy seemed particularly concerned about the broad and unrestrained influence of psychiatrists in criminal trials. Keedy stated that psychiatrists make “arbitrary and godlike determinations” or “godly and outrageous” statements.²¹ He asserted that his bill would remove “psychiatrists and social workers” from the criminal justice system.²² Instead of highlighting the failings in a particular prosecution or providing examples of criminal cases in which psychiatric expert testimony resulted in a miscarriage of justice, Representative Keedy made what seems to be a disconnected and irrelevant comment about Senator Goldwater. In his testimony, Representative Keedy stated, “In 1974 Goldwater was declared paranoid and schizophrenic by psychiatrists.”²³

Representative Keedy's comment about Goldwater's diagnosis of paranoia and schizophrenia referenced what has been called “not American psychiatry's finest hour.”²⁴ In 1964, Republican Senator Barry Goldwater of Arizona was running for president against the incumbent, President Lyndon B. Johnson.²⁵ In a bitter and divisive primary campaign, Goldwater narrowly defeated the more moderate New York Governor Nelson Rocke-

18. *Id.*

19. Mont. H. Jud. Comm., *supra* n. 1, at 12; *see also* Bender, *supra* n. 2, at 137.

20. Mont. H. Jud. Comm., *supra* n. 1, at 12.

21. *Id.* (“godly and outrageous”); Bender, *supra* n. 2, at 137 n. 30 (“arbitrary and God-like determinations”).

22. Mont. H. Jud. Comm., *supra* n. 1, at 12.

23. *Id.*

24. Richard A. Friedman, *How a Telescopic Lens Muddles Psychiatric Insights*, N.Y. Times, D5 (May 24, 2011) (available at <http://perma.cc/636N-2358> (<http://www.nytimes.com/2011/05/24/health/views/24mind.html>)).

25. Wikipedia, *Barry Goldwater*, <http://perma.cc/3CDZ-R3EC> (http://en.wikipedia.org/wiki/Barry_Goldwater) (last modified Mar. 31, 2015, 00:23).

feller for the Republican nomination.²⁶ The national election was as controversial and vitriolic. Goldwater was derided by Democrats and attacked by liberal Republicans as being “a demagogue and a leader of right-wing extremists and racists who was likely to lead the United States into nuclear war, eliminate civil rights progress, and destroy such social welfare programs as Social Security.”²⁷

Shortly before the general election, Fact Magazine released a special election issue entitled: “The Unconscious of a Conservative: A Special Issue on the Mind of Barry Goldwater.”²⁸ The magazine published the results of a survey it sent to members of the American Psychiatric Association asking their professional assessment of Goldwater. The survey consisted of one question: “Do you believe Barry Goldwater is psychologically fit to serve as President of the United States? () No () Yes.”²⁹ Accompanying the survey was a letter, which stated:

We would appreciate, first, your indicating whether you think Goldwater is stable enough to serve as President by checking the appropriate box on the enclosed sheet of paper. We would also appreciate any remarks you might care to make concerning Goldwater’s general mental stability, insofar as you are able to draw inferences concerning it from his public utterances, his political viewpoints, and whatever knowledge you may have of his personality and background. Does he seem prone to aggressive behavior and destructiveness? Does he seem callous to the downtrodden and needy? Can you offer any explanation of his public temper-tantrums and his occasional outbursts of profanity? Finally, do you think that his having had two nervous breakdowns has any bearing on his fitness to govern this country?³⁰

While 12,356 psychiatrists were sent the survey, only 2,417 responded.³¹ Of the more than 2,000 responses, half of them found Goldwater psychologically unfit to be president, nearly twice as many as found him mentally fit. The magazine blasted its findings on the cover: “FACT: 1,189 Psychiatrists say Goldwater is Psychologically Unfit to be President!”³²

Given client confidentiality, likely none of the psychiatrists had ever examined Senator Goldwater. Amazingly, however, only 23% of the re-

26. Bart Barnes, *Barry Goldwater, GOP Hero, Dies*, Wash. Post, A01 (May 30, 1998) (available at <http://perma.cc/PN2N-8SNB> (<http://www.washingtonpost.com/wp-srv/politics/daily/may98/goldwater30.htm>)).

27. *Id.*

28. *Goldwater v. Ginzburg*, 414 F.2d 324, 327 (2d Cir. 1969); Wikipedia, *supra* n. 25.

29. *Goldwater*, 414 F.2d at 329.

30. *Id.* at 330. During the libel trial, evidence was presented that Senator Goldwater had never experienced any mental illness or “nervous breakdowns.” Mrs. Goldwater testified that she had used the term “nervous breakdown” in reference to a period of exhaustion due to overwork that her husband had experienced early in their marriage. There was also evidence presented that the publisher of Fact Magazine was aware of this information prior to publication. *Id.* at 333 n. 14.

31. There was serious question about the scientific validity of the survey and publication of the results. *Id.* at 334.

32. Friedman, *supra* n. 24.

sponding psychiatrists stated that they did not have enough information to make a psychological assessment.³³ Instead, psychiatrists asserted that Senator Goldwater was a “megalomaniac,” “paranoid,” and “grossly psychotic.”³⁴ Several psychiatrists diagnosed Senator Goldwater as being schizophrenic and suffering from a narcissistic personality disorder.³⁵ One response asserted that Goldwater was “inwardly a frightened person who sees himself as weak and threatened by strong virile power around him,” and “his call for aggressiveness and the need for individual strength and prerogatives is an attempt to defend himself against and to deny his feelings of weakness.”³⁶

Senator Goldwater lost the election in a landslide, carrying only six states (Arizona, Louisiana, Mississippi, Alabama, Georgia, and South Carolina) and winning only 38% of the popular vote.³⁷ In September of 1965, ten months after the election, Goldwater brought a federal libel suit against Fact Magazine, its publisher, and editor.³⁸ Goldwater asserted that the issue was false and published with either actual malice or with reckless disregard for the truth and alleged \$1 million in actual and \$1 million in punitive damages.³⁹ The jury found for Goldwater and awarded him \$1 in compensatory damages and \$75,000 in punitive damages.⁴⁰ In 1969, the United States Court of Appeals for the Second Circuit affirmed the verdict.⁴¹ In 1973, the American Psychiatric Association issued the “Goldwater rule,” which prohibits psychiatrists from commenting on people they have not personally examined.⁴²

33. Many psychiatrists complained to the American Psychiatric Association about the survey. The American Psychiatric Association sent the following letter to the publishers of Fact Magazine:

Many members of this association have, with justifiable indignation, called our attention to a questionnaire you have sent them asking whether they “think Barry Goldwater psychologically fit to serve as President of the United States.”

A physician renders an opinion on the psychological fitness or mental condition of anyone in the traditional (and confidential) doctor-patient relationship in which findings are based upon a thorough clinical examination.

Being aware of this, should you decide to publish the results of a purported “survey” of psychiatric opinion on the question you have posed, this Association will take all possible measures to disavow its validity.

Goldwater, 414 F.2d at 334.

34. Friedman, *supra* n. 24.

35. *Id.*

36. *Id.*

37. Barnes, *supra* n. 26; Wikipedia, *supra* n. 25.

38. *Goldwater*, 414 F.2d at 335.

39. *Id.* at 327.

40. *Id.* at 328.

41. *Id.* at 344.

42. In 1973, the American Psychiatric Association drafted Section 7.3 of *The Principles of Medical Ethics with Annotations Especially Applicable to Psychiatry*, which became known as the Goldwater Rule:

The Goldwater libel trial took place while Representative Keedy was a law student at Washington University in St. Louis. The trial was widely publicized and appears to have had a large effect on Representative Keedy, which is understandable given the outrageousness of the “psychiatric” assessments. There is also a suggestion that Keedy’s views on psychiatry and the insanity defense were influenced by another event that took place shortly after the Goldwater trial.⁴³ In 1974, Professor Szasz, a psychiatrist, wrote a book entitled, “The Myth of Mental Illness” in which he called for the abolition of the insanity defense. According to Szasz:

Mental illness is a myth. Psychiatrists are not concerned with mental illnesses and their treatments. In actual practice they deal with personal, social, and ethical problems in living.

