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SCIENCE AND THE NEW REHABILITATION

*Meghan J. Ryan**

ABSTRACT

Rehabilitation is making a comeback. Long thought to be an outdated approach to punishment, rehabilitation is reemerging in the wake of scientific advances. Not only have these advances in the fields of pharmacology, genetics, and neuroscience brought new rehabilitative possibilities, but the media's communication of these advances to the general public has also set the stage for rehabilitation's reprise. The media constantly pummels the general public with reports of scientific breakthroughs like functional magnetic resonance imaging, thereby conditioning the public to be more accepting of deterministic viewpoints and, paradoxically, also to be more open to the possibility of transforming individuals. This pairing of new science with its broadcast to the public

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has set the stage for the reemergence of rehabilitation. The rehabilitation that is emerging, however, differs in kind from the rehabilitation that reigned during the previous era. Instead of being aimed at transforming an individual's character, this "New Rehabilitation" focuses instead on changing the offender's behavior. This intense focus on treating offender behavior parallels the increased medicalization of ordinary Americans and thus may make therapeutic biochemical transformations of offenders more societally palatable. Additionally, this new approach has the potential to be faster, more targeted, and more effective than earlier approaches to rehabilitation. Adoption of this New Rehabilitation, though, may discard the humanity of offenders, ignoring the dignity to which they are constitutionally entitled. It also poses new questions of coercion. Most concerning, this emerging rehabilitation is masked as an improved version of the rehabilitation that was broadly accepted just half a century ago. Such presentation of the New Rehabilitation as an improvement over the old, without any new problems, runs the risk of lulling us into uncritically accepting this modern approach. In reality, this New Rehabilitation is a different, and in some ways more sinister, breed of the penological theory.

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INTRODUCTION

Science is revolutionizing the way we view criminals. Recent advances in pharmacology, genetics, and neuroscience have provided stunning examples of how individuals' physical characteristics and behaviors can be altered through treatment by pharmaceuticals, the modification of one's genes, or the stimulation of one's brain. Further, the media is constantly pummeling society with messages about how individuals' behaviors are shaped by their brains and genes or how we can change ourselves by simply ingesting pills. This has made scientific interventions a part of everyday life. Are you feeling depressed? "Cymbalta can help."¹ Are you suffering from social anxiety? Try "Zoloft—When you know more about what's wrong, you can help make it right."² Messages like these have become commonplace, resulting in society's growing familiarity and comfort with scientific advances. This, in turn, has increased faith in the malleability of man and, perhaps paradoxically, contributed to greater acceptance of a deterministic worldview. It has thus set the stage for the reemergence of rehabilitation as a theory of punishment.³

¹ "Cymbalta can help" is the famous tag line that Eli Lilly and Company uses to advertise its antidepressant Cymbalta. An example of a Cymbalta television commercial can be found at *Cymbalta Commercial (Real One)*, YOUTUBE, <http://www.youtube.com/watch?v=OTZvnAF7UsA> (last visited Apr. 5, 2015).

² This is the tag line for a Pfizer drug directed at treating social anxiety disorder, obsessive-compulsive disorder, panic disorder, as well as other disorders. An example of a Zoloft television commercial can be found at *Original Zoloft Commercial*, YOUTUBE, <https://www.youtube.com/watch?v=twhvtzd6gXA> (last visited April 9, 2015). Another well-known pharmaceutical tagline comes from marketing for Pfizer's Viagra—a "little blue pill" directed at treating erectile dysfunction. See MEIKA LOW, *THE RISE OF VIAGRA: HOW THE LITTLE BLUE PILL CHANGED SEX IN AMERICA* 4 (2004).

³ Although some courts and scholars distinguish between the terms "rehabilitation" and "reform," most courts and scholars do not seem to do so. See Meghan J. Ryan, *Death and Rehabilitation*, 46 U.C. DAVIS L. REV. 1231, 1262 (2013) [hereinafter Ryan, *Death*

Rehabilitation once reigned supreme as a punishment goal in the United States.⁴ But rehabilitation's popularity plummeted in the mid-1970s as a general consensus emerged that rehabilitation simply did not work.⁵ Moreover, concerns had arisen that rehabilitation treated offenders unequally, allowed judges to use their discretionary powers capriciously, and coerced offenders into submission.⁶ In the wake of rehabilitation's near death, it is surprising that rehabilitation is now reemerging as an important punishment goal.⁷ What was broadly condemned just forty years ago has suddenly found new life and has already been put into action by several vanguard legislatures.⁸ Further, the Supreme Court is increasingly focusing on rehabilitation when it discusses penological purposes,⁹ and new empirical evidence set forth in this Article suggests that rehabilitation is receiving greater attention from both courts and scholars.¹⁰

Rehabilitation's surprising return is likely related to a change in societal attitudes.¹¹ Recent scientific advances in the fields of pharmacology, genetics, and neuroscience—and the media's communication of these advances to the public at large—have paved the way for public acceptance of rehabilitative ideals. Just like the rise of psychology set the stage for rehabilitation's surge during the first half of

and Rehabilitation]. Therefore, this Article generally uses the two terms interchangeably.

⁴ See *infra* Part I.

⁵ See *id.*

⁶ See *id.*

⁷ See *infra* Part III.

⁸ See *infra* Part III.C.

⁹ See *infra* Part III.B.

¹⁰ See *infra* Part III.A.

¹¹ See *infra* Part IV.

the twentieth century,¹² recent scientific advances have made the environment ripe for the penological theory's return. This new science has raised questions about whether individuals are in control of their destinies—whether they possess free will—or whether, for example, one's DNA is chiefly responsible for one's actions. Lying somewhere between these viewpoints, new science also provides hope for changing individuals. Whether we can improve an individual's mood through pharmaceuticals or reduce one's pain through neuroscientific treatment, scientific breakthroughs are providing us with the tools to manipulate attributes that would otherwise be set by one's genetics and other previously thought fixed characteristics.

As with the science ushering in this new rehabilitative era, the rehabilitation that flows from it is more focused on individuals' behaviors than on their characters.¹³ Whereas most of the older methods of rehabilitation were aimed at treating the entire offender—through, for example, religious education or counseling—newer methods of rehabilitation are more targeted and focused on changing offender behaviors. Spurred on by the powers of science, this is trending toward biochemical interventions in individual offenders. While some might view this more concentrated focus on offender behavior as desirable and more restrained than older methods of rehabilitation, societal comfort with biochemical transformations has the potential to lull us into ignoring the concerns that this change in rehabilitation raises. For example, these biochemical transformations may actually be more coercive due to their irresistible nature, and this focus on behavior rather than character raises significant questions about respecting the human dignity of the offender.

This Article asserts that rehabilitation is reemerging, attributes rehabilitation's reprise to new scientific breakthroughs, and argues that the

¹² See *infra* text accompanying note 193.

¹³ See *infra* Part V.

rehabilitation that is emerging differs in form from the rehabilitation that died out approximately four decades ago. Part I provides a brief history of rehabilitation. It explains that rehabilitation became popular with the rise of psychology and abated when it was determined that rehabilitation was ineffective and when other concerns—such as inequality and judicial capriciousness—arose about the propriety of rehabilitative efforts. Part II notes that, despite the fall of rehabilitation, some pockets of rehabilitation survived and that rehabilitative programs like substance abuse treatment and vocational training can still be found in prisons today.

Part III asserts that rehabilitation is reemerging. It examines judges' references to rehabilitation in sentencing decisions, as well as scholars' discussions of rehabilitation in law review articles, to generate original empirical evidence that rehabilitation is once again coming into vogue. Additionally, new, unprecedented Supreme Court jurisprudence emphasizing the importance of rehabilitation supports this conclusion that the penological theory is reemerging. Moreover, recent legislative actions expanding offender rehabilitation programs and empowering courts to administer these programs themselves further buttress this conclusion.

Part IV suggests that this return of rehabilitation developed out of recent breakthroughs in science, particularly in the fields of pharmacology, genetics, and neuroscience. These scientific advances have engendered views on individuals' changeability and suggested that criminal offenses may be the product of determinism rather than free will. The media has disseminated these views to the general public, and the pharmaceutical industry has further blazoned them by inundating the public with advertisements for "cures" for nearly all of individuals' ills. Society has thus grown more accepting of these views about individuals' behavioral elasticity and more skeptical of the notion of free will.

In addition to crediting scientific breakthroughs for rehabilitation's reprise, Part IV outlines some relatively new rehabilitative techniques, such as chemical castration, deep brain stimulation, and frontal lobe exercises, which are growing out of the sciences. It also explains how

some of these techniques have already been incorporated into certain facets of criminal rehabilitation.

Part V then examines more closely this “New Rehabilitation”¹⁴ that is emerging in the wake of scientific advances and explains how it differs in form from the old rehabilitation. Instead of attempting to transform an offender’s character, the New Rehabilitation focuses much more intensely on changing the offender’s behavior. And this change in emphasis is beginning to affect how rehabilitation is actually implemented. Instead of effecting change through techniques like religious teaching or forced isolation, the New Rehabilitation may seek transformation through biochemical intervention. This new approach alters the applicability of criticisms that were once advanced in opposition to the old rehabilitation. For example, the New Rehabilitation could be more effective and run a lesser risk of vastly disparate terms of imprisonment among similarly situated offenders, but it also poses new concerns of coerciveness. Offenders have no opportunity to resist new rehabilitative techniques like they could resist older rehabilitative methods such as religious indoctrination. Rehabilitative biochemical transformations can work quickly and effectively in altering behavior, and because they are often viewed as common and banal, they can work surreptitiously, under the radar, and not be viewed as critically as they should be. Perhaps even more concerning, the New Rehabilitation also raises questions about observing individual offenders’ constitutional dignity, as it focuses on their outward behaviors rather than on their internal characters. The Eighth Amendment prohibition of cruel and unusual punishments, with its animating principle of human dignity, suggests that neglecting the

¹⁴ Other scholars have used this term “New Rehabilitation” in the juvenile justice context, see Daniel M. Filler & Austin E. Smith, *The New Rehabilitation*, 91 IOWA L. REV. 951 (2006), but I use the term here to refer instead to a different type of rehabilitation emerging across the criminal justice system that focuses on biochemical interventions rather than on changing the characters of offenders. See *infra* Part V.

individual offender is constitutionally problematic.

It is essential not to be lured into uncritically accepting this New Rehabilitation that may superficially seem to be a penological panacea. Instead, we should critically examine the characteristics of the New Rehabilitation, including its possibilities and novel risks, and only then ascertain how it should be used to improve criminal punishment. To these ends, this Article traces the evolution of the New Rehabilitation and explains why this new permutation of the age-old penological theory is both strategically and constitutionally suspect.

I. A BRIEF HISTORY OF REHABILITATION

The penological theory of rehabilitation has deep historical roots.¹⁵ The Bible recommends punishing children for the purpose of rehabilitating them, and this same notion can be found in the writings of Ancient Greece.¹⁶ Before the late eighteenth century, however, retributive, rather than rehabilitative, punishment ideals dominated the American penal landscape.¹⁷ Reflective of this, the death penalty—which is often

¹⁵ See FRANCIS A. ALLEN, *THE DECLINE OF THE REHABILITATIVE IDEAL: PENAL POLICY AND SOCIAL PURPOSE* 4 (1981). *But see* Meghan J. Ryan, *Proximate Retribution*, 48 HOUS. L. REV. 1049, 1053 (2012) [hereinafter Ryan, *Proximate Retribution*] (explaining that retribution, rather than rehabilitation, was the principal purpose of punishment).

¹⁶ See ALLEN, *supra* note 15, at 4; *see, e.g.*, *Job* 5:18 (King James) (“Behold, happy is the man whom God correcteth: therefore despise not thou the chastening of the Almighty.”); *Proverbs* 19:18 (King James) (“Chasten thy son while there is hope, and let not thy soul spare for his crying.”); *Revelation* 3:19 (King James) (“As many as I love, I rebuke and chasten: be zealous therefore, and repent.”).