I have argued that, today, the notion of a person “having a mental illness” is scientifically crippling. It provides professional assent to a popular rationalization—namely, that problems in living experienced and expressed in terms of so-called psychiatric symptoms are basically similar to bodily diseases. Moreover, the concept of mental illness also undermines the principle of personal responsibility, the ground on which all free political institutions rest. For the individual, the notion of mental illness precludes an inquiring attitude toward his conflicts which his “symptoms” at once conceal and reveal. For a society, it precludes regarding individuals as responsible persons and invites, instead, treating them as irresponsible patients.⁴⁴

The influence of both Goldwater and Szasz is reflected in Keedy’s position toward mental health professionals and his assessment that people with mental illness should be held accountable. These sentiments are reflected in Representative Keedy’s testimony before the House Judiciary Committee:

Psychiatrists and social workers should be removed from the criminal justice process. Psychiatric determinations are not scientifically verifiable. In 1974 Goldwater was declared paranoid and schizophrenic by psychiatrists. I think if a defendant is charged and acquitted on the ground of mental disease or defect he could not have a particular state of mind that is an essential element

On occasion psychiatrists are asked for an opinion about an individual who is in the light of public attention or who has disclosed information about himself/herself through public media. In such circumstances, a psychiatrist may share with the public his or her expertise about psychiatric issues in general. However, it is unethical for a psychiatrist to offer a professional opinion unless he or she has conducted an examination and has been granted proper authorization for such a statement.

Am. Psychiatric Ass’n, *The Principles of Medical Ethics with Annotations Especially Applicable to Psychiatry* 9 (2013) (available at <http://perma.cc/P4ZL-W7S4> (<http://www.psychiatry.org/practice/ethics/resources-standards>)).

43. Bender, *supra* n. 2, at 137 n. 30 (citing Mont. Sen. Jud. Comm., *Testimony Concerning the Insanity Defense*, 97th Cong., 2d Sess. 2–3 (1982) (statement of John H. Maynard, Assistant Attorney General, Montana)).

44. Thomas S. Szasz, *The Myth of Mental Illness* 262 (rev. ed., Harper & Row 1974); *see also* Jonas Robitscher & Andrew Ky Haynes, *In Defense of the Insanity Defense*, 31 *Emory L.J.* 9, 38–39 (1982).

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of the offense charged, the verdict and the judgment shall so state. I think they are criminals and should be charged as such in our courts. . . . I believe that criminal law should presume that each of us is capable of free choice of behavior. It must be passed upon the offense rather than the offender. My purpose with the bill is to hold people accountable for their criminal acts.⁴⁵

Representative Keedy considers one of the high points of his career “having sponsored and carried legislation making Montana the first state in the country to abolish the ‘insanity defense’ in criminal cases.”⁴⁶ In an interview with researchers years later, Representative Keedy stated that he was motivated to change the law regarding insanity for three reasons. First, he considered a separate defense of insanity unnecessary because “the requisite state of mind is an essential element of the State’s case.”⁴⁷ Second, Keedy wanted to address the public’s negative perception of the insanity defense. Finally, Keedy stated that “psychiatric testimony deflects attention from the real issues of culpability.”⁴⁸

III. BRIEF HISTORY OF THE INSANITY DEFENSE IN THE UNITED STATES

Currently, there is near-universal acceptance of an insanity defense in the United States. All federal courts and 46 of 50 states recognize that certain mentally ill defendants may not be held criminally responsible for their conduct.⁴⁹ Within all of these jurisdictions, mental illness constitutes a defense when the mental illness negates the defendant’s cognition of his or her conduct, which occurs when he or she is unable to appreciate the nature of his or her conduct or understand that it is wrong.⁵⁰ This is generally referred to as the “cognition test” and is derived from the famous 1843 M’Naghten case in England.⁵¹

Daniel M’Naghten, a Scottish woodworker, was apparently convinced that there was a political plot to kill him and that the plot was headed by the British Prime Minister, Sir Robert Peel.⁵² M’Naghten sought to frustrate the conspiracy by killing Peel. On January 20, 1843, M’Naghten approached

45. Mont. H. Jud. Comm., *supra* n. 1, at 12.

46. Henning, Keedy & Lee, P.L.L.C., *Michael H. Keedy*, <http://perma.cc/3MMB-5Y CZ> (<http://www.henning-keedy.com/montana-attorneys/michael-h-keedy/bio/>) (accessed Mar. 11, 2015).

47. Steadman et al., *supra* n. 14, at 358.

48. *Id.*

49. Corrado, *supra* n. 6, at 490–492.

50. *Id.* at 490–491; Wayne R. LaFave, *Criminal Law*, § 7.2, 397–408 (5th ed., West 2010).

51. LaFave, *supra* n. 50, at § 7.2, 397–399; Wikipedia, *Daniel M’Naghten*, <http://perma.cc/DMT5-PV8C> (http://en.wikipedia.org/wiki/Daniel_M%27Naghten) (last modified Oct. 6, 2014, 12:51) [hereinafter *M’Naghten*].

52. LaFave, *supra* n. 50, at § 7.2, 397; *M’Naghten*, *supra* n. 51. Some recent scholarship suggests that M’Naghten was involved in a political conspiracy to kill Sir Robert Peel and that he feigned insanity at his trial. See Richard Moran, *McNaughtan, Daniel (1802/3–1865)*, *Oxford Dictionary of National Biography* (Jan. 2008 online ed., Oxford U. Press 2004).

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the Prime Minister's residence on Downing Street and shot Edward Drummond, apparently under the mistaken belief that Drummond was Peel.⁵³ Drummond, Peel's private secretary, died five days later. M'Naghten was apprehended at the scene and brought to trial for murder. At trial, M'Naghten raised the defense of insanity, and asserted that he was delusional and suffered from a "breakdown of moral sense and a loss of self-control."⁵⁴ The jury found M'Naghten not guilty by reason of insanity. M'Naghten was committed to a mental hospital, where he died 22 years later.⁵⁵

In response to the negative public reaction to the verdict, the appellate court clarified the law relating to the defense of insanity. This statement of the law became known as the M'Naghten Rule and remains the predominate test for legal insanity in the United States: "to establish a defense on the ground of insanity, it must be clearly proved that, at the time of the committing of the act, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or if he did know it that he did not know he was doing what was wrong."⁵⁶ Today, the M'Naghten Rule is the majority rule for the insanity defense in the United States.⁵⁷ In 28 states and the federal courts, M'Naghten is the only rule that allows an insanity defense.⁵⁸ Around 18 other states recognize the M'Naghten Rule in addition to other insanity tests.⁵⁹ Therefore, the M'Naghten Rule is accepted in 46 of 50 states and all federal courts.⁶⁰

Of the states in the United States that follow the M'Naghten Rule, 16 extend the insanity defense to include a volitional aspect. In these states, defendants cannot be held criminally responsible if their mental illness undermines their ability to understand the difference between right and wrong (cognitive defect) or if their mental illness causes an inability to conform their conduct to the requirements of the law (volitional defect). Although some states had recognized a defense of insanity based on either a cognitive defect or a volitional defect prior to the 1960s, the Model Penal Code's codification of the cognition and volition tests led to much greater acceptance of these tests:

53. LaFave, *supra* n. 50, at § 7.2, 397; *M'Naghten*, *supra* n. 51.

54. *M'Naghten*, *supra* n. 51.

55. *Id.*

56. LaFave, *supra* n. 50, at § 7.2, 398; *M'Naghten*, *supra* n. 51.

57. LaFave, *supra* n. 50, at § 7.2, 398.

58. Paul H. Robinson, Geoffrey P. Goodwin & Michael D. Reisig, *The Disutility of Injustice*, 85 N.Y.U. L. Rev. 1940, 1955–1956 (2010).

59. *Id.* at 1955; *State v. Jensen*, 251 N.W.2d 182, 186–187 (N.D. 1977).

60. LaFave, *supra* n. 50, at § 7.2, 398–399.

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(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 law.⁶¹

In the 20 years after the Model Penal Code was proposed by the American Law Institute, the Model Penal Code's version of the insanity defense was adopted in all federal courts and a majority of states.⁶²

Extension of the insanity defense—and wide scale recognition of the volitional defect extension of the M'Naghten Rule—came to a sudden and dramatic end with the shots fired in front of the Washington Hilton Hotel in Dupont Circle, Washington, D.C., on March 30, 1981.⁶³ On that date, John Hinckley attempted to assassinate President Reagan.⁶⁴ Hinckley was motivated by his infatuation with actress Jodi Foster and tried to impress her by shooting President Reagan.⁶⁵ At his trial, Hinckley asserted that he was insane at the time of the shooting, based primarily on his volitional defect of an alleged inability to conform his behavior to the law. As Washington, D.C., is a federal jurisdiction, the jury was instructed on the law of insanity using the Model Penal Code approach, although with the burden of proof on the prosecution to prove that Hinckley was not insane at the time of the shooting.⁶⁶ The jury returned a verdict of not guilty by reason of insanity and Hinckley was committed to a mental institution.⁶⁷ Hinckley remains under the care and custody of the mental institution, although he has recently been granted longer home visits.⁶⁸

Following the 1982 acquittal of John Hinckley, Congress and many state legislatures jettisoned the volitional defect prong and returned to a pure M'Naghten Rule approach.⁶⁹ In 1984, Congress passed the Insanity Defense Reform Act of 1984, which reads:

It is an affirmative defense to a prosecution under any federal statute that, at the time of the commission of the acts constituting the offense, the defendant as a result of a severe mental disease or defect, was unable to appreciate the

61. Model Penal Code § 4.01 (ALI 1985); Corrado, *supra* n. 6, at 491.

62. Thomas L. Hafemeister & Nicole A. Stockey, *Last Stand? The Criminal Responsibility of War Veterans Returning from Iraq and Afghanistan with Posttraumatic Stress Disorder*, 85 Ind. L.J. 87, 110 n. 141 (2010) (citing Richard J. Bonnie, John C. Jeffries, Jr. & Peter W. Low, *A Case Study in the Insanity Defense: The Trial of John W. Hinckley, Jr.* 18 (3d ed., Found. Press 2008)).

63. Melinda Carrido, Student Author, *Revisiting the Insanity Defense: A Case for Resurrecting the Volitional Prong of the Insanity Defense in Light of Neuroscientific Advances*, 41 Sw. L. Rev. 309, 319 (2012).

64. Wikipedia, *John Hinckley, Jr.*, <http://perma.cc/K5NK-97HR> (http://en.wikipedia.org/wiki/John_Hinckley,_Jr.) (last modified Mar. 30, 2015, 20:20).

65. Carrido, *supra* n. 63, at 317.

66. *Id.* at 318.

67. *Id.* at 318–319.

68. *Id.* at 319.

69. *Id.*

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nature and quality or the wrongfulness of his acts. Mental disease or defect does not otherwise constitute a defense.⁷⁰

The act changed the law of insanity in three ways. First, the law eliminated the volition test recognized by the Model Penal Code. Essentially, the Insanity Defense Reform Act is a restatement of the M’Naghten Rule.⁷¹ Second, the law placed the burden of proving insanity on the defense.⁷² Third, the law restricted experts from testifying about the ultimate issue of the accused’s sanity.⁷³

State legislatures also reacted strongly to the Hinckley trial with reforms of the insanity defense that made the defense more difficult for defendants.⁷⁴ Many states reversed course and restricted the insanity defense to a purely cognition test.⁷⁵

Currently, only four states reject the notion that mental illness excuses criminal responsibility: Montana, Utah, Kansas, and Idaho.⁷⁶ In these states, evidence of mental illness does not constitute a defense to any crime and evidence of the defendant’s mental illness is only admissible for the purpose of determining the defendant’s ability to form the required mental state in the charged statute. Significantly, in these states, the issue at trial is not whether the defendant has or does not have a mental illness. Rather, the issue at trial is whether—even if the defendant has a mental illness—the State has proven that the defendant acted with the appropriate mental state.⁷⁷ While most of these states abolished the insanity defense in response to the Hinckley assassination attempt, only one had abolished the insanity defense prior to the Hinckley trial: Montana.⁷⁸

70. 18 U.S.C. § 17 (2012).

71. Carrido, *supra* n. 63, at 320.

72. *U.S. v. Freeman*, 804 F.2d 1574, 1575 (11th Cir. 1986) (affirming constitutionality of the Insanity Defense Reform Act).

73. *Id.*

74. Cynthia G. Hawkins-León, “*Literature as Law*”: *The History of the Insanity Plea and a Fictional Application within the Law & Literature Canon*, 72 *Temp. L. Rev.* 381, 402 (1999) (“On the whole, 80% of the reform measures undertaken by states during the period of 1978 to 1990 occurred after the Hinckley acquittal; most of these reforms made ‘the insanity defense a less attractive option for the defendant.’ As of 1990, 26 (25 states plus the District of Columbia) jurisdictions had adopted some form of the restrictive M’Naghten test; 13 of these jurisdictions reformed their statute during that period (ten jurisdictions implemented their amendments post- Hinckley). Additionally, by 1990, 20 states had implemented the ALI test; and 12 states allowed the guilty but mentally ill (“GBMI”) verdict option.”).

75. *Id.*

76. Corrado, *supra* n. 6, at 493 n. 88.

77. *Id.* at 493.

78. Idaho abolished its insanity defense during the 1982 legislative session in response to the Hinckley assassination attempt in 1981. See Brian E. Elkins, *Idaho’s Repeal of the Insanity Defense: What Are We Trying to Prove?* 31 *Idaho L. Rev.* 151, 153–156 (1994); Steadman et al., *supra* n. 14, at 357.

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IV. MONTANA'S APPROACH PRIOR TO 1979

Prior to abolition of the insanity defense in 1979, Montana had recognized an insanity defense for nearly 100 years.⁷⁹ In the 1899 case of *State v. Peel*,⁸⁰ the Montana Supreme Court addressed the insanity defense and affirmed a defense for the inability, due to mental illness, to distinguish between right and wrong.⁸¹ In addition to the M'Naghten Rule's cognition test, the Court also addressed the appropriateness of the volition test for the first time. Finding the volitional test to be "the more humane doctrine, and in accord with the more advanced state of medical science and judicial reason," the Court explicitly adopted a lack of volition as a defense.⁸² The Court stated:

[C]riminal responsibility is to be determined solely by the capacity of the defendant to conceive and entertain the intent to commit the particular crime. If there is no intent, there is no crime. In the formation of this intent there must concur knowledge or intellectual comprehension, and the power of choice. An absence of the former necessarily implies the want of the latter, for the latter cannot, in reason, exist without it. On the other hand, the former, as a scientific fact, may exist, in some degree at least, without the latter. It therefore follows that one may have mental capacity and intelligence sufficient to distinguish between right and wrong with reference to the particular act, and to understand the consequence of its commission, and yet be so far deprived of volition and self-control by the overwhelming violence of mental disease that he is not capable of voluntary action, and therefore not able to choose the right and avoid the wrong.⁸³

The Montana Supreme Court's adoption of the insanity defense and the volitional extension of the M'Naghten Rule were codified by the Montana Legislature in 1967 and largely followed the Model Penal Code draft.⁸⁴ The Montana Legislature's codification of the insanity defense read:

- (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 is unable either to appreciate the criminality of his conduct or to conform his conduct to the requirements of law.
- (2) As used in this chapter, the term "mental disease or defect" does not include an abnormality manifested only by repeated criminal or other antisocial conduct.⁸⁵

According to the 1967 Commission comment to the codification:

79. Bender, *supra* n. 2, at 136.

80. *State v. Peel*, 59 P. 169 (Mont. 1899).