¹⁷ See Ilene H. Nagel, *Structuring Sentencing Discretion: The New Federal Sentencing Guidelines*, 80 J. CRIM. L. & CRIMINOLOGY 883, 893 (1990) (asserting that retributive punishment dominated American sentencing “[u]ntil 1870”); David H. Norris & Thomas Peters, *Fiscal Responsibility and Criminal Sentencing in Illinois: The Time for*

viewed as the total rejection of rehabilitation¹⁸—was the punishment imposed for a significant number of crimes in the colonies.¹⁹ And the

Change Is Now, 26 J. MARSHALL L. REV. 317, 341 (1993) (“Until the late eighteenth century, America and England primarily based their sentencing policies on the theory of retribution.”); Ryan, *Proximate Retribution*, *supra* note 15, at 1053–55 (explaining that, up until the late eighteenth century, retributive punishment dominated American penal theory). There is some dispute among scholars, however, as to when exactly retributive punishment transitioned into rehabilitative punishment in the United States. Compare, e.g., Morris B. Hoffman, *Therapeutic Jurisprudence, Neo-Rehabilitationism, and Judicial Collectivism: The Least Dangerous Branch Becomes Most Dangerous*, 29 FORDHAM URB. L.J. 2063, 2075–76 [hereinafter Hoffman, *Therapeutic Jurisprudence*] (asserting that retributivism dominated American penal theory “and did not come under serious philosophical attack until the early 1800s,” and also explaining that individuals incarcerated before this time were “sentenced to penitentiaries to be punished [and] there was nothing ‘rehabilitative’ about them, except the repentance that was expected to come from enduring the punishment”), with Ted Sampsell-Jones, *Preventative Detention, Character Evidence, and the New Criminal Law*, 2010 UTAH L. REV. 723, 752–56 (2010) (“In the eighteenth century, at least, retribution was not considered a legitimate goal of human punishment, but incapacitation was.”).

¹⁸ See Ryan, *Death and Rehabilitation*, *supra* note 3, at 1243–46 (stating that the near-universal view is that rehabilitation is irrelevant to capital punishment, but arguing that the death penalty may actually accelerate repentance, which may be a key component of rehabilitation).

¹⁹ See Louis Filler, *Movements to Abolish the Death Penalty in the United States*, 284 ANNALS AM. ACAD. POL. & SOC. SCI. 124, 124 (1952); John W. Poulos, *The Supreme Court, Capital Punishment and the Substantive Criminal Law: The Rise and Fall of Mandatory Capital Punishment*, 28 ARIZ. L. REV. 143, 147 (1986). But see STUART BANNER, *THE DEATH PENALTY: AN AMERICAN HISTORY* 10, 15 (2002) (noting that the death penalty was imposed not only for retributive purposes, but also to serve as a deterrent). North Carolina, which imposed capital punishment for a wide array of offenses all the way up until 1837, concluded that death was the appropriate punishment for the crimes of:

murder, rape, statutory rape, arson, castration, burglary, highway

executions could be especially brutal in nature.²⁰ For example, two individuals convicted of treason in 1691 were “hanged by the Neck and being Alive their bodys be Cutt downe to the Earth and their Bowells be taken out and they being Alive, burnt before their faces; that their heads shall be struck off and their Bodys Cutt in four parts.”²¹ It was thought that such a strong showing of state power was at least occasionally required to account for especially monstrous crimes.²²

robbery, stealing bank notes, slave-stealing, ‘the crime against nature’ (buggery, sodomy, bestiality), dueling if death ensues, burning a public building, assault with intent to kill, breaking out of jail if under a capital indictment, concealing a slave with intent to free him, taking a free Negro or mulatto out of the state with intent to sell him into slavery; the second offense of forgery, mayhem, inciting slaves to insurrection, or of circulating seditious literature among slaves; being an accessory to murder, robbery, burglary, arson, or mayhem]; and also the crimes of] [h]ighway robbery and bigamy.

Hugo Adam Bedau, *THE DEATH PENALTY IN AMERICA* 6–7 (1964). According to Professor Hugo Adam Bedau, the existence of North Carolina’s severe penal code well into the nineteenth century was partially due to the state’s lack of a penitentiary, which left it with “no suitable alternative to the death penalty.” *Id.* at 7.

²⁰ As Professor Stuart Banner explains, officials possessed “tools capable of *intensifying* a death sentence—burning at the stake, public display of the corpse, dismemberment, and dissection—ways of producing a punishment worse than death.” BANNER, *supra* note 19, at 54; *see also id.* at 70–87 (describing in greater detail these methods of intensifying capital punishment).

²¹ *Id.* at 75 (internal quotation marks omitted). This sentence for treason was imposed on Jacob Leisler and Jacob Milborne. *See id.*

²² *See id.* at 76. (“The conspicuous show of state power might be gruesome, but sometimes it was necessary. This, so far as one can tell today, was common thought for the seventeenth and most of the eighteenth century.”). Although retribution was the primary purpose of punishment during this time period, Professor Banner has suggested

The late eighteenth century marked the beginning of penal reform in America. Shortly after the founding of the United States, Pennsylvania converted its historic Walnut Street Jail into the world's first penitentiary.²³ This metamorphosis was the innovation of Quaker reformers who sought to transform, rather than simply punish, criminal offenders.²⁴ The goal of rehabilitation was viewed as superior to, and more civilized than, the principally violence-based methods of punishment that had come before.²⁵ During this time, people began viewing crime as caused by society rather than as solely a result of individual choice, thus it seemed unfair to take retributive measures against offenders who were not entirely at fault.²⁶ Reformers believed that, “[i]f society produces

that such brutal punishments were also used for deterrence purposes. *See id.*

²³ See Paul Finkelman, *Exploring Southern Legal History*, 64 N.C. L. REV. 77, 105 (1985) (“The penitentiary movement began in the North with the Walnut Street prison in Philadelphia in 1790. This first wave of prison building was followed by a second, more dramatic wave led by New York and Pennsylvania. Much of the South followed their lead.”); Morris V. Hoffman, *The Case for Jury Sentencing*, 52 DUKE L.J. 951, 965 (2003) [hereinafter Hoffman, *Jury Sentencing*] (“The penitentiary was a uniquely American invention, begun by the Quakers in Pennsylvania in 1790.”); see also ADAM J. HIRSCH, *THE RISE OF THE PENITENTIARY: PRISONS AND PUNISHMENT IN EARLY AMERICA* xiii (1992) (noting that the Jacksonians’ solution of the penitentiary “was novel—and distinctly American”); DAVID J. ROTHMAN, *THE DISCOVERY OF THE ASYLUM: SOCIAL ORDER & DISORDER IN THE NEW REPUBLIC* xviii, 79 (1971) (characterizing the asylum as “America’s discovery”).

²⁴ *But see* Hoffman, *Jury Sentencing*, *supra* note 23, at 995 n.161 (asserting that commentators’ characterization of punishment prior to the 1920s as restorative or rehabilitative is “incorrect” because any “rehabilitative assumptions” upon which earlier institutions operated were “much more akin to notions of contrition and repentance than to what one thinks of today as rehabilitation”).

²⁵ See ALLEN, *supra* note 15, at 13.

²⁶ *See id.* at 14.

criminals, then society must undo its mischief through programs of prevention and rehabilitation.”²⁷ The Quakers in particular were optimistic about individuals’ abilities to change and improve themselves, and they were convinced that offenders could be saved and thus transformed into productive members of society.²⁸ To achieve this reformation, prison administrators required inmates to undergo religious instruction, solitary confinement, and hard labor.²⁹

After the transformation of the Walnut Street Jail, other penitentiaries popped up across New England,³⁰ but many of these new penitentiaries differed somewhat from the Quakers’ innovation. Instead of solitary confinement, some new prisons implemented the more affordable model of housing prisoners together but forcing them to live, eat, and work in silence.³¹ Some prisons, such as the Elmira Reformatory in New York, sought rehabilitation primarily through means other than religious transformation.³² They instead emphasized and implemented vocational training.³³ This new model soon became the dominant approach to offender rehabilitation in America.³⁴

²⁷ *Id.*

²⁸ See Michael Vitiello, *Reconsidering Rehabilitation*, 65 TUL. L. REV. 1011, 1038–39 (1991).

²⁹ See Justin Brooks, *Addressing Recidivism: Legal Education in Correctional Settings*, 44 RUTGERS L. REV. 699, 710 (1992); Vitiello, *supra* note 28, at 1039.

³⁰ See ROTHMAN, *supra* note 23, at 79; Brooks, *supra* note 29, at 710.

³¹ See ALLEN, *supra* note 15, at 12–13; ROTHMAN, *supra* note 23, at 82.

³² See Brooks, *supra* note 29, at 710–11. The Elmira Reformatory was revolutionary in providing its inmates with vocational training, but, in addition to the opportunity to learn trades, Elmira still “furnished programs of religious and moral uplift.” LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 455 (3d ed. 2005); see Brooks, *supra* note 29, at 710–11.

³³ See Brooks, *supra* note 29, at 711.

³⁴ See *id.*

By about the 1920s or 1930s, rehabilitation had emerged as the principal penological goal in the United States.³⁵ Scholars have attributed this rise in rehabilitation to the increased focus on individual disabilities that accompanied the rise of the welfare state,³⁶ as well as advances in the social sciences, which experts thought provided the means by which rehabilitation could be achieved.³⁷ It was during this period that the public's faith in scientific and psychiatric advances such as psychoanalysis grew.³⁸ In fact, the later-written Model Penal Code has been said to be a product of this growing reliance on psychoanalysis and other scientific advances.³⁹

³⁵ See Richard C. Boldt, *Rehabilitative Punishment and the Drug Treatment Court Movement*, 76 WASH. U. L.Q. 1205, 1219–20 (1998); see also ALLEN, *supra* note 15, at 5 (referencing rehabilitation's "dominance in the United States for most of the twentieth century"); Hoffman, *Jury Sentencing*, *supra* note 23, at 954; Ryan, *Proximate Retribution*, *supra* note 15, at 1053–56 (stating that, during the late 1700s and early 1800s, rehabilitation and other consequentialist penological theories vied for primacy over retribution, and that, "[b]y the beginning of the twentieth century, consequentialist theories of punishment had firmly replaced retribution as the primary accepted justification for punishment").

³⁶ See R. A. DUFF & DAVID GARLAND, *A READER ON PUNISHMENT* 8 (1994); Boldt, *supra* note 35, at 1220; Hoffman, *Jury Sentencing*, *supra* note 23, at 997. According to Professor Allen, "[t]he emergence of social work and the 'helping professions' strongly reinforced" this focus on the "rehabilitative ideal." ALLEN, *supra* note 15, at 7.

³⁷ See DUFF & GARLAND, *supra* note 36, at 8–10; Boldt, *supra* note 35, at 1220; Hoffman, *Jury Sentencing*, *supra* note 23, at 997.

³⁸ See Hoffman, *Jury Sentencing*, *supra* note 23, at 997. Not only did scientific advances during this time lead to a rise in rehabilitation, but they also triggered related phenomena such as scientific racism, social Darwinism, and eugenics. See Robert J. Cottrol, *Finality with Ambivalence: The American Death Penalty's Uneasy History*, 56 STAN. L. REV. 1641, 1662 (2004) (reviewing STUART BANNER, *THE DEATH PENALTY: AN AMERICAN HISTORY* (2002)); Vitiello, *supra* note 28, at 1016.

³⁹ See Deborah Denno, *Crime and Consciousness: Science and Involuntary Acts*, 87 MINN. L. REV. 269, 305 (2002).

As time progressed, efforts at rehabilitation became increasingly focused on individual offenders.⁴⁰ Experts adopted a deterministic view of action and explained behavior in terms of natural causes rather than as the product of an offender's free will.⁴¹ Consequently, they viewed offenders as sick and in need of treatment in order to be cured.⁴² This approach to criminal behavior became known as the "medical model" of rehabilitation, which most persuasively took hold in the 1960s.⁴³ Under this view—where criminals were seen as not ultimately responsible for their actions—it seemed unfair to imprison someone after that individual had been reformed. And because the necessary treatment would vary by offender, judges, and other government officials such as parole board members, would need significant discretion to determine individual offenders' ultimate sentences.⁴⁴ This led to the rise of indeterminate sentencing, which indeed endowed judges and other authorities with generally unprecedented, and nearly unlimited, power to determine individual offenders' sentences.⁴⁵ State legislatures also enshrined this prevailing

⁴⁰ See Brooks, *supra* note 29, at 711–12. Scholars have explained that this change in the goals of rehabilitation took place throughout the 1950s. See *id.* at 712; Vitiello, *supra* note 28, at 1016.

⁴¹ See Vitiello, *supra* note 28, at 1019.

⁴² See Brooks, *supra* note 29, at 712.