81. *Id.* at 173–174.

82. *Id.* at 173.

83. *Id.*

84. Stimpson, *supra* n. 5, at 509–510; Rev. Codes Mont. 1947 § 95–501 (1969) (The comments to Rev. Codes Mont. § 95–501 identify the source for the legislation as the Model Penal Code § 4.01).

85. Rev. Codes Mont. 1947 § 95–501.

This section is intended to expand the application of the existing Montana law to include any psychical abnormalities or subnormalities such as emotional deficiencies that have reached the dimension that they can be termed mental diseases or defects and not otherwise. While the section will expand the application of the existing Montana law in this respect, actually it does not depart from the language or test laid down in *State v. Peel*, 23 Mont. 358, “Unable to appreciate the nature or the consequences of his action or so far deprived of volition by the overwhelming violence of mental disease that he is unable to choose the right and avoid the wrong.”⁸⁶

This codification of nearly 100 years of case law would only last 12 years.

V. HOW THE MONTANA ABOLITION WORKS

To assert that Montana has abolished the insanity defense may be overstating the case.⁸⁷ The question of whether a criminal defendant suffers from a mental disease or defect is still relevant and psychiatric testimony is still critical and central. What abolition did was change the timing of when mental illness is considered, change who determines whether a defendant has a mental illness, and attempt to equate trials of mentally ill people with trials of people not suffering from mental illness. Before abolition, insanity was the issue at trial. Today, insanity is no longer considered a defense in the guilt portion of a criminal proceeding.

In removing insanity as a defense during the guilt portion of a trial, the Montana Legislature determined that mental disease or defect would instead be considered at three different points in a criminal proceeding: pretrial, trial, and sentencing.⁸⁸ In the pretrial phase, the issue is one of capacity.⁸⁹ Essentially, the questions are whether, due to a mental illness, the defendant can understand the proceedings or assist in his or her own defense.⁹⁰ A finding of incapacity precludes the defendant from being tried, convicted, or sentenced.⁹¹

During trial, evidence of the defendant’s mental disease or defect is admissible but only as to whether the defendant had the correct state of mind for the charged offense.⁹² Essentially, the question at trial is whether

86. *Id.* at § 95–501 cmt. (quoting *Peel*, 59 P. at 173) (Note: the correct quote from *Peel* reads: “It therefore follows that one may have mental capacity and intelligence sufficient to distinguish between right and wrong with reference to the particular act, and to understand the consequence of its commission, *and yet be* so far deprived of volition *and self control* by the overwhelming violence of mental disease that he is *not capable of voluntary action, and therefore* not able to choose the right and avoid the wrong.” *Id.* (emphasis added to show text the Commission comment omitted)).

87. See Steadman et al., *supra* n. 14.

88. *Korell*, 690 P.2d at 996.

89. *Id.*; Mont. Code Ann. § 46–14–221 (2013).

90. Mont. Code Ann. § 46–14–103.

91. *Id.*

92. *Korell*, 690 P.2d at 996; Mont. Code Ann. § 46–14–102.

the defendant acted purposely or knowingly at the time of the offense. As the Montana Supreme Court stated in *State v. Korell*, “The State retains the burden of proving each element of the offense beyond a reasonable doubt. The defendant may, of course, present evidence to contradict the State’s proof that he committed the offense and that he had the requisite state of mind at that time.”⁹³ The defendant’s evidence about his or her mental illness is only relevant to the question of whether the defendant acted purposely or knowingly. Whether the defendant was able to know what he or she was doing was wrong or whether he or she could control his or her conduct are irrelevant to the determination of guilt.

In addition, if the jury determines that the State has not carried its burden on mental state, the jury must return a special verdict of not guilty “for the reason that due to a mental disease or defect he could not have a particular state of mind that is an essential element of the offense charged.”⁹⁴ If this occurs, the defendant is not released from custody.⁹⁵ Instead, the criminal trial essentially becomes a civil proceeding and the judge must determine whether the defendant—due to his or her mental illness—presents a current danger to himself or herself or to others.⁹⁶ If he or she is dangerous, he or she is civilly committed to the State Mental Hospital for treatment.⁹⁷ If he or she is not dangerous, he or she is released from custody.⁹⁸

The final point during which mental illness is considered is at sentencing.⁹⁹ During disposition, the sentencing judge must determine whether, due to a mental illness, the defendant was able to “appreciate the criminality of his acts or to conform his conduct to the law at the time he committed the offense for which he was convicted.”¹⁰⁰ These are the same questions that have been asked in Montana since at least 1899: whether the defendant had a cognitive or volitional defect. The difference is that these questions are now asked at sentencing and are answered by the judge, not the jury. The judge’s determination that the defendant has either a cognitive or volitional defect means the defendant is sent to the State Mental Hospital at Warm Springs.¹⁰¹ A finding that the defendant could appreciate the criminality of his or her conduct or could conform his or her conduct to the law means the

93. *Korell*, 690 P.2d at 996.

94. Mont. Code Ann. § 46–14–201(2) (1979).

95. Bender, *supra* n. 2, at 148.

96. Mont. Code Ann. § 46–14–301; Bender, *supra* n. 2, at 148.

97. Mont. Code Ann. § 46–14–301(2); Bender, *supra* n. 2, at 148.

98. Mont. Code Ann. § 46–14–301(3); Bender, *supra* n. 2, at 148.

99. *Korell*, 690 P.2d at 996.

100. *Id.*; see also Mont. Code Ann. § 46–14–311.

101. *Korell*, 690 P.2d at 996–997; Mont. Code Ann. § 46–14–312(2).

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ARBITRARY AND GODLIKE

295

defendant will be sent to the State Prison, regardless of whether he or she suffers from a mental illness.¹⁰²

Significantly, while the Montana Legislature did not remove consideration of mental illness from the proceedings, it did remove from the jury the consideration of whether defendants understood their conduct or could conform that conduct to the law. While these were jury questions in Montana prior to 1979, the Legislature made them purely questions for the judge.

VI. DEVELOPMENTS IN NEUROSCIENCE SINCE ABOLITION

The 35 years since Montana's abolition of the insanity defense have seen dramatic development in the field of neuroscience and the creation of the new interdisciplinary field of neurolaw.¹⁰³ The recent explosion in neuroscience is largely a result of the development of new technology, such as fMRIs, PET scans, and CT scans.¹⁰⁴ The power of this new technology is that it allows scientists to study the brain of a living person and to study the brain in action.¹⁰⁵ Prior to this technology, scientists could only observe brain abnormalities after an autopsy.¹⁰⁶ Today, scientists are able to see the brains of live people and, more importantly, scientists are able to observe the brain while a person does something, either a physical or mental task.¹⁰⁷ As a result, scientists have been able to identify which area or areas of the brain are involved in making decisions, regulating emotions, and controlling impulses.¹⁰⁸

Currently, scientific studies connecting genetic or brain abnormalities and crime are correlative not causative.¹⁰⁹ In other words, they show correlations between certain conditions or brain abnormalities and antisocial behavior.¹¹⁰ Neuroscience has yet to be able to pinpoint causes for criminal conduct. To date, no scientific study has causally linked a brain condition with criminality. Due to the complexity and mutability of the brain, some

102. *Korell*, 690 P.2d at 996; Mont. Code Ann. § 46-14-312(1).

103. Wikipedia, *Neurolaw*, <http://perma.cc/3LJ-5PS3> (<http://en.wikipedia.org/wiki/Neurolaw>) (last modified Mar. 27, 2015, 14:32). The term "neurolaw" was first used by Sherrod Taylor in 1991. See J. Sherrod Taylor, J. Anderson Harp & Tyron Elliott, *Neuropsychologists and Neurolawyers*, 5 *Neuropsychology* 293, 293-305 (1991).