⁴³ See *id.* at 711. Several scholars have asserted, however, that the "medical model" took root much earlier—around the turn of the century. See, e.g., James R. Dillon, *Doubting Demarec: The Application of Ex Post Facto Principles to the United States Sentencing Guidelines After United States v. Booker*, 110 W. VA. L. REV. 1033, 1038 (2008) ("From the late nineteenth century until around 1970, the federal criminal justice system operated on a 'medical' model in which criminal offenders were viewed primarily as patients in need of care and rehabilitation by the penal system.").

⁴⁴ See Brooks, *supra* note 29, at 712.

⁴⁵ See *id.*; Francis T. Cullen & Shannon A. Santana, *Rehabilitation*, in *ENCYCLOPEDIA OF CRIME & JUSTICE* 1317–19 (Joshua Dressler ed., 2d ed. 2002).

rehabilitative sentencing ideal in their state codes.⁴⁶

In the prisons, officials experimented with a number of different types of offender treatment programs. They engaged in counseling and psychotherapy, as well as educational and vocational training.⁴⁷ In some circumstances, they also dabbled in drug therapy, behavioral conditioning (including shock therapy),⁴⁸ “brainwashing,” and even psychosurgeries.⁴⁹ For example, a program operated within the Federal Bureau of Prisons placed new prisoners in solitary confinement and allowed them to earn their freedom by acting in conformity with prison authorities’ special demands.⁵⁰ In some prisons, surgeons went so far as to intentionally destroy portions of offenders’ brains by applying small, high-frequency currents to electrodes implanted in their cerebella.⁵¹ This technique was directed at disabling the violence loci of the offenders’ brains.⁵² These more coercive methods seem to have been relied on less frequently than, for example, counseling and vocational training, but they were on the cutting edge of science and were in some sense more desirable from prison officials’ perspectives because they were less dependent on each

⁴⁶ See Michele Cotton, *Back with a Vengeance: The Resilience of Retribution as an Articulated Purpose of Criminal Punishment*, 37 AM. CRIM. L. REV. 1313, 1313–14 (describing states’ enactment of sentencing purposes during the middle of the twentieth century).

⁴⁷ See Cullen & Santana, *supra* note 45, at 1319; Vitiello, *supra* note 28, at 1018.

⁴⁸ See ALLEN, *supra* note 15, at 25.

⁴⁹ See Cullen & Santana, *supra* note 45, at 1319; Vitiello, *supra* note 28, at 1018. “Psychosurgeries” are also referred to as “lobotomies” throughout this Article.

⁵⁰ See James J. Gobert, *Psychosurgery, Conditioning, and the Prisoner’s Right to Refuse “Rehabilitation,”* 61 VA. L. REV. 155, 155 (1975); see also *Clonce v. Richardson*, 379 F. Supp. 338, 340–41 (W.D. Mo. 1974) (describing the program). This program was called “START.” *Clonce*, 379 F. Supp. at 340–41; Gobert, *supra*, at 155.

⁵¹ See Gobert, *supra* note 50, at 161–62.

⁵² See *id.*

individual offender's cooperation.⁵³

As prisons evolved, though, their rehabilitative purposes fell by the wayside. Scholars have observed that rehabilitative programs were not adequately implemented and that many rehabilitative goals were never met.⁵⁴ Soon, prisons focused more on security and punishment than on rehabilitation, and internal disciplinary measures became more brutal.⁵⁵ This loss of focus on the rehabilitative ideal likely contributed to the fall of rehabilitation as a principal penological goal in the United States.

The popularity of rehabilitation began to decline in the 1970s. In 1971, the American Friends Service Committee—a Quaker organization earlier associated with the transformation of the Walnut Street Jail⁵⁶—denounced the rehabilitative revolution in America that the Quakers had largely led nearly two centuries earlier.⁵⁷ The Committee's report stated that “the ideal toward which reformers have been urging us [since at least the mid-1800s], is theoretically faulty, systematically discriminatory in administration, and inconsistent with some of our most basic concepts of

⁵³ See *id.* at 161; Vitiello, *supra* note 28, at 1018.

⁵⁴ See, e.g., DUFF & GARLAND, *supra* note 36, at 9 (“The same scientific methods and criminological knowledge which were intended to make the penal system a system of correction and rehabilitation would subsequently show how rarely those goals were actually achieved.”); Craig Haney, *Demonizing the “Enemy”: The Role of “Science” in Declaring the “War on Prisoners,”* 9 CONN. PUB. INT. L.J. 185, 192 (2010) (explaining that “rehabilitation was difficult to put into practice because program-oriented officials typically lacked funding and personnel commensurate to the task at hand”).

⁵⁵ See ALLEN, *supra* note 15, at 6.

⁵⁶ One scholar has stated that “[t]he striking thing about this first major assault upon the penal-welfarism is the extent to which it was launched from *within* the framework of welfarist, social democracy, albeit a radicalized version thereof.” DAVID GARLAND, *THE CULTURE OF CONTROL: CRIME AND SOCIAL ORDER IN CONTEMPORARY SOCIETY* 56 (2001).

⁵⁷ See ALLEN, *supra* note 15, at 7.

justice.”⁵⁸ The “two-hundred-year-old experiment ha[d] failed.”⁵⁹

By the mid-1970s, it was generally thought that the penological goal of rehabilitation simply did not work. Professor Robert Martinson’s influential article entitled *What Works?—Questions and Answers About Prison Reform*⁶⁰ concluded that, “[w]ith few and isolated exceptions, the rehabilitative efforts [reportedly used in prisons] have had no appreciable effect on recidivism.”⁶¹ Martinson explained that there was little evidence supporting the conclusion that programs such as educational and vocational training, psychotherapy, drug therapy, or psychosurgery reduced offender recidivism.⁶² However, he noted that some isolated attempts at rehabilitation did work.⁶³ Physically castrating sexual offenders, for example, was reported to reduce recidivism to a rate of just “3.5 per cent [for sex crimes] (not, interestingly enough, a rate of zero; where there’s a will, apparently there’s a way) and 9.2 percent” for non-sex crimes.⁶⁴ Martinson’s caveats were largely ignored, however, and the sentiment that nothing works took scholars and policymakers by storm.⁶⁵

⁵⁸ AM. FRIENDS SERV. COMM., STRUGGLE FOR JUSTICE: A REPORT ON CRIME & PUNISHMENT IN AMERICA 12 (1971) [hereinafter STRUGGLE FOR JUSTICE].

⁵⁹ *Id.* at v.

⁶⁰ Robert Martinson, *What Works?—Questions and Answers About Prison Reform*, 35 PUB. INT. 22 (1974).

⁶¹ *Id.* at 25 (emphasis omitted).

⁶² *See id.* at 25–27, 29, 35–36.

⁶³ *See id.* at 49 (noting that his conclusion that there is “very little reason to hope that we have in fact found a sure way of reducing recidivism through rehabilitation . . . is not to say that [his study] found no instances of success or partial success; it is only to say that these instances have been isolated, producing no clear pattern to indicate the efficacy of any particular method of treatment”).

⁶⁴ *Id.* at 35–36. Martinson noted that he “hope[d] that the policy implications of this study [on castration would] be found to be distinctly limited.” *Id.* at 36.

⁶⁵ *See* Brooks, *supra* note 29, at 713.

The opposition to rehabilitation remained even after Martinson, just five years later, withdrew his conclusion that rehabilitation was largely ineffective⁶⁶ and after additional studies suggested that rehabilitative programs might be effective in certain circumstances.⁶⁷

In analyzing this influential sentiment that rehabilitation was entirely ineffective, some scholars have blamed the distrust in rehabilitation—and the related failure of rehabilitation—on the general underfunding of treatment programs in prisons.⁶⁸ Indeed, limited resources led to rehabilitative programs that were never fully implemented.⁶⁹ For example, many educational programs suffered from a lack of qualified teachers, and vocational programs often had to use “outdated equipment and methodologies.”⁷⁰ Judge Marvin Frankel of the U.S. District Court for the Southern District of New York (another major figure in the fall of rehabilitation as a purpose of punishment) summarized: “We set [offenders] lofty goals of rehabilitation, but with no directions or means of

⁶⁶ See *id.* Other scholars also criticized the methodology used in Martinson’s early study on rehabilitation. See generally James Q. Wilson, “What Works?” Revisited: *New Findings on Criminal Rehabilitation*, 61 PUB. INT. 3 (1980) (laying out some criticisms of Martinson’s work); see also Vitiello, *supra* note 28, at 1034 (noting Wilson’s criticisms of Martinson’s study).

⁶⁷ See Brooks, *supra* note 29, at 715; Vitiello, *supra* note 28, at 1053 (“A growing literature suggests that actuarial statistics lead to acceptably accurate predictions about an offender’s likely recidivism.”).

⁶⁸ See, e.g., Gobert, *supra* note 50, at 158 (“Often, lack of financial resources and trained personnel have prevented effective [rehabilitation] program implementation.”). Other scholars have disagreed. The Committee for the Study of Incarceration, for example, concluded that the lack of resources invested in rehabilitation was not the reason that the experiment in rehabilitation had failed. See Vitiello, *supra* note 28, at 1025.

⁶⁹ See Gobert, *supra* note 50, at 158–59; Vitiello, *supra* note 28, at 1018.

⁷⁰ Gobert, *supra* note 50, at 159.

achievement.”⁷¹ This has resulted in rage, distrust, and cynicism among the “alleged beneficiaries of the rehabilitative ideal.”⁷²

Likely one of the reasons why Americans quickly became convinced that rehabilitation was ineffective is that many of them believed crime rates were rising.⁷³ One scholar has explained, however, that the increase in crime was not due to the failure of rehabilitation but was instead the expected result of an increase in the population of males aged fifteen to seventeen—the population sector most likely to commit serious crimes.⁷⁴ With crime rates swelling, though, Americans blamed rehabilitation, which likely contributed to its decline.

Aside from ineffectiveness, there were a number of other concerns related to rehabilitation. First, the rehabilitative framework led to unequal treatment among offenders.⁷⁵ Under this system, sentencing and parole were based upon the offender’s potential or actual rehabilitation.⁷⁶ Because there were no known “cures” for some offenders’ particular “sicknesses,” a number of offenders could be incarcerated significantly longer than other offenders who had committed similar offenses.⁷⁷ This was understandably perceived as unfair.⁷⁸ Compounding this inequality

⁷¹ MARVIN E. FRANKEL, *CRIMINAL SENTENCES: LAW WITHOUT ORDER* 95 (1972).

⁷² *See id.* at 96–97; *see also* Vitiello, *supra* note 28, at 1023 (stating that setting these lofty rehabilitative goals without providing inmates with the tools to achieve rehabilitation resulted in “rage and cynicism among the ‘alleged beneficiaries of the rehabilitative ideal’”).

⁷³ *See* ALLEN, *supra* note 15, at 30.

⁷⁴ *See id.* at 30.

⁷⁵ *See* ANDREW VON HIRSCH, *DOING JUSTICE: THE CHOICE OF PUNISHMENTS* 29–31 (1976); Vitiello, *supra* note 28, at 1051–52.

⁷⁶ *See* Vitiello, *supra* note 28, at 1028–29.

⁷⁷ *See* Brooks, *supra* note 29, at 712.

⁷⁸ *See id.* at 712; *see also* VON HIRSCH, *supra* note 75, at 101 (explaining that

among offenders, there appeared to be class and racial biases that pervaded sentencing determinations.⁷⁹ “Surely,” the thought was, “a fallen member of the ruling class [would] need less reformatory treatment than a member of the lower class who ha[d] not had the same advantages.”⁸⁰ Moreover, judges’ wide-ranging discretion contributed to the related problem of judicial capriciousness.⁸¹ Judge Frankel has related the story of a judge who sentenced an offender to an extra full year of imprisonment just because the offender “excoriate[d] the judge, the ‘kangaroo court’ in which he’d been tried, and the legal establishment in general.”⁸² Such unpredictability, unaccountability, and unfairness in a system where so much is at stake for defendants was ultimately considered to be completely intolerable.

discretionary sentencing schemes “will lead to some inequalities”). In addition to concerns of inequality, a sentencing scheme premising release on rehabilitation creates the risk that an offender will not receive what he “deserves” under a retributive sentencing rationale. See VON HIRSCH, *supra* note 75, at 127–28.

⁷⁹ See FRANKEL, *supra* note 71, at 23 (“[T]here is broad latitude in our sentencing laws for kinds of class bias Judges are on the whole more likely to have known personally tax evaders, or people just like tax evaders, than car thieves or dope pushers.”); Vitiello, *supra* note 28, at 1020–21.