104. Carrido, *supra* n. 63, at 321.

105. *Brain Initiative Report*, *supra* n. 12.

106. Gary W. Small et al., *Current and Future Uses of Neuroimaging for Cognitively Impaired Patients*, 7 *Lancet Neurology* 161, 166 (2008).

107. See generally Wolfgang Taube et al., *Brain Activity during Observation and Motor Imagery of Different Balance Tasks: An fMRI Study*, 64 *Cortex* 102 (2015).

108. Glenn & Raine, *supra* n. 10, at 56.

109. See *id.*

110. See e.g. M. Brower & H. Price, *Neuropsychiatry of Frontal Lobe Dysfunction in Violent and Criminal Behaviour: A Critical Review*, 71 *J. of Neurology, Neurosurgery, & Psych.* 720, 720 (2001).

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scholars doubt that science will ever be able to fully explain the brain–mind–action conundrum.¹¹¹

Other scholars, however, are more optimistic about the ability of scientists to understand how the brain and genetics work.¹¹² The technology for studying the brain is only decades old and continues to develop dramatically.¹¹³ In addition, as the body of science, studies, and data grow, scientists are able to be more rigorous and precise.¹¹⁴ Some studies and experiences are starting to move closer to causality and some scientists anticipate being able to definitively connect particular brain abnormalities and genetic mutations with criminal conduct.¹¹⁵

A compelling demonstration of the power of neuroscience and its new technologies—and a case which most closely demonstrates causality—is that of Michael, a 40 year old teacher with no criminal history of any kind. Happily married, Michael suddenly became aggressive toward his wife and began collecting child pornography. After sexual contact with his pre-pubescent stepdaughter, Michael was convicted of child molestation. Although originally given a suspended sentence and ordered to complete a sex offender treatment program, Michael was kicked out of the program after propositioning the female staff. As a result, the sentencing court ordered him to serve his suspended prison term. The night before he was to report to prison, Michael went to the emergency room complaining of a severe headache. While in the emergency room, Michael continued his antisocial and uninhibited conduct, demanding sex from the nurses and urinating in his pants with no apparent concern. A doctor ordered an MRI which revealed a large tumor at the base of the orbitofrontal cortex. After doctors successfully removed the tumor, Michael’s behavior returned to normal: he was no longer sexually inappropriate and had no desire for child pornography. Several months later, Michael’s aggression and collection of child pornography resumed. A second use of brain scan technology revealed that the tumor had returned. After a second surgery to remove the new tumor, Michael’s behavior again returned to normal.¹¹⁶

Using brain scan technology, several different parts of the brain have been identified in decision-making and regulation of behavior.

The dorsolateral prefrontal cortex is associated with self-regulatory processes, including attention and cognitive flexibility, and may be linked to the antisocial feature of impulsivity and poor behavior control. The anterior cingulate is involved in error processing, conflict monitoring, and avoidance learning. In-

111. Morse, *supra* n. 13, at 511–516.

112. Adam J. Kolber, *Will There be a Neurolaw Revolution?*, 89 Ind. L.J. 807, 829–831 (2014).

113. *Id.* at 829.

114. *Id.* at 829–830.

115. Glenn & Raine, *supra* n. 10, at 54, 56.

116. *Id.* at 57.

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dividuals with damage to this region are more disinhibited and aggressive and demonstrate impairments in inhibitory control and emotion processing. The ventral prefrontal cortex, including the orbitofrontal cortex, has received particular attention given its role in emotion processing, learning from reward and punishment, and decision making.¹¹⁷

In addition to increased understanding of the brain, scientific understanding of genetics has also undergone exponential growth in the last several decades. Fueled in part by the Human Genome Project, scientists are isolating particular genes or genetic combinations connected to antisocial behavior.¹¹⁸

Recently, scientists have begun linking brain abnormalities in the control centers of the brain to genetic mutations and finding strong correlations between these abnormalities and compromised self-control and increased criminal behavior.¹¹⁹ Specifically, studies of the MAOA gene, particularly the mutation which produces a low functioning gene (MAOA-l), are showing a strong connection between the presence of the genetic mutation and criminality.¹²⁰

The MAOA-l gene is linked to an overactive amygdala and impairments in the control systems of emotions (through changes in the prefrontal cortex) and cognitive processes (through changes in the cingulated gyrus).¹²¹ Results suggest that the MAOA-l allele, particularly in males, is linked to changes in brain circuitry responsible for the regulation of emotions, emotional memory, and cognitive control, all of which are related to impulsivity and reactive aggression.¹²²

There are multiple studies that demonstrate that the presence of the MAOA-l genetic mutation, when combined with early childhood maltreat-

117. *Id.*

118. Steven I. Friedland, *A Vision of the Future*, <http://perma.cc/H936-GTPU> (<http://www.pbs.org/wgbh/pages/frontline/shows/case/revolution/reimagining.html>) (accessed Apr. 4, 2015) (excerpt from Steven I. Friedland, *The Criminal Law Implications of the Human Genome Project: Reimagining a Genetically Orientated Criminal Justice System*, 86 Ky. L.J. 303 (1997)). Interestingly, some of this development has been fueled by the criminal justice system's use of DNA evidence to convict or exonerate defendants. The search for definitive proof of identify in the criminal justice system helps propel advances in scientific techniques in DNA analysis. In addition, the criminal justice system's increased collection and use of DNA increased the available DNA data which dramatically improved statistical reliability of DNA results.

119. Matthew L. Baum, *The Monoamine Oxidase A (MAOA) Genetic Predisposition to Impulsive Violence: Is It Relevant to Criminal Trials?* 6 *Neuroethics* 287 (2011).

120. *Id.* at 288.

121. Andreas Meyer-Lindenberg et al., *Neural Mechanisms of Genetic Risk for Impulsivity and Violence in Humans*, 103 *Proceedings of the Nat'l Acad. of Sci.* 6269, 6270, 6273 (2006).

122. Joshua W. Buckholtz & Andreas Meyer-Lindenberg, *MAOA and the Neurogenetic Architecture of Human Aggression*, 31 *Trends in Neuroscience* 120, 125 (2008); Essi Viding & Uta Frith, *Genes for Susceptibility to Violence Lurk in the Brain*, 103 *Proceedings of the Nat'l Acad. of Sci.* 6085, 6085 (2006).

ment, is a statistically significant risk factor for criminal behavior.¹²³ In fact, one study found that 85% of a group of MAOA-I individuals who had been abused as children had committed crimes against persons by age twenty-six.¹²⁴ In addition, studies have found an 8% reduction in the sizes of the amygdala, anterior cingulate, and orbitofrontal cortex in males with the MAOA-I genetic variation.¹²⁵ These studies suggest a causal pathway from genes to brain to antisocial behavior.

Again, while these studies demonstrate a strong correlation between the MAOA-I gene—combined with adverse childhood environments—and criminality, scientists are not yet willing to assert that they have found a cause for antisocial behavior. The strong correlation, however, is suggestive of causation and has propelled additional research into both the MAOA-I gene and the corresponding brain mechanisms. In addition, scientists continue to explore other possible genetic factors and brain mechanisms. Given advances in technology, these studies will continue to be more refined, produce more precise results, and move the scientific community toward consensus about the connection between genetic variations, brain abnormalities, and criminal behavior.