⁸⁰ STRUGGLE FOR JUSTICE, *supra* note 58, at 30; Vitiello, *supra* note 28, at 1021.

⁸¹ See FRANKEL, *supra* note 71, at 12–25.

⁸² *Id.* at 18. Following up on this anecdote, Judge Frankel explains how none of the three fellow judges listening to the sentencing judge’s story “tendered a whisper of dissent, let alone a scream of outrage.” *Id.* “But think of it,” Judge Frankel urges his readers: “Not the relatively harmless, if revealing reference to the defendant as of a son of a bitch”—a reference I omitted in the text for lack of space, not color—“[b]ut a year in prison for speaking disrespectfully to a judge. . . . Would we tolerate an act of Congress penalizing such an outburst by a year in prison? The question, however rhetorical, misses one truly exquisite note of agony: that the wretch sentenced by [the judge] never knew, because he was never told, how the fifth year of his term came to be added.” *Id.* at 18–19.

There was also concern about coercing offenders to participate in treatment.⁸³ Fears arose that treatment was taking place with or without offenders' consents⁸⁴ and that abuses were being legitimated as treatment.⁸⁵ Relatedly, there was concern that offenders were being "pressed . . . into conformity."⁸⁶ Such conformity ran counter to the emerging social climate, exemplified by the protests surrounding the Vietnam War, which questioned authority and was suspicious of government.⁸⁷ This public hostility toward government also led to hostility

⁸³ See GARLAND, *supra* note 56, at 56; VON HIRSCH, *supra* note 75, at 17; Barry C. Feld, *Race, Politics, and Juvenile Justice: The Warren Court and the Conservative "Backlash,"* 87 MINN. L. REV. 1447, 1481 (2003); Vitiello, *supra* note 28, at 1018.

⁸⁴ See GARLAND, *supra* note 56, at 56.

⁸⁵ See GARLAND, *supra* note 56, at 55; Feld, *supra* note 83, at 1481 n.142. Moreover, some scholars have found the notion of treatment to be entirely incompatible with the concept of punishment. See MARC MAUER, RACE TO INCARCERATE 44 (2006) (asserting that treatment is at odds with incarceration).

⁸⁶ See GARLAND, *supra* note 56, at 56; see also FRANKEL, *supra* note 71, at 97 ("For those wondering when the miracle [of rehabilitation] may happen, there is a desperate sense of mystery about what the rules are, most centrally about what will 'work' toward the tensely focused goal of release. There is a bitter, and seemingly growing, conviction that a craven conformity is the key."); STRUGGLE FOR JUSTICE, *supra* note 58, at 119 ("As part of treatment and rehabilitation, cultural assimilation is forced upon wayward, threatening, or unconventional groups."). Bound up in this concern about being pressed into conformity, there is debate among proponents of rehabilitation about whether the "cultural defense" should be incorporated into a rehabilitative framework for punishment. See Guy Ben-David, *Cultural Background as a Mitigating Factor in Sentencing in the Federal Law of the United States*, 47 CRIM. L. BULL. 543, 557 (2011).

⁸⁷ See ALLEN, *supra* note 15, at 25. Professor Francis Allen argues that other relevant factors include "[h]ostility to authority engendered by the civil rights movement and resistance to the Vietnam War; the tendency of some black activists to equate criminal sanctions with political oppression; and the Watergate experience." See *id.* at 30 (stating that all of these factors "struck at the roots of penal rehabilitationism").

toward the sciences used to implement rehabilitation.⁸⁸ For example, psychiatry was viewed as “a mode of social control,”⁸⁹ and “war resisters . . . advised their imprisoned colleagues ‘to steer clear of the Mental Hygiene Clinic.’”⁹⁰

In addition to coercion, critics were concerned about the side effects associated with rehabilitation. As Andrew von Hirsch has stated, the framework for rehabilitation that dominated this country for centuries “produced unexpected abhorrent consequences and numerous unpredicted side effects that were less humane or liberal than its proponents had anticipated.”⁹¹ Broadly, there was concern that the rehabilitative model had become more barbarous than a model based on retribution.⁹² And in cases where methods of rehabilitation were taken to the extreme—such as in psychosurgeries—the side effects suffered by any particular individual could be severe. Psychosurgeries often dampened offenders’ violent propensities, but this was because the procedures often caused a “general indifference and apathy” in the offenders, which could be “more detrimental to the individual than [even] the violent tendencies.”⁹³ The complete panoply of side effects resulting from these psychosurgeries was unclear at the time that rehabilitation waned in the 1970s, but the known side effects were generally believed to be permanent in nature.⁹⁴

⁸⁸ *See id.* at 24–25.

⁸⁹ *Id.* at 24.

⁹⁰ *Id.* at 25.

⁹¹ VON HIRSCH, *supra* note 75, at xxxvii.

⁹² *See id.* at xxxviii; *see also* JEFFRIE G. MURPHY, PUNISHMENT AND REHABILITATION 179 (1973) (expressing concern that institutional staff members would “justify . . . custodial measures in therapeutic terms” and explaining that “the rehabilitative ideal has often led to increased severity of penal measures”).

⁹³ Gobert, *supra* note 50, at 162.

⁹⁴ *See id.*

Despite its earlier reigning position in penological theory, rehabilitation was also attacked on theoretical grounds. As one scholar has stated, the broad powers given to judges sentencing in indeterminate systems are inconsistent with the bedrock rule of law of *nulla poena sine lege*, or “no punishment without law,” because they diminish any predictability about what punishment an offense will merit.⁹⁵ Further, the uncertainty that this indeterminate sentencing breeds is worsened by judges’ failures to explain their individual sentencing decisions.⁹⁶ Another scholar has outlined a more overarching philosophical problem with the rehabilitative ideal, namely that explaining behavior as determined by factors other than an offender’s will may simply “prove[] too much.”⁹⁷ After all, criminal law has long been rooted in notions of culpability, so what would be left of the law if an offender’s will were no longer a factor in criminal acts?⁹⁸

Taking into account all of these concerns, a 1976 Committee for the Study of Incarceration published *Doing Justice: The Choice of*

⁹⁵ See FRANKEL, *supra* note 71, at 3–5 (explaining that “the almost wholly unchecked and sweeping powers we give to judges in the fashioning of sentences are terrifying and intolerable for a society that professes devotion to the rule of law”); see also BLACK’S LAW DICTIONARY 1098 (8th ed. 2004) (defining “*nulla poena sine lege*” as “[n]o punishment without a law authorizing it”). This is akin to the principle of legality. See BLACK’S LAW DICTIONARY, *supra*, at 914 (defining the “principle of legality” as “[t]he principle that a person may not be prosecuted under a criminal law that has not been previously published”); Dorsey D. Ellis, Jr., *Fairness and Efficiency in the Law of Punitive Damages*, 56 S. CAL. L. REV. 1, 5 n.19 (1982) (stating that “the maxim, *nullum crimen, nulla poena, sine lege*,” or “‘without a law, there is no crime and no punishment,’ [is] also known as the ‘principle of legality’”).

⁹⁶ See FRANKEL, *supra* note 71, at 39–49 (referring to this problem as the “walls of silence” within the sentencing system).

⁹⁷ Vitiello, *supra* note 28, at 1019.

⁹⁸ See *id.* at 1019. This same concern is raised in reaction to the proliferation of neuroscience evidence within the criminal justice system.

Punishments, which concluded that the “just deserts” of retributivism should replace rehabilitation as the primary penological goal in the United States.⁹⁹ Soon after, several states re-embraced retributive penological theories in their own criminal justice systems.¹⁰⁰ And later, Congress passed the Sentencing Reform Act of 1984, replacing federal indeterminate sentencing with the Federal Sentencing Guidelines, which deprived judges and other decisionmakers of the significant discretion they had wielded under the rehabilitative approach that had dominated the bygone era.¹⁰¹

II. SURVIVING POCKETS OF REHABILITATION

Despite the general abandonment of rehabilitation in the mid-1970s, efforts to rehabilitate criminal offenders have persisted in particular pockets of the criminal justice system.¹⁰² Educational and vocational programs can still be found in prisons, although the level of participation in and quality of these programs leave something to be desired.¹⁰³ Prisons also offer psychological counseling, as well as social adjustment and substance abuse programs.¹⁰⁴ In fact, some data suggest that the presence

⁹⁹ See VON HIRSCH, *supra* note 75; Vitiello, *supra* note 28, at 1025.

¹⁰⁰ See Cotton, *supra* note 46, at 1325–26 (explaining that several states—including Minnesota, Texas, Maine, Alabama, and Colorado—adopted retributive theories in the late 1970s).

¹⁰¹ See Sentencing Reform Act of 1984, Pub. L. No. 98-473, 98 Stat. 1987 (codified in scattered sections of 18 & 28 U.S.C.); Brooks, *supra* note 29, at 714.

¹⁰² See Brooks, *supra* note 29, at 715.

¹⁰³ See *id.* at 715; Michelle S. Phelps, *Rehabilitation in the Punitive Era: The Gap Between Rhetoric and Reality in U.S. Prison Programs*, 45 LAW & SOC'Y REV. 33, 53 (2011).

¹⁰⁴ See Phelps, *supra* note 103, at 53.

of these programs in prison did not significantly decline after the mid-1970s as the generally accepted history of rehabilitation would suggest.¹⁰⁵ These programs persist despite the popular belief that rehabilitation is generally ineffective.¹⁰⁶

One type of rehabilitation that some proponents claim is unusually effective is the use of religion to achieve offender transformation. In the mid-1990s, religion reemerged as a popular pathway to rehabilitation in the criminal justice system.¹⁰⁷ This development was reminiscent of the eighteenth-century origins of rehabilitative punishment in this country, where burgeoning penitentiaries focused on changing offenders through religious teachings.¹⁰⁸ In the early 1990s and 2000s, prisons such as the Lawtey Correctional Institution in Florida began instituting religious prison programs administered by independent religious groups that provided inmates with religious and life skills education.¹⁰⁹ And other independent nonprofit organizations have similarly developed efforts, such as the InnerChange Freedom Initiative, to provide religious programming

¹⁰⁵ See *id.* at 59 (“The results, in sum, show that for the decade following the decline of the rehabilitative ideal, very little changed inside of prisons in terms of rehabilitative programming . . .”).

¹⁰⁶ See JOSHUA DRESSLER, *CASES AND MATERIALS ON CRIMINAL LAW* 37 (5th ed. 2009) (“The conventional wisdom is that past efforts to rehabilitate convicted offenders were mostly unsuccessful.”). Whether any past failure of rehabilitation was due to insufficient information on the topic, underfunding, or the failure of rehabilitation as a whole has not been resolved. See *id.* at 38; *supra* text accompanying notes 68–98. More current research suggests that rehabilitative efforts may modestly reduce recidivism, especially when targeted at particular types of offenders. See DRESSLER, *supra*, at 38.

¹⁰⁷ See Marc O. DeGirolami, *The New Religious Prisons and Their Retributivist Commitments*, 59 ARK. L. REV. 1, 13–14 (2006).

¹⁰⁸ See *supra* text accompanying notes 23–34.

¹⁰⁹ See DeGirolami, *supra* note 107, at 14–17.

for inmates to effect rehabilitation.¹¹⁰ Some scholars have claimed that these religious prison programs are effective in reducing recidivism among offenders and thus achieving rehabilitation.¹¹¹ The empirical evidence supporting this claim has been contested, however.¹¹²

Besides prison programming, rehabilitation has also historically been at the core of the juvenile justice system.¹¹³ Scholars have traced the juvenile court movement to the early American prisons that had the stated

¹¹⁰ See *InnerChange Freedom Initiative*, PRISON FELLOWSHIP, <http://www.prisonfellowship.org/programs/reentry/ifi/> (last visited Jan. 31, 2015).

¹¹¹ See, e.g., Heather Guidry, *If at First You Don't Succeed . . . : Can the Commerce and Spending Clauses Support Congress's Latest Attempt at Religious Freedom Legislation?*, 32 CUMB. L. REV. 419, 456 (2002).