VII. THE SIGNIFICANCE OF NEUROSCIENCE DEVELOPMENTS FOR MONTANA

In light of the developments in neuroscience, some scholars have called for changes to either the insanity defense or the criminal justice system's treatment of psychopaths.¹²⁶ Since Montana abolished the insanity defense in 1979 and replaced it with a mens rea approach, it would appear that these challenges are not relevant to Montana criminal trials. To date, this has been true. There is not a single reported criminal case in Montana in which brain scan technology was introduced. However, brain scan technology has been introduced in criminal trials in other states and at every phase of the trial: competency, guilt, and sentencing.¹²⁷ Given that Montana allows for the consideration of mental disease or defect at each of these

123. Baum, *supra* n. 119, at 287; Buckholtz & Meyer-Lindenberg, *supra* n. 122, at 125; David M. Fergusson, Joseph M. Boden & L. John Horwood, *MAOA, Abuse Exposure and Antisocial Behaviour: 30-Year Longitudinal Study*, 198 *British J. of Psychiatry* 457, 457 (2011). R

124. Avshalom Caspi et al., *Role of Genotype in the Cycle of Violence in Maltreated Children*, 297 *Sci.* 851, 853 (2002); Corrado, *supra* n. 6, at 499. R

125. Meyer-Lindenberg, *supra* n. 121, at 6270. R

126. Corrado, *supra* n. 6, at 498; Carrido, *supra* n. 63, at 325–326. R

127. See e.g. Susan E. Rushing, *The Admissibility of Brain Scans in Criminal Trials: The Case of Positron Emission Tomography*, 50 *Ct. Rev.* 62 (2014) (discussing admissibility of brain scans during pretrial competency hearings, guilt phase, and sentencing); Neal Feigenson, *Brain Imaging and Courtroom Evidence: On the Admissibility and Persuasiveness of fMRI*, 2 *Int'l J. L. in Context* 233, 237 (2006). R

stages, it is just a matter of time before Montana judges and juries are confronted with images of brain abnormalities and asked to determine whether the defendants' abnormalities affected their ability to understand the criminality of their conduct, conform their conduct to the law, or form the correct mental state.

The case of Michael and his tumor raises these issues in troubling ways. First, does it seem just to hold Michael criminally responsible for his conduct? Second, does it seem just to prevent the admission of brain scan evidence of his tumor? Without the use of the brain scan, Michael's tumor would not have been discovered. Importantly, the tumor—a serious brain abnormality—seemed to be “causing” Michael's behavior. Interestingly, Michael reported that he knew that his conduct was wrong, but he seemed powerless to control his behavior. Without the tumor, Michael was able to conform his behavior to the law. In this situation, it seems difficult to imagine holding Michael criminally responsible for his behavior. Rather, it seems possible to consider the tumor as the cause of his behavior. His tumor was not the result of any action on his part. The presence of the tumor in his brain appeared to have affected the portions of his brain that regulate behavior.

In some ways, Michael's case is easy. It is possible to make a clear separation between him and the tumor. It is also plausible to identify the tumor as a medical condition that caused his criminal behavior. When we consider other brain abnormalities, especially those that arise from a genetic mutation or variation, it seems harder to separate the actor from the condition causing the criminality. Therefore, it is important to assess how Montana's approach would work in both Michael's case and in the case of a genetic mutation.

A. *Michael's case*

Although Michael was convicted before his tumor was discovered, it is interesting to examine how his case would be handled in Montana if the tumor were discovered prior to trial. If Michael were to have committed his conduct in Montana, it is likely he would have been charged with incest. In relevant part, incest is when a person knowingly has sexual intercourse or sexual contact with a child or stepchild.¹²⁸ Because his stepdaughter was under the age of 12 at the time of the offense, consent would be irrelevant and, if convicted, Michael would serve a sentence of 100 years with a mandatory minimum sentence of 25 years prior to being eligible for parole. A judge may suspend the 25 year mandatory minimum in the event that the judge determines, based on a sexual offender evaluation report, that a treat-

128. Mont. Code Ann. § 45-5-507 (2013).

ment facility provides “a better opportunity for rehabilitation of the offender and for the ultimate protection of the victim and society.”¹²⁹

To prove the charge of incest, the prosecution would have to prove that Michael acted with the correct mental state of “knowingly.” For incest, a person acts knowingly when “the person is aware of the person’s own conduct.”¹³⁰ Under Montana law, Michael would not be permitted to introduce evidence of a mental disease or defect as a defense. However, Michael would be permitted to introduce evidence of a mental disease or defect to challenge the existence of his state of mind of “knowingly.” First, Michael would have to establish the threshold issue that he had a mental disease or defect. The legislature cast a wide net in its definition of “mental disease or defect”: “an organic, mental, or emotional disorder that is manifested by a substantial disturbance in behavior, feeling, thinking, or judgment to such an extent that the person requires care, treatment, and rehabilitation.”¹³¹ The tumor would appear to fit this definition. It could be characterized as an organic disorder that seriously interfered with his thinking and judgment and required surgery to remove.

Having established that he suffered from a mental disease or defect, Michael would be able to argue to the jury that—because of the tumor—he was not able to act knowingly. His best case would be to put on evidence of the tumor and how it resulted in changed behavior. His case would be strengthened by brain scan images and expert testimony about the impact of the tumor on his brain. Unfortunately for Michael, he stated that he was aware of his conduct, knew that his conduct was wrong, but was unable to control his conduct. As a result, the prosecution would have an easy time establishing that Michael had the correct mental state. Most likely, therefore, Michael would be convicted—even with the tumor impacting his brain.

While Michael would likely not be successful at trial in challenging the presence of mental state, he would likely be able to successfully argue at sentencing that, due to the tumor, he was “unable to appreciate the criminality of [his] behavior or to conform [his] behavior to the requirements of law.”¹³² As a result, the mandatory sentence would not apply and Michael would be committed to the Department of Public Health and Human Services for custody and treatment.¹³³ In Michael’s case, his treatment would be the removal of the tumor. If, as happened in real life, removal of the tumor resulted in Michael’s behavior returning to normal, then Michael

129. *Id.* at § 46–18–222.

130. *Id.* at § 45–2–101(35).

131. *Id.* at § 46–14–101.

132. *Id.* at § 46–14–311.

133. *Id.* at § 46–14–312.

would be able to petition the court for a modification of his sentence based on the fact that he no longer suffers from a mental disease or defect.¹³⁴ The sentencing judge could modify the sentence, but the legislature has determined that the “length of confinement or supervision must be equal to that of the original sentence.”¹³⁵ In other words, Michael would be sent to prison for the remainder of his sentence.

While Michael’s case of a tumor affecting his behavior does not occur with great frequency in the criminal justice system, other acquired brain abnormalities are more common. For example, a significant number of veterans have experienced traumatic brain injuries (TBIs) while serving in Iraq or Afghanistan.¹³⁶ In fact, the number of active military suffering from TBIs has increased dramatically since 2000. Many of these veterans experience difficulty regulating their emotions, controlling their impulses, or conforming their conduct to the requirements of the law.¹³⁷ According to the Center for Disease Control, TBIs are a serious public health problem in the United States.¹³⁸ It is also a problem that shows up in the criminal courts with increased frequency. In fact, many jurisdictions—including Montana in 2011—have created veterans’ courts to attempt to address criminal conduct of veterans that stems from physical, mental, emotional, or psychological abnormalities acquired during service.¹³⁹

B. MAOA-1

Currently, one of the strongest demonstrated connections between criminal conduct and brain abnormality is the MAOA-1 plus an adverse childhood experience or environment.¹⁴⁰ Studies demonstrate that people who have this genetic alteration have decreased impulse control and a

134. Mont. Code Ann. § 46–14–312(3)(a).

135. *Id.* at § 46–14–312(4).

136. Ctrs. for Disease Control et al., *Report to Congress on Traumatic Brain Injury in the United States: Understanding the Public Health Problem among Current and Former Military Personnel* (2013) (available at <http://perma.cc/8FJC-BNML> (<http://www.nashia.org/pdf/report-to-congress-on-traumatic-brain-injury-2013-a.pdf>)).

137. *Id.*; Eric B. Elbogen et al., *Criminal Justice Involvement, Trauma, and Negative Affect in Iraq and Afghanistan War Era Veterans*, 80 J. of Consulting and Clinical Psychol. 1097 (2012).

138. Ctrs. for Disease Control & Prevention, *Injury Prevention & Control: Traumatic Brain Injury, Basic Information about Traumatic Brain Injury and Concussion*, <http://perma.cc/W6KT-L375> (<http://www.cdc.gov/traumaticbraininjury/basics.html>) (updated Feb. 24, 2015) (“Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability. In 2010, 2.5 million TBIs occurred either as an isolated injury or along with other injuries.”).

139. See e.g. Nat’l Ctr. for St. Cts., *Veterans Courts: Resource Guide*, <http://perma.cc/SNV4-3LDD> (<http://www.ncsc.org/topics/problem-solving-courts/veterans-court/resource-guide.aspx>) (accessed Apr. 5, 2015). For more information on Montana’s Veterans Court see U.S. Dep’t of Vets. Affairs, *VA Montana Health Care System*, <http://perma.cc/K3CG-56XS> (http://www.montana.va.gov/MONTANA/features/Montana_s_first_Veterans_court_launches_in_Missoula.asp) (updated July 18, 2014).

140. Baum, *supra* n. 119, at 304.

higher susceptibility to reactive violence.¹⁴¹ In other words, if confronted with an emotional situation, the MAOA-l individual is less likely to be able to control his or her emotions and more likely to react impulsively with violence. In addition, the MAOA-l person experiences an increased likelihood, and intensity, of aggressive reaction to provocation.¹⁴²

Assuming that the MAOA-l person's reactive violence was a punch that caused a broken jaw, the State would likely charge an aggravated assault. In this situation, aggravated assault is when a person purposely or knowingly causes serious bodily injury to another.¹⁴³ The result of a broken jaw would constitute serious bodily injury¹⁴⁴ and the prosecution would have to prove that the MAOA-l person acted purposely or knowingly as to that result. For this case, "purposely" would be defined as the defendant's conscious object to cause a broken jaw and "knowingly" as the awareness of a high probability that a broken jaw would result from the conduct.¹⁴⁵

The MAOA-l defendant might assert that he was not able to form the correct mental state due to a mental disease or defect. Again, the threshold matter is whether he suffered from a mental disease or defect, here a combination of early childhood trauma, a genetic mutation, and a resulting brain abnormality. The MAOA-l defendant would seek to admit evidence of genetic testing and brain scan imaging to establish that he has the low functioning variant of the MAOA gene and that he has a corresponding decrease in the size of the areas of the brain associated with impulse control. These abnormalities could be characterized as "organic."¹⁴⁶ In addition, the resulting increase in negative emotional salience and corresponding deficit in impulse control could be considered "a substantial disturbance in behavior, feeling, thinking, or judgment."¹⁴⁷ Therefore, it is very possible that, based

141. *Id.*; Viding & Frith, *supra* n. 122, at 6085.

142. Baum, *supra* n. 119, at 294.

143. Mont. Code Ann. § 45-5-201 ("Assault: (1) A person commits the offense of assault if the person: (a) purposely or knowingly causes serious bodily injury to another; . . . (c) purposely or knowingly makes physical contact of an insulting or provoking nature with any individual; or (d) purposely or knowingly causes reasonable apprehension of bodily injury in another.").

144. *Id.* at § 45-2-101(66) ("'Serious bodily injury' means bodily injury that: (i) creates a substantial risk of death; (ii) causes serious permanent disfigurement or protracted loss or impairment of the function or process of a bodily member or organ; or (iii) at the time of injury, can reasonably be expected to result in serious permanent disfigurement or protracted loss or impairment of the function or process of a bodily member or organ.").

145. *Id.* at § 45-2-101(65) ("'Purposely'—a person acts purposely with respect to a result or to conduct described by a statute defining an offense if it is the person's conscious object to engage in that conduct or to cause that result."); *Id.* at § 45-2-101(35) ("'Knowingly'—a person acts knowingly with respect to conduct or to a circumstance described by a statute defining an offense when the person is aware of the person's own conduct or that the circumstance exists. A person acts knowingly with respect to the result of conduct described by a statute defining an offense when the person is aware that it is highly probable that the result will be caused by the person's conduct.").

146. Mont. Code Ann. § 46-14-101(2)(a).

147. *Id.*

on expert testimony, an MAOA-I defendant would be able to establish that he has a mental disease or defect. This would allow the defendant to present to the jury evidence of a mental disease or defect in order to negate the presence of the mental state.¹⁴⁸

The MAOA-I defendant's argument to the jury would be that he did not act purposely or knowingly as to the result of serious bodily injury because of his inability to control his emotions and reactive violence. His argument could take two forms. One, he could argue he essentially overreacted to the situation and did not intend to cause as much harm as he did. In other words, while the broken jaw was not within his conscious object or awareness, he meant to strike the victim. This argument is not likely to succeed because of the prosecution's ability to have the jury instructed following Montana Code Annotated § 45-2-201(2)(b).¹⁴⁹ This statute allows the prosecution to prove the defendant's mental state of purposely or knowingly causing a more serious result than anticipated if the defendant intended to cause the same or similar type of harm, just to a lesser degree.

The second form of the argument negating mental state would be that the MAOA-I defendant was unable to form any conscious object or have any awareness due to an increased impulsivity and a lack of ability to control his conduct. Because a conscious object is generally thought to be a reflected upon goal, accompanied by a plan to accomplish that goal, the MAOA-I defendant might be able to argue that his impulsivity specifically prevented him from being able to reflect, plan, or engage in goal-oriented behavior. The argument to negate knowingly (being aware of a high probability of a particular result) would be more difficult. It seems plausible, however, that a jury could accept the scientific evidence and find that the prosecution was not able to carry its burden as to mental state.

Therefore, it is both possible and foreseeable that juries and judges will face these decisions in the near future. It is also plausible that a jury could reasonably accept or reject the mental disease or defect defense. If the jury accepts the defense in a serious case like aggravated assault, the judge must then determine whether the defendant suffers from a mental disease or

148. *Id.* at § 46-14-102 ("Evidence of mental disease or defect or developmental disability is admissible to prove that the defendant did or did not have a state of mind that is an element of the offense.").

149. *Id.* at § 45-2-201 ("Causal relationship between conduct and result. (1) Conduct is the cause of a result if: (a) without the conduct the result would not have occurred; and (b) any additional causal requirements imposed by the specific statute defining the offense are satisfied. (2) If purposely or knowingly causing a result is an element of an offense and the result is not within the contemplation or purpose of the offender, either element can nevertheless be established if: (a) the result differs from that contemplated only in the respect that a different person or different property is affected or that the injury or harm caused is less than contemplated; or (b) the result involves the same kind of harm or injury as contemplated but the precise harm or injury was different or occurred in a different way, unless the actual result is too remote or accidental to have a bearing on the offender's liability or on the gravity of the offense.").

defect that “renders the defendant a danger to the defendant or others.”¹⁵⁰ If the court determines that the defendant is dangerous, then “the defendant may be committed to the custody of the director of the department of public health and human services to be placed in an appropriate mental health facility for custody, care, and treatment.”¹⁵¹ In essence, the criminal matter is converted into a civil commitment process—with periodic review—in which the prosecution has the burden to establish by clear and convincing evidence that the defendant remains dangerous.¹⁵²

If the jury rejects the defense of mental disease or defect and finds that the defendant had the correct mental state, the judge still must consider whether the defendant had a mental disease or defect that rendered him unable to appreciate the criminality of his conduct or conform his behavior to the law.¹⁵³ The inability, due to the increased impulsivity to conform his behavior to the law, would be the strongest argument for the MAOA-I defendant. Assuming he is successful, he would be given a criminal sentence but committed to Warm Springs for treatment.