¹¹² One early study examining the effectiveness of the InnerChange Freedom Initiative's program found a recidivism rate of 17.3% among offenders successfully completing the program as compared to a recidivism rate of 35% among offenders not participating in the program. See Byron R. Johnson & David B. Larson, CTR. FOR RESEARCH ON RELIGION AND URBAN CIVIL SOC'Y, THE INNERCHANGE FREEDOM INITIATIVE: A PRELIMINARY EVALUATION OF A FAITH-BASED PRISON PROGRAM 4–5, 19 (2003), available at http://www.manhattan-institute.org/pdf/crrucs_innerchange.pdf. Several commentators have criticized this study, though, noting that successful completion of the program includes not only religious education while in prison but also employment, church membership, a mentor relationship, and “aftercare” once the inmate has been released from prison. See DeGirolami, *supra* note 107, at 20. Only about 42% of the program participants meet these post-release requirements and thus are considered to have successfully completed the program. See *id.* at 20. When considering all of the participants, the recidivism rates are actually slightly higher than the rates of those not participating at all. See Johnson & Larson, *supra*, at 4–5, 17, 19. Further, commentators have criticized the studies touting the effectiveness of faith-based programs because these programs provide advantages to offenders aside from the faith-based education that would allow non-faith-based programs to enjoy similar rehabilitative success and also because their selection criteria target offenders who would already be less likely to re-offend, thus skewing the numbers. See DeGirolami, *supra* note 107, at 20.

¹¹³ See ELIZABETH S. SCOTT & LAURENCE STEINBERG, RETHINKING JUVENILE JUSTICE 7–8, 84–87 (2008).

goal of rehabilitation.¹¹⁴ This reliance on rehabilitation continued in the juvenile courts but was dealt a blow when general faith in rehabilitation dwindled in the 1970s.¹¹⁵ As public opinion determined that juvenile rehabilitation was similarly ineffective, the punishment theory underlying the juvenile justice system became murky.¹¹⁶ Juveniles were increasingly transferred into the more punitive criminal court's jurisdiction,¹¹⁷ and rehabilitation began to lose ground as a punishment goal while other goals, such as protecting the public and retribution, began to proliferate.¹¹⁸

¹¹⁴ See ANTHONY M. PLATT, *THE CHILD SAVERS: THE INVENTION OF DELINQUENCY* 108–52 (2d ed. 1977); ELLEN RYERSON, *THE BEST-LAID PLANS: AMERICA'S JUVENILE COURT EXPERIMENT* 16–56 (1978); *supra* text accompanying notes 23–34; see also Boldt, *supra* note 35, at 1270–71 (citing Platt and Ryerson).

¹¹⁵ See SCOTT & STEINBERG, *supra* note 113, at 89–90. In fact, the Supreme Court dampened the rehabilitative capabilities of the juvenile court in 1967 through its decision in *In re Gault*, 387 U.S. 1 (1967). See SCOTT & STEINBERG, *supra* note 113, at 89–90. By holding that offenders in juvenile court were entitled to the same procedural rights as adult offenders, the Court forced juvenile courts to formalize their procedures somewhat, and the focus on rehabilitation suffered as a result. See *id.* at 90; see also *In re Gault*, 387 U.S. 1.

¹¹⁶ See SCOTT & STEINBERG, *supra* note 113, at 8, 89–90, 216.

¹¹⁷ See Brent Pollitt, *Buying Justice on Credit Instead of Investing in Long-Term Solutions: Foreclosing on Trying Juveniles in Criminal Court*, 6 J.L. & FAM. STUD. 281, 289 (2004) (stating that, as legislatures lost faith in the rehabilitative ideal, “[t]hey began easing the restrictions on the transfer of juvenile offenders to criminal court in an attempt to reduce juvenile crime”).

¹¹⁸ See ELLEN MARRUS & IRENE M. ROSENBERG, *CHILDREN AND JUVENILE JUSTICE* 23 (2007) (noting that the “more recent trend is to downplay the care and rehabilitation aspects, and instead stress goals of punishment, deterrence, isolation, and protection of the community”); SCOTT & STEINBERG, *supra* note 113, at 8, 89–90, 95; Barry C. Feld, *The Juvenile Court Meets the Principle of Offense: Punishment, Treatment, and the Difference It Makes*, 68 B.U. L. REV. 821, 836 (1988) (noting that the transition from rehabilitative to retributive goals in the criminal justice system also began to appear in the juvenile justice context).

Although these newer punishment goals play a greater role in juvenile court dispositions today than they have historically, rehabilitation continues to loom larger in the juvenile court than in the traditional criminal court.¹¹⁹ Recent studies have established that rehabilitation programs directed at juveniles are effective in reducing recidivism rates.¹²⁰ And scholars have urged the return of rehabilitation as the cornerstone of the juvenile justice system.¹²¹

III. THE REEMERGENCE OF REHABILITATION

Although rehabilitation has generally declined in popularity as a punishment goal since the mid-1970s, rehabilitation appears to be on the rise. A handful of notable scholars have suggested the possible existence of this phenomenon, although no one has explored whether rehabilitation

¹¹⁹ See SCOTT & STEINBERG, *supra* note 113, at 96 (stating that “[t]he primary goals of modern youth crime policy are protection of the public and punishment of the offender”); Paul Holland & Wallace J. Mlyniec, *Whatever Happened to the Right to Treatment?: The Modern Quest for a Historical Promise*, 68 TEMP. L. REV. 1791, 1794, 1812 (1995) (stating that most state legislation promises rehabilitative treatment to juvenile offenders and that this is still an important goal of the juvenile justice system). Pennsylvania’s 1995 Juvenile Act, for example, provides that one of the primary purposes of the legislation is to provide “care and rehabilitation” to juvenile offenders and to “enable children to become responsible and productive members of the community.” 42 PA. CONS. STAT. § 6301(b)(2) (2000).

¹²⁰ See SCOTT & STEINBERG, *supra* note 113, at 216.

¹²¹ See, e.g., Robert E. Shepherd, Jr., *The Juvenile Court in the 21st Century*, 14 CRIM. JUST. 48, 50 (1999) (“For those juveniles who are tried as adults, we must still try to fashion programs that rehabilitate them and do not brutalize them, for most of them will return to live among us some day.”); Candace Zierdt, *The Little Engine That Arrived at the Wrong Station: How to Get Juvenile Justice Back on the Right Track*, 33 U.S.F. L. REV. 401, 429, 433–34 (1999) (arguing that rehabilitative efforts are effective for juvenile offenders and that we ought to return to this juvenile justice approach).

is really reemerging. Professor Michael Tonry has asserted that there is currently a “muddle” of views on sentencing goals, but that this “muddle is exemplified by greatly reinvigorated interest in rehabilitative programs, such as drug, mental health, and domestic violence courts, reentry programs, and a plethora of new community-based and institutional treatment programs.”¹²² Professor Tonry has also referred to notions of therapeutic, “restorative[,] and community justice” as being included in this muddle of twenty-first century sentencing ideals.¹²³ Professor Jonathan Simon has similarly observed that “rehabilitation is back on the table.”¹²⁴ And a few other commentators have also asserted that “[r]ehabilitation is making a comeback.”¹²⁵ However, these scholars have not seemed to delve any deeper into assessing whether rehabilitation is actually reemerging and, if it is, why. Examining more carefully whether rehabilitation has seen an uptick in recent years reveals that there is some empirical evidence suggesting that judges are relying more heavily on rehabilitative possibilities. More importantly, recent legislation and Supreme Court decisions suggest that rehabilitation is truly reemerging.

¹²² Michael Tonry, *Purposes and Functions of Sentencing*, 34 CRIME & JUST. 1, 2 (2006).

¹²³ *Id.*

¹²⁴ JONATHAN SIMON ET AL., *Introduction*, in AFTER THE WAR ON CRIME: RACE, DEMOCRACY, AND A NEW RECONSTRUCTION 10 (Mary Louise Frampton et al. eds., 2008), cited in Phelps, *supra* note 103, at 40.

¹²⁵ Francis T. Cullen, *The Twelve People Who Saved Rehabilitation: How the Science of Criminology Made a Difference*, 43 CRIMINOLOGY 1, 3 (2005); see also, e.g., Catherine L. Carpenter, *Legislative Epidemics: A Cautionary Tale of Criminal Laws That Have Swept the Country*, 58 BUFF. L. REV. 1, 39 n.203 (2010) (noting that “rehabilitation is reemerging as a penal goal”); Bruce J. Winick & David B. Wexler, *The Use of Therapeutic Jurisprudence in Law School Clinical Education: Transforming the Criminal Law Clinic*, 13 CLINICAL L. REV. 605, 629 (2006) (suggesting that the rehabilitative ideal is returning).

A. EXAMINING JUDICIAL REASONING IN SENTENCING

Despite some scholars' vague sense that rehabilitation is reemerging as a penological goal, no one has attempted to examine the extent to which rehabilitation is actually reemerging. Perhaps this should not be surprising, as it is difficult to empirically determine whether this alleged reemergence is actually occurring in terms of whether punishment is being imposed for the purpose of rehabilitating offenders. This stems from the fact that judges do not ordinarily explain in any detail why they are imposing particular sentences, and, to the extent that judges' sentencing decisions do specify the reasons for the sentences they impose, these opinions ordinarily are not readily available and searchable.

This same difficulty of empirical proof applies to the well-accepted broad claims that rehabilitation declined in the mid-1970s.¹²⁶ Scholars' assertions that rehabilitation died out around this time are based primarily on the scholarly and political dialogues of the period rather than on any empirical studies.¹²⁷ In fact, one commentator has pointed out that there is little, if any, empirical evidence that certain aspects of rehabilitation—such as its use in prison programming—actually receded during this period.¹²⁸ The lack of empirical proof for the general waning of rehabilitation in the mid-1970s is understandable, though, considering

¹²⁶ See *supra* Part I.

¹²⁷ See, e.g., Brooks, *supra* note 29, at 713–15 (discussing the decline of rehabilitation); Vitiello, *supra* note 28, at 1026–32 (discussing the abandonment of rehabilitation).

¹²⁸ See Phelps, *supra* note 103, at 34, 38, 48, Figure 3 (explaining that, “despite strong claims about the demise of rehabilitation, few empirical tests have documented how (or if) the actual practice of rehabilitative programming in prisons changed in response to rapidly changing penal norms,” and suggesting that “the practice of rehabilitation may have remained more stable than has been widely assumed”); see also Cullen & Santana, *supra* note 45, at 1320 (explaining that “[r]ehabilitation . . . did not die”).

that an accurate picture of judges' thoughts regarding sentencing is difficult to ascertain due to the dearth of readily accessible written materials on the topic.

Examining written decisions by judges may yield judicial discussions of rehabilitation, but these opinions are quite limited in their usefulness. For example, sifting through the number of accessible criminal cases mentioning the terms "rehabilitation" or "reformation,"¹²⁹ or derivatives of these terms,¹³⁰ and organizing the resulting cases by the year in which they were decided, suggests that the use of these terms has become increasingly popular since at least the 1950s. This is exhibited in the "Criminal Context" plot in Figure 1.¹³¹ This method for determining the popularity of rehabilitation as a judicial rationale for sentencing suffers from a number of sources of error, however. First, these written opinions are often a step or more removed from judicial sentencing rationales. They are often reviews of lower court sentencing decisions rather than judges' actual sentencing opinions. Further, there is concern that judges may be employing the terms "rehabilitation" and "reformation" for reasons other than describing judicial sentencing rationales. While it is not obvious why these external uses of the terms would fluctuate across the decades, it is certainly possible.¹³² There may be an increase in the use of the terms due to rehabilitation facilities sprouting up across the nation, but this generally relates to rehabilitation, although not necessarily in the criminal context.

¹²⁹ See Ryan, *Death and Rehabilitation*, *supra* note 3, at 1262 (noting that most courts and scholars use the terms "rehabilitation" and "reformation" interchangeably).

¹³⁰ Throughout this Article, searches for terms such as "rehabilitation" and "reformation" generally included searching for derivatives of the terms. Greater details on particular searches can be found in the Appendix, *infra*.

¹³¹ For details on how these data were obtained, see *infra* Appendix.

¹³² Changes in the use of the terms "rehabilitation" and "reformation" could also be due to increased discussion of rehabilitation in contexts such as physical disability rehabilitation.