The challenge for the MAOA-I defendant is the availability of proven treatment. Some of the proposed treatments include mindfulness training, omega 3 supplements, and 5HT2a receptor antagonists.¹⁵⁴ While there have been tentative positive results from a variety of these treatments, scientific consensus is still lacking on effective treatment options for MAOA-I criminals.¹⁵⁵ In the absence of an effective treatment program, the MAOA-I convict continues to suffer from a mental disease or defect that prevents him from controlling his behavior and Warm Springs is unable to treat the person. The combination of inability to control behavior and increased likelihood of reactive violence means that the untreated MAOA-I person is dangerous. The legislature contemplated this situation in Montana Code Annotated § 46–14–312(3)(d) (2013). The State Mental Hospital has the opportunity to petition the sentencing court to transfer a patient to prison in the event that:

- (d) the defendant suffers from a mental disease or defect that makes the defendant a danger to the defendant or others, but:
 - (i) *there is no treatment available for the mental disease or defect;*
 - (ii) the defendant refuses to cooperate with treatment; or
 - (iii) the defendant will no longer benefit from active inpatient treatment for the mental disease or defect.¹⁵⁶

150. *Id.* at § 46–14–301(2)(a).

151. *Id.*

152. Mont. Code Ann. § 46–14–301(3).

153. *Id.* at § 46–14–311(1).

154. Baum, *supra* n. 119, at 300–301.

155. *Id.* at 301.

156. Mont. Code Ann. § 46–14–312(3)(d) (emphasis added).

2015

ARBITRARY AND GODLIKE

305

If the sentencing court agrees with Warm Springs, then the MAOA-l individual would be transferred to Deer Lodge for the length of the original sentence.¹⁵⁷

VIII. SPECULATIONS AND CONCERNS ABOUT THE FUTURE

Importantly, the MAOA-l defendant is a person with a mental disease that prevents him or her from conforming his or her behavior to the law. His or her mental disease or defect stems from a combination of factors that are both beyond the person's ability to control: genetics and an adverse childhood environment. People have no choice or control over the genes they inherit. Similarly, children do not have the ability to make different choices about adverse childhood environments. These are choices made by other people and inflicted upon the MAOA-l individual. The MAOA-l person, however, will have been tried, convicted, sentenced, and incarcerated in the same manner as a defendant with no mental disease or defect. By all accounts, this is exactly what Representative Keedy envisioned in 1979 when he proposed abolishing the insanity defense. As Representative Keedy stated, "I think they are criminals and should be charged as such in our courts."¹⁵⁸ To this end, the 1979 abolition has been largely successful and will continue to be successful even in light of the latest neuroscience developments.

Representative Keedy's accompanying objective in abolishing the insanity defense was to remove psychiatrists from the criminal justice system because they were making "arbitrary and godlike determinations" and their findings were not "scientifically valid."¹⁵⁹ This objective has been less successful than Representative Keedy had hoped.¹⁶⁰ In addition, this objective will become less and less possible in the future. Neuroscience developments will become more relevant because of their "scientific validity."¹⁶¹ Trials of the mentally ill will once again be battles of experts and juries will be confronted with extremely compelling and complex evidence concerning brain abnormalities, brain anatomy, and genetics. By all accounts, neuroscientific

157. *Id.* at § 46–14–312(4).

158. Mont. H. Jud. Comm., *supra* n. 1, at 12.

159. *Id.*

160. Steadman et al., *supra* n. 14, at 359 ("Clearly, after the reform substantially more defendants pleading insanity were convicted. Presumably that had been a main goal of the reform. At the same time, more persons pleading insanity had their charges dismissed. . . . Moreover, no longer were persons who were found incompetent to stand trial subsequently found not guilty by reason of insanity. Instead, they, too, had their charges dismissed and often were committed indefinitely to the state mental hospital's security unit.")

161. Kolber, *supra* n. 112, at 829–831 (arguing that neuroscience will continue to develop and become more precise in its findings).

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evidence will more and more resemble “godlike” determinations about the function of the human brain and its connection to criminal behavior.

Currently, many object to Montana’s approach to mental disease or defect because they believe it violates basic precepts of morality underlying the criminal justice system.¹⁶² Some commentators posit that these moral concerns will be aggravated by advances in neuroscience that fundamentally challenge the concept of free will and choice. As one commentator stated: “To the extent that the justification for punishment is perceived to rest on fundamental assumptions that appear increasingly untenable, the moral legitimacy of the criminal law is undermined.”¹⁶³

Regardless of the validity of these challenges, the 1979 abolition of the insanity defense has been hugely successful from a different standpoint. Every person suffering from a mental disease or defect who commits a crime has created a victim whose personal autonomy and physical integrity have been violated. From the victim’s perspective, it makes no difference if the person who harmed him or her was mentally ill or completely sane. By treating all defendants in a similar manner—regardless of the presence or absence of a mental disease or defect—Montana has, since 1979, essentially been adopting the victim’s perspective and emphasizing the issue of protection of society over questions about morality of punishment. This has essentially been a public policy choice that values social control.

Perhaps neuroscience’s primary challenge to the current Montana legislative scheme dealing with mental disease or defect will be that the State will have to explicitly recognize these underlying public policy questions. Neuroscience will force us to be clear—regardless of whether a person can be said to have made a conscious choice to engage in criminal behavior or not—about our decision as a society that we are going to punish him or her. Regardless of whether a person can appreciate the criminality of his or her conduct or conform his or her conduct to the requirements of the law, we are going to incarcerate certain individuals due to their dangerousness.

Once we move from a concept of free choice and individual responsibility, we quickly cross into a territory of truly “arbitrary and godlike determinations.” While this “dangerousness” territory has seemed far off in the future, glimpses of that future are already here. Currently, the U.S. Supreme Court has affirmed indefinite civil commitment for sex offenders based on determinations of future dangerousness.¹⁶⁴ The issue is not whether we

162. See e.g. Corrado, *supra* n. 6, at 493–494.

163. Peggy Sasso, *Criminal Responsibility in the Age of “Mind-Reading”*, 46 Am. Crim. L. Rev. 1191, 1243 (2009).

164. *Kan. v. Hendricks*, 521 U.S. 346, 364 (1997) (state law); *U.S. v. Comstock*, 560 U.S. 126, 129–131 (2010) (federal law); see Melissa Hamilton, *Public Safety, Individual Liberty, and Suspect Science: Future Dangerousness Assessments and Sex Offender Laws*, 83 Temple L. Rev. 697, 703–704

agree or disagree with the perpetual commitment of sex offenders. Rather, the question is how we determine dangerousness. In the past, dangerousness has been synonymous with a choice to commit a criminal act. Perhaps the largest challenge for the future lies in the neuroscience developments that further weaken the notions of individual choice and responsibility and further open the door to “dangerousness” considerations based on other factors, such as genetics or brain abnormalities.

In Montana, the 1979 abolition of the insanity defense allowed for the incarceration of people who have mental diseases or defects. Currently, we permit incarceration of the mentally ill who are untreatable and dangerous to society. These public policy decisions about social control have been largely confined to a very small segment of society and have not challenged the larger criminal justice system as a whole. Developments in neuroscience, however, are not going to be so easily confined and have the potential to affect all of our decisions in the criminal justice system. The Montana 1979 abolition will bring these challenges to the fore more quickly than in other states for two reasons. First, abolition opened the door to these explicit social control considerations. Second, abolition made these considerations relevant in almost all trials. By replacing the insanity defense with a consideration of a mental disease or defect in the determination of the existence of the requisite mental state, abolition made mental disease or defect relevant in nearly all cases because the prosecution must establish the defendant’s mental state in nearly all cases.¹⁶⁵ While neuroscience developments are currently limited to acquired brain abnormalities and a small population subset with MAOA-1 genetic abnormalities, neuroscience insights will continue to develop and expand. As a result, they will play larger and larger roles in more and more Montana criminal cases. Ultimately, the 1979 abolition of the insanity defense will force the state to explicitly address dangerousness and social control issues for the entire criminal justice system.

(2011); Stephen J. Morse, *Protecting Liberty and Autonomy: Desert/Disease Jurisprudence*, 48 San Diego L. Rev. 1077, 1097 (2011).

165. Excluding the small number of strict or absolute liability crimes.