In examining two key years of judges' uses of the terms in greater depth, it appears that the relevance of the data fluctuates. In 1974, around the time the historical literature suggests that the popularity of rehabilitation began receding, approximately forty-nine percent of the illustrated uses of the terms "rehabilitation" and "reformation" appear in the sentencing context.¹³³ Thus, although Figure 1 exhibits that nineteen percent, or 1143 out of 6051, of criminal cases mention the terms "rehabilitation" or "reformation," it appears that only about half of these cases refer to rehabilitation in the sentencing context.¹³⁴ In 2001—which is approximately when the data reveal an accelerated rate of judges' uses of the terms—only about thirty-nine percent of the data reflecting the use of "rehabilitation" or "reformation" are actually attributable to the term's employment in the sentencing context.¹³⁵ This variation in the relevant use of the terms creates significant uncertainty in the reliability of the "Criminal Context" plot to reveal any empirical trend in judges' reliance on rehabilitation in sentencing. Perhaps these imperfect source data are the reason that the frequency of the "rehabilitation" and "reformation" terms in criminal cases does not seem to crash after the mid-1970s as the legal literature would suggest. Alternatively, this consistency of the terms' occurrences could reflect the previously noted possibility that at least the *use* of rehabilitation in prisons did not decline after the general fall of

¹³³ The total number of cases using the term "rehabilitation" or "reformation," as well as the term "criminal," was 1143 in 1974. Due to time and resource constraints, I examined only every twenty-fifth case in the 1974 sample. Therefore, my "n" for the 1974 cases in this particular study was 45.

¹³⁴ See *supra* note 133.

¹³⁵ The total number of cases using the term "rehabilitation" or "reformation," as well as the term "criminal," was 4401 in 2001. Due to time and resource constraints, I examined only every hundredth case in the 2001 sample. Therefore, my "n" for the 2001 cases in this particular study was 44.

rehabilitation in the mid-1970s.¹³⁶ This plot also suggests that not only has the popularity of rehabilitation been increasing since at least the 1950s, but it has also been increasing at a faster rate since approximately 2001. While conclusions drawn from the source data may certainly be flawed, the conclusion that rehabilitation has recently been trending upward seems to be consistent with several scholars' impressions of the period.¹³⁷

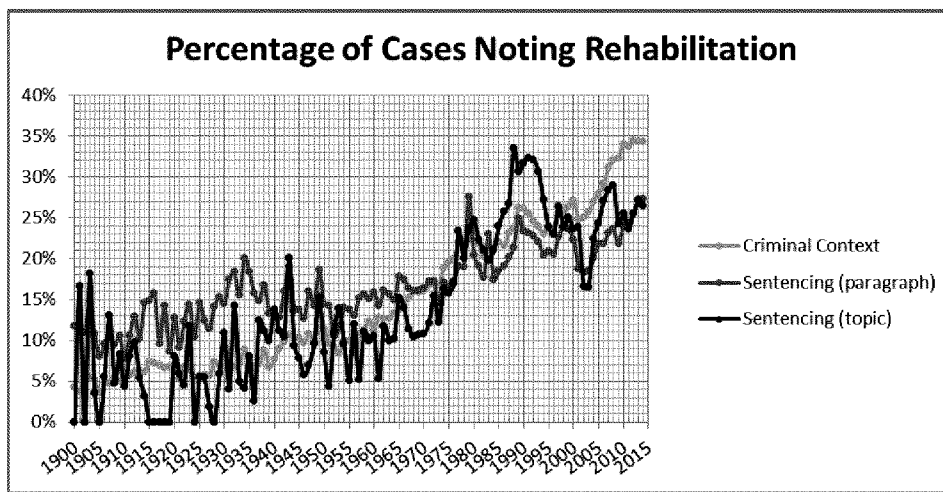


Figure 1

The “Sentencing (paragraph)” and “Sentencing (topic)” plots of Figure 1 attempt to take a more targeted approach to determining whether judges are increasingly relying on rehabilitation in sentencing criminal

¹³⁶ See *supra* text accompanying note 128. There is even the possibility that the use of rehabilitation in prisons increased after the general fall of rehabilitation in the mid-1970s. See Phelps, *supra* note 103, at 35, 38, 46, 48, Figure 3.

¹³⁷ See *supra* text accompanying notes 122–125.

offenders. In the “Sentencing (paragraph)” plot, uses of the terms “rehabilitation” and “reformation” were examined in their paragraphical proximity to judicial sentencing discussions.¹³⁸ In the “Sentencing (topic)” plot, uses of the terms “rehabilitation” and “reformation” in close proximity to discussions of “sentencing and punishment” were examined utilizing Westlaw’s key number digest system.¹³⁹ While perhaps more accurate than discerning judicial intent from the “Criminal Context” plot, the Sentencing plots display a more volatile trend in judicial sentencing. Although the historical literature suggests that rehabilitation began declining in popularity around the mid-1970s, these plots suggest that this happened somewhat later in time. This may be reason to question the usefulness of the Sentencing plots, or it may be reason to question the reliability of the historical literature. A third possibility is that this simply reflects the fact that the Sentencing plots track primarily appellate decisions, which understandably lag behind the principal sentencing decisions at the trial court level. Like the “Criminal Context” plot and the impressions of scholars such as Professor Tonry,¹⁴⁰ though, the Sentencing plots suggest a recent resurgence in rehabilitative sentencing rationales, beginning in approximately 2003. All of the inferences drawn from the data in Figure 1, however, are contestable because of the dearth of evidence regarding judges’ reasoning in sentencing.

B. THE SUPREME COURT’S PUNISHMENTS CLAUSE JURISPRUDENCE

Although obtaining information about judges’ reliance on penological purposes is difficult because judges rarely discuss penological goals in accessible documents, the Supreme Court’s Eighth Amendment

¹³⁸ For details on how these data were obtained, see *infra* Appendix.

¹³⁹ For details on how these data were obtained, see *infra* Appendix.

¹⁴⁰ See *supra* text accompanying notes 122–23.

Punishments Clause jurisprudence is one area in which this topic is often discussed at relative length.¹⁴¹ In the Court's earlier Eighth Amendment capital cases, it failed to recognize rehabilitation as a legitimate penological goal. Instead, the Court focused on the goals of retribution and deterrence, and it occasionally referenced incapacitation as well. For example, in its 1976 *Gregg v. Georgia*¹⁴² opinion, the Court stated that "[t]he death penalty is said to serve two principal social purposes: retribution and deterrence."¹⁴³ The Court noted in passing, however, that "[a]nother purpose that has been discussed is the incapacitation of dangerous criminals and the consequent prevention of crimes that they may otherwise commit in the future."¹⁴⁴ In its 1982 case of *Enmund v. Florida*,¹⁴⁵ the Court reiterated its language from *Gregg*, again stating that retribution and deterrence are the "two principal social purposes" served by capital punishment.¹⁴⁶ It was not until its 1984 case of *Spaziano v. Florida*¹⁴⁷ that the Court recognized rehabilitation as a legitimate penological goal, and, in that case, it specified that such a goal is relevant

¹⁴¹ Even in this context, though, the Court is not exceedingly clear on its view of the purposes of punishment. See Youngjae Lee, *The Purposes of Punishment Test*, 23 FED. SENT'G REP. 1, 59 (2010) ("It seems to me that the Court has been trying to avoid engaging with deep philosophical issues about the purposes of punishment and what limitations should be placed on it.").

¹⁴² 428 U.S. 153 (1976) (plurality opinion).

¹⁴³ *Id.* at 183. The Court may have opted not to refer to rehabilitation as a legitimate purpose of punishment because it is generally accepted that rehabilitation is irrelevant to the death penalty. See *infra* text accompanying note 149.

¹⁴⁴ *Gregg*, 428 U.S. at 183 n.28.

¹⁴⁵ 458 U.S. 782 (1982).

¹⁴⁶ See *id.* at 798. The *Enmund* Court did not, however, make the same observation about incapacitation as the *Gregg* Court. See *Gregg*, 428 U.S. at 183 n.28; *supra* text accompanying note 144.

¹⁴⁷ 468 U.S. 447 (1984).

to “[n]oncapital sentences.”¹⁴⁸ Perhaps this late recognition of rehabilitation is due to the almost universal view that rehabilitation is irrelevant to the death penalty and the fact that many of the Court’s earliest Eighth Amendment cases discussing penological goals are indeed death penalty cases.¹⁴⁹ Certainly, in its later, noncapital Eighth Amendment cases, the Court continued to mention rehabilitation as a legitimate sentencing goal.¹⁵⁰ In most of these opinions, though, the Court brushed off rehabilitation as only supplementary. In *Ewing v. California*,¹⁵¹ for example, the plurality mentioned rehabilitation as one of the primary purposes of punishment, but it did not proceed to analyze whether the punishment at issue—twenty-five years’ to life imprisonment—served the goal of rehabilitation like it did with respect to the goals of retribution and deterrence.¹⁵² In its 2008 capital case of *Kennedy v. Louisiana*,¹⁵³ the Court again mentioned rehabilitation as a legitimate punishment goal but then went on to discuss only the goals of retribution and deterrence with respect to the capital punishment at issue in the case.¹⁵⁴ Again, this may be due to the fact that the Justices have essentially ruled out rehabilitation as a penological goal pertinent to their

¹⁴⁸ See *id.* at 461. In *Spaziano*, the Court stated that a “[n]oncapital sentence[] [may be] imposed for . . . reasons [such as] rehabilitation” *Id.* It explained, however, that retribution is “the primary justification for the death penalty.” *Id.*

¹⁴⁹ But see Ryan, *Death and Rehabilitation*, *supra* note 3, at 1246–60 (arguing that death has historically been deemed relevant to the rehabilitative enterprise).

¹⁵⁰ See *Graham v. Florida*, 130 S. Ct. 2011, 2028 (2010) (stating that rehabilitation is one of the penological goals “that ha[s] been recognized as legitimate”); *Ewing v. California*, 538 U.S. 11, 25 (2003) (plurality opinion) (“A sentence can have a variety of justifications, such as incapacitation, deterrence, retribution, or rehabilitation.”).

¹⁵¹ 538 U.S. 11 (2003).

¹⁵² See *id.* at 25–31.

¹⁵³ 554 U.S. 407 (2008).

¹⁵⁴ See *id.* at 420, 441–42, 444–46.

examination of the appropriateness of the death penalty.¹⁵⁵

It was not until its recent 2010 case of *Graham v. Florida*¹⁵⁶ that the Court really took stock of rehabilitation as a legitimate penological goal.¹⁵⁷ There, in assessing whether the punishment of life without the possibility of parole is unconstitutional for a non-homicide crime committed by a juvenile offender, the Court, for the first time, focused its Eighth Amendment analysis on the theory of rehabilitation.¹⁵⁸ It highlighted the neurological differences between juvenile and adult brains and concluded that “[j]uveniles are more capable of change than adults”—that there is “a greater possibility . . . a minor’s character deficiencies will be reformed.”¹⁵⁹ A life-without-the-possibility-of-parole sentence, the Court reasoned, indicates that the state has given up on the juvenile offender and expresses a belief that the juvenile is incapable of rehabilitation.¹⁶⁰ Accordingly, the Court concluded that the punishment did not serve the goal of rehabilitation and that it was cruel and unusual under the Eighth Amendment.¹⁶¹ The Court’s attention to rehabilitation in this context was unprecedented, reflecting a new emphasis on

¹⁵⁵ See *supra* text accompanying note 149.

¹⁵⁶ 130 S. Ct. 2011 (2010).

¹⁵⁷ In its *Roper v. Simmons*, 543 U.S. 551 (2005), decision of a few years earlier, though, the Court did at least mention rehabilitation. See *id.* at 570 (“From a moral standpoint it would be misguided to equate the failings of a minor with those of an adult, for a greater possibility exists that a minor’s character deficiencies will be reformed.”).

¹⁵⁸ See *Graham*, 130 S. Ct. at 2026–30.

¹⁵⁹ See *id.* at 2026–27.

¹⁶⁰ See *id.* at 2027 (quoting the Nevada Supreme Court’s observation in *Naovarath v. State*, 779 P.2d 944 (Nev. 1989), that imposing a life-without-the-possibility-of-parole sentence on a juvenile “means denial of hope; it means that good behavior and character improvement are immaterial; it means that whatever the future might hold in store for the mind and spirit of [the convict], he will remain in prison for the rest of his days”).

¹⁶¹ See *id.* at 2030, 2034.

rehabilitation as a sentencing goal.

The Court continued this theme of focusing heavily on rehabilitation when it decided the similar case of *Miller v. Alabama*¹⁶² in 2012.¹⁶³ In this case, the Court held that a mandatory sentence of life without the possibility of parole for juvenile offenders convicted of homicide offenses violates the Eighth Amendment's prohibition on cruel and unusual punishments.¹⁶⁴ In its analysis, the Court piggybacked on its *Graham* reasoning and emphasized that the life-without-parole sentence at issue in *Miller*, as in *Graham*, inappropriately "forsw[ore] altogether the rehabilitative ideal" and wrongly "reflect[ed] 'an irrevocable judgment about an offender's value and place in society.'"¹⁶⁵ The dissenting Justices acknowledged the Court's embrace of rehabilitation as a proper penological purpose and astutely identified it as an abrupt change in course.¹⁶⁶ Chief Justice Roberts argued that this shift away from the Court's precedents was inappropriate in light of the broad rejection of rehabilitation about three decades earlier,¹⁶⁷ and Justice Alito noted some of the problems that the rehabilitative regime raised, including inequity and judicial capriciousness.¹⁶⁸ Regardless of whether the Court's newfound appreciation of rehabilitation is well reasoned, it signals a reemergence of this once largely abandoned purpose of punishment.

¹⁶² 132 S. Ct. 2455 (2012).

¹⁶³ See generally *id.* (emphasizing the importance of rehabilitation in concluding that a mandatory sentence of life without the possibility of parole for juvenile offenders convicted of homicide offenses is unconstitutional).

¹⁶⁴ See *id.* at 2460.

¹⁶⁵ See *id.* at 2465.

¹⁶⁶ See *id.* at 2478 (Roberts, C.J., dissenting).

¹⁶⁷ See *id.*

¹⁶⁸ See *id.* at 2489 n.1 (Alito, J., dissenting); see also *supra* text accompanying notes 60–98 (outlining the concerns with the rehabilitation of the 1960s and 1970s).

C. OTHER INDICATORS OF A REEMERGING REHABILITATION

Judges' sentencing opinions would naturally be the best indicator of whether there is indeed an increased reliance on rehabilitation in sentencing. However, likely due to the difficulty of obtaining this information, Professor Francis Allen and others describing the decline of the rehabilitative ideal in the mid-1970s instead focused on changes in legislation, cultural movements, and discussions among legal and philosophical scholars of the time to identify the decline of the punishment goal.¹⁶⁹ Considering the increasing proliferation of legal scholarship, an examination of the frequency of the terms "rehabilitation" and "reformation" in the same paragraph as the term "sentencing" in law review articles referencing the term "criminal" may provide some insight into legal and philosophical discussions of the importance of rehabilitation as a sentencing goal. Figure 2 graphs the frequency of these terms from the year 1900 through 2014.¹⁷⁰ The popularity of the "rehabilitation" and "reformation" terms in this context is surprisingly volatile through about 1984 but then, for some reason, becomes more stable from year to year. Like the results exhibited in Figure 1, the results exhibited in Figure 2 suggest that rehabilitation is reemerging. Just like the conclusions based on data in Figure 1, however, conclusions reached based on Figure 2 data may suffer from similar flaws. Again, the major concern is knowing the context in which the terms "rehabilitation" and "reformation" are used. Because law review articles are often more broadly based than court opinions, the problem is likely exacerbated in this context.

¹⁶⁹ See ALLEN, *supra* note 15, at 6–31.

¹⁷⁰ For details on how these data were obtained, see *infra* Appendix.

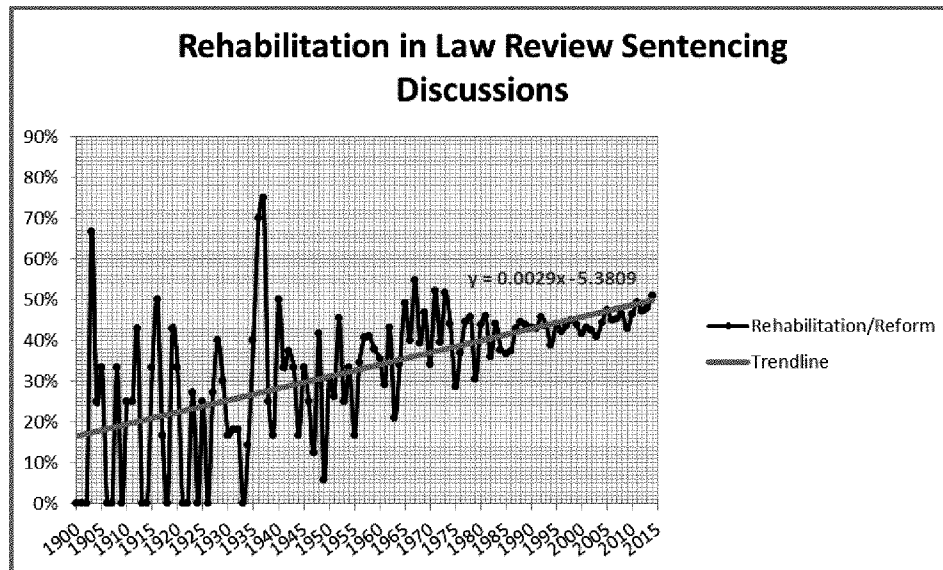


Figure 2

Just as legislation signaled the decline of the rehabilitative ideal in the mid-1970s, a brief look at recent legislation suggests that rehabilitation is truly reemerging.¹⁷¹ A number of states have recently enacted legislation indicating their increased faith in rehabilitation. For example, in 2007, the Illinois legislature determined that significant criminal acts could be attributed to “mental illness and substance abuse problems” and

¹⁷¹ The VERA Institute of Justice’s Center on Sentencing and Corrections has reported that, “[d]uring the past decade, many state legislatures have attempted to address high recidivism rates by . . . investing heavily in rehabilitative treatment.” See ADRIENNE AUSTIN, CRIMINAL JUSTICE TRENDS: KEY LEGISLATIVE CHANGES IN SENTENCING POLICY, 2001–2010 8 (2010), available at <http://www.vera.org/sites/default/files/resources/downloads/Sentencing-policy-trends-v1alt-v4.pdf>.

thus passed a law to establish the state's first mental health courts.¹⁷² The legislation also authorized these specialty courts to require "individual and group therapy, medication, drug analysis testing, close monitoring by the court and supervision of progress, educational or vocational counseling as appropriate and other requirements necessary to fulfill the mental health court program."¹⁷³ Similarly, in 2008, the New Jersey legislature amended an existing law to increase offender participation in the state's drug court programs and provide judges with broader discretion to impose rehabilitative conditions on release.¹⁷⁴ The law provides, subject to limitations, that substance abuse offenders who were under the influence at the time they committed their crimes are eligible for "special probation," during which they would undergo treatment at either residential or non-residential treatment facilities.¹⁷⁵ The Arizona legislature also amended a statute in 2008 to "increase[e] the availability of substance abuse treatment programs for probationers."¹⁷⁶ Additionally, the Louisiana legislature amended its criminal procedure code to specify that rehabilitation is one of the three primary goals of punishment.¹⁷⁷ In

¹⁷² See 730 ILL. COMP. STAT. 168/5, 15 (2007); see also AUSTIN, *supra* note 171, at 12 (describing the Senate Bill).

¹⁷³ 730 ILL. COMP. STAT. 168/25 (2008).

¹⁷⁴ See N.J. STAT. ANN. §2C: 35-14 (West 2008); see also 2008 N.J. Sess. Law Serv. Ch. 15 (West); AUSTIN, *supra* note 171, at 11 (describing the amendment). The law was amended again in 2013. See N.J. Stat. Ann. §2C: 35-14 (West 2013).

¹⁷⁵ See N.J. STAT. ANN. §2C: 35-14 (West 2008); 2008 N.J. Sess. Law Serv. Ch. 15 §§ a, j (West).

¹⁷⁶ ARIZ. REV. STAT. ANN. § 12-267(A)(2)(e)(i) (2008), amended by 2011 Ariz. Legis. Serv. Ch. 33 (West) (subsequently deleting the provision); see also AUSTIN, *supra* note 171, at 9-10.

¹⁷⁷ See LA. REV. STAT. § 15:321(C)(1) (2008). The statute was amended to provide that "[c]riminal sentences should appropriately reflect the seriousness of the offender's crime and should meet the multiple objectives of punishment, deterrence, and

2009, Illinois enacted new laws intended to “successfully rehabilitate offenders to prevent future involvement with the criminal justice system.”¹⁷⁸ These new laws also provide for inmate education, vocational training, cognitive behavioral therapy, substance abuse treatment, and probation-like supervision upon release.¹⁷⁹ In 2010, Indiana passed a law empowering local courts to create problem-solving courts, such as drug courts, mental health courts, and reentry courts.¹⁸⁰ These courts can even provide rehabilitative services themselves under narrow circumstances.¹⁸¹ And in 2011, Vermont amended an existing law to emphasize the importance of investing in drug and cognitive-behavioral treatment programs to reduce recidivism rates.¹⁸² This trend toward adopting rehabilitation-based legislation has continued, and 2013 saw an even greater number of states adopting rehabilitation-based approaches to sentencing.¹⁸³

In addition to the recent increased state focus on rehabilitation, in 2008, President George W. Bush signed into law the Second Chance Act, which focuses on rehabilitating substance abusers and helping offenders

rehabilitation.” *See* 2008 La. Sess. Law Serv. Act 629 (West).

¹⁷⁸ 730 ILL. COMP. STAT. ANN. 190/5 (West 2009).

¹⁷⁹ *See* 730 ILL. COMP. STAT. ANN. 190/10 (West 2009).

¹⁸⁰ *See* IND. CODE ANN. § 33-23-16-11 (West 2010); IND. CODE ANN. § 33-23-16-12 (West 2010).

¹⁸¹ *See* IND. CODE ANN. § 33-23-16-20(b) (West 2010).

¹⁸² *See* VT. STAT. ANN. tit. 13 § 7031 (West 2011); S.B. 108, 2011–12 Legis. Sess. (Vt. 2011).

¹⁸³ *See* RAM SUBRAMANIAN ET AL., RECALIBRATING JUSTICE: A REVIEW OF 2013 STATE SENTENCING AND CORRECTIONS TRENDS 15–21, 25–26, 35, *available at* <http://www.vera.org/sites/default/files/resources/downloads/state-sentencing-and-corrections-trends-2013-v2.pdf>.

re-enter society.¹⁸⁴ Further, in the wake of the Supreme Court's 2005 ruling in *United States v. Booker*,¹⁸⁵ the vast discretion that judges wielded during the earlier rehabilitative era—which was significantly curtailed with the passage of the Sentencing Reform Act of 1984¹⁸⁶—has been somewhat restored. By ruling that the Federal Sentencing Guidelines must be interpreted as only advisory in nature,¹⁸⁷ the Court arguably empowered judges to give greater consideration to offenders' individual characteristics and circumstances, as well as the rehabilitative ideal.¹⁸⁸ This legislative and judicial evidence, too, signals an increasing interest in rehabilitation as a sentencing goal.

IV. SCIENCE AS AN INITIATOR

Even the scholars who have hinted that rehabilitation may be ascending in prominence have neglected to hypothesize what has created

¹⁸⁴ See 42 U.S.C. § 3797w (2008).

¹⁸⁵ 543 U.S. 220 (2005). In another sense, the *Booker* opinion pilfered some power from judges and instead gave it to juries. See Meghan J. Ryan, *The Missing Jury: The Neglected Role of Juries in Eighth Amendment Punishments Clause Determinations*, 64 FLA. L. REV. 549, 578–79 (2012).

¹⁸⁶ See *supra* text accompanying note 101.

¹⁸⁷ See *Booker*, 543 U.S. at 245.

¹⁸⁸ Cf. 18 U.S.C. § 3553(a) (stating that some of the factors judges should consider in determining the proper sentence to be imposed include “the nature and circumstances of the offense and the history and characteristics of the defendant” and “the need for the sentence imposed . . . to provide the defendant with needed educational or vocational training, medical care, or other correctional treatment in the most effective manner”); *United States v. Carvajal*, No. 04 CR 222AKH, 2005 WL 476125, at *6 (S.D.N.Y. Feb. 22, 2005) (stating that “[r]ehabilitation is . . . a goal of punishment” under 18 U.S.C. § 3553(a)); Thomas N. Whiteside, *The Reality of Federal Sentencing: Beyond the Criticism*, 91 NW. U. L. REV. 1574, 1575 (1997) (suggesting that rehabilitation is one of the statutory purposes of sentencing under 18 U.S.C. § 3553(a)).

this renewed interest in rehabilitation. One reason for the increased interest, as expressed in legislative acts indicating the importance of this penological goal, is the potential of rehabilitation to lower costs in the criminal justice system by reducing recidivism rates.¹⁸⁹ This is of particular importance as the country struggles to recover from its recent economic downturn.¹⁹⁰ But this return to rehabilitation has an even more important fount: it derives from recent scientific advances.¹⁹¹ After all, rehabilitation cannot be cost-effective and thus useful in tough economic times if it does not work—the primary reason that rehabilitation was abandoned in the mid-1970s.¹⁹² Recent scientific advances have made possible rehabilitative efforts that, in some ways, may be more effective than the methods of the first half of the twentieth century and before. Perhaps more importantly, such scientific advances have been more effectively communicated to the public, prompting society to place greater faith in the malleability of man and question offenders' abilities to completely control their own actions. This has set the stage for the reemergence of rehabilitation, just as the cultivation of psychology did in

¹⁸⁹ See, e.g., S.B. 108, 2011–12 Legis. Sess. (Vt. 2011) (finding that, “[f]rom 1996 to 2006, Vermont’s prison population doubled,” thus severely increasing the amount spent on corrections, and determining that a “key component” of preserving resources is reducing recidivism by, for example, focusing on drug treatment and “cognitive-behavioral treatment programs”).

¹⁹⁰ See Paul Krugman, *The Third Depression*, N.Y. TIMES, June 28, 2010, at A19 (“We are now, I fear, in the early stages of a third depression. It will probably look more like the Long Depression than the much more severe Great Depression. But the cost—to the world economy and, above all, to the millions of lives blighted by the absence of jobs—will nonetheless be immense.”).

¹⁹¹ Certainly, there may be many reasons why rehabilitation is reemerging, but I argue that scientific advances are an important contributing force to this phenomenon. I do not attempt to establish causation here, however.

¹⁹² See Brooks, *supra* note 29, at 714–15.

the 1930s.¹⁹³ Some recent innovations in sentencing have even implemented these scientific advances, further suggesting that rehabilitation is once again taking hold in the wake of scientific progress.

There have been numerous advances in science since rehabilitation waned as a penological goal in the 1970s. For example, scientists have found frozen water on Mars, and scientists believe they have discovered the elusive God Particle;¹⁹⁴ they have built “proto-quantum machines” and gained new insights on how to delay the effects of aging.¹⁹⁵ Scientists are continually making exciting and surprising strides in their respective fields, and, as the Editor-in-Chief of *Science* has observed, “the pace of scientific discovery is constantly accelerating.”¹⁹⁶

More specifically, several recent scientific advances have readied

¹⁹³ Similarly, Professor Allen concluded in 1981 that a “strong and widespread belief in the malleability of human character and behavior” was a necessary condition in order for the rehabilitative ideal to flourish. See ALLEN, *supra* note 15, at 11.

¹⁹⁴ See, e.g., Lauren Davis, *Ten Science Stories That Changed Our Decade*, IO9.COM (Dec. 18, 2009, 5:30 PM), <http://io9.com/5430073/ten-science-stories-that-changed-our-decade> (last visited Mar. 1, 2014); Dennis Overbye, *CERN Physicists See Higgs Boson in New Particle*, N.Y. TIMES, Mar. 14, 2013, at A14; Ned Potter, *The Higgs Boson and the Nobel: Why We Call it the “God Particle,”* FORBES (Oct. 9, 2013, 10:13 AM), <http://www.forbes.com/sites/forbesleadershipforum/2013/10/09/the-higgs-boson-wins-the-nobel-why-we-call-it-the-god-particle/> (last visited Apr. 6, 2015).

¹⁹⁵ See Adrian Cho, *The First Quantum Machine*, 330 SCIENCE 1604 (2010); *Breakthrough of the Year: The Runners-Up*, 334 SCIENCE 1629, 1635 (2011); see also Jocelyn Kaiser, *Young Blood Renews Old Mice*, SCIENCE, May 4, 2014, <http://news.sciencemag.org/biology/2014/05/young-blood-renews-old-mice> (reporting that “researchers studying mice found that giving old animals blood from young ones can reverse some signs of aging”).

¹⁹⁶ Bruce Alberts, *Is the Frontier Really Endless?*, 330 SCIENCE 1587, 1587 (2010). Dr. Alberts further expressed his amazement that “it seems that whenever science increases our comprehension of the world, great new mysteries arise that need to be deciphered.” *Id.* Science is the “endless frontier.” *Id.* (quoting Vannevar Bush, 1945).

the public for the return of rehabilitation and are integrally related to the enterprise of offender rehabilitation. Perhaps the most relevant advances lie in the fields of pharmacology, genetics, and neuroscience. Each of these fields sheds further light on individuals' abilities to change and to be molded, and each raises questions about individuals' capacities to exercise free will. These attributes have helped to lay the foundation for rehabilitation's reprise.

A. THE PHARMACEUTICAL INDUSTRY

Over the past few decades, phenomenal advances in the pharmaceutical industry have contributed to new hope for broad rehabilitative possibilities.¹⁹⁷ Scientists have developed new treatments for diseases such as cancer, heart disease, and mental illness.¹⁹⁸ The pharmaceutical industry has even developed treatments for other ailments, such as male erectile dysfunction and female sexual dysfunction, baldness, and nicotine withdrawal.¹⁹⁹ New drugs are constantly being developed, and these discoveries, along with many others, have transformed the pharmaceutical industry.

In the context of offender rehabilitation, scientists' development of medroxyprogesterone acetate (MPA)²⁰⁰ as a contraceptive and treatment

¹⁹⁷ See S. K. Gupta, *Preface to PHARMACOLOGY & THERAPEUTICS IN THE NEW MILLENNIUM v* (S. K. Gupta ed., 2001) (stating that there has been "phenomenal growth" in the pharmaceutical industry over the past fifty years or so).

¹⁹⁸ See Lauren Cox & Peggy Peck, *Top 10 Medical Advances of the Decade*, ABC NEWS (Dec. 17, 2009), <http://abcnews.go.com/Health/Decade/genome-hormones-top-10-medical-advances-decade/story?id=9356853&singlePage=true>.

¹⁹⁹ See Rod Flower, *Lifestyle Drugs: Pharmacology and the Social Agenda*, 25 TRENDS PHARMACOLOGICAL SCI. 182, 182 (2004).

²⁰⁰ The trade name for MPA is Depo-Provera. See Pfizer, *Highlights of Prescribing Information*, <http://labeling.pfizer.com/ShowLabeling.aspx?id=522> (last visited Apr. 18,

for endometriosis has led to, beginning in the 1990s, several states authorizing chemical castration for sexual offenders.²⁰¹ While the eligibility requirements for this procedure vary by state, qualified defendants receive regular injections of MPA intended to decrease their sexual desires and abilities to achieve erections by lowering their testosterone levels.²⁰² The effectiveness of chemical castration is still somewhat unclear, despite its use for approximately twenty years, and the full array of side effects that the procedure may produce remains cloudy.²⁰³ Still, states have plowed ahead with applying the science in this fashion to advance the rehabilitative enterprise.²⁰⁴

Another example of the justice system employing science to achieve its penological goals is seen in the context of substance abuse. Methadone is used to treat heroin addiction and addiction to other opioids by blocking receptors in the brain to prevent them from accommodating the heroin molecule.²⁰⁵ Buprenorphine and naltrexone have also been used

2015).

²⁰¹ See Henry T. Greely, *Neuroscience and Criminal Justice: Not Responsibility But Treatment*, 56 U. KAN. L. REV. 1103, 1106–07 (2008). Other scholars have suggested that chemical castration constitutes incapacitation rather than rehabilitation. See, e.g., John F. Stinneford, *Incapacitation Through Maiming: Chemical Castration, the Eighth Amendment, and the Denial of Human Dignity*, 3 U. ST. THOMAS L.J. 559, 599 (2006) (“[T]he avowed purpose of chemical castration is . . . to maim [sex offenders], and thus incapacitate them.”).

²⁰² See Greely, *supra* note 201, at 1107.

²⁰³ See *id.* at 1129–32. Although MPA has been approved by the FDA, it was approved to prevent pregnancy, and its use to chemically castrate sexual offenders is an “off-label” use. See *id.* at 1130. Moreover, the dosage used to chemically castrate offenders is significantly greater than the dose approved by the FDA to prevent pregnancies. See *id.*

²⁰⁴ See *id.* at 1106–07, 1131.

²⁰⁵ See *id.* at 1108.

to treat addiction to opioids.²⁰⁶ Drugs such as disulfiram,²⁰⁷ acamprostate, and naltrexone have been used to treat alcoholism.²⁰⁸

Perhaps even more transformative than advances in the development of pharmaceuticals and their use in implementing rehabilitation are changes in the ways in which the industry markets new drugs. While pharmaceutical companies have historically marketed their drugs primarily to doctors, in the 1980s, pharmaceutical companies began advertising their products more broadly.²⁰⁹ This practice grew significantly when the Food and Drug Administration (FDA) loosened its regulations on direct-to-consumer marketing in 1997.²¹⁰ Drug companies began marketing their pharmaceuticals directly to consumers via newspapers, magazines, radio, television, and, most recently, the internet.²¹¹ Today, when you turn on the television, it is likely that you will see an advertisement from a pharmaceutical company for a drug such as Lipitor or Cymbalta. And when you open your e-mail account, you might see a mailbox full of Viagra advertisements (if you do not have strong enough spam filters on your account). This is the result of the pharmaceutical industry spending over a billion dollars annually on direct-

²⁰⁶ See *id.*

²⁰⁷ This is known as Antabuse. See OXFORD ENGLISH DICTIONARY (3d ed. 2009) (defining “Antabuse” as “[a] proprietary name for disulfiram, a substance which causes a severe unpleasant reaction to the subsequent ingestion of alcohol and is given as tablets in the treatment of alcoholism”).

²⁰⁸ See Greely, *supra* note 201, at 1108–09.

²⁰⁹ See W. John Thomas, *Direct-to-Consumer Pharmaceutical Advertising: Catalyst for a Change in the Therapeutic Model in Psychotherapy?*, 32 CONN. L. REV. 209, 210–11 (1999).

²¹⁰ See Wayne L. Pines, *A History and Perspective on Direct-to-Consumer Promotion*, 54 FOOD & DRUG L.J. 489, 497 (1999).

²¹¹ See Thomas, *supra* note 209, at 210–11, 220–21.

to-consumer marketing.²¹² And not only do pharmaceutical companies market to consumers rather than just doctors, but, in many circumstances, the FDA has excused pharmaceutical companies from disclosing the long lists of adverse side effects that their drugs pose to consumers. In print advertisements, the drug manufacturer must disclose only a “brief summary relating to [the drug’s] side effects, contraindications, and effectiveness.”²¹³ In radio and television advertisements, the manufacturer may do even less, informing the audience about only the most prevalent side effects and where interested persons may find label information on the product.²¹⁴

Even if these drugs are not used in the enterprise of offender rehabilitation, the industry’s marketing tactics construct a public image of safer pharmaceuticals that are more acceptable to the average person. Further, many pharmaceutical companies use celebrities to hawk their

²¹² See Richard C. Ausness, *Will More Aggressive Marketing Practices Lead to Greater Tort Liability for Prescription Drug Manufacturers?*, 37 WAKE FOREST L. REV. 97, 98 (2002).

²¹³ 21 U.S.C. § 352(n) (2010).

²¹⁴ Section 202.1 of the Code of Regulation’s Chapter 21 provides:

Advertisements broadcast through media such as radio, television, or telephone communications systems shall include information relating to the major side effects and contraindications of the advertised drugs in the audio or audio and visual parts of the presentation and unless adequate provision is made for dissemination of the approved or permitted package labeling in connection with the broadcasts presentation shall contain a brief summary of all necessary information related to side effects and contraindications.

21 C.F.R. § 202.1(e)(1) (2010). Mere “[r]eminder advertisements,” however, are exempt from these requirements. 21 C.F.R. § 202.1(e)(2)(i) (2010); see also Thomas, *supra* note 209, at 212.

goods, increasing the appeal of anti-depressants, cholesterol medications, oral contraceptives, and other drugs to average consumers.²¹⁵ The combination of this increased direct-to-consumer marketing of pharmaceuticals, the relaxed FDA restrictions, and the use of celebrity endorsements and other advertising mechanisms by pharmaceutical manufacturers has created a culture in which average consumers may believe that nearly all of their ills are treatable by pharmaceuticals.²¹⁶ These consumers are inundated with messages about illnesses and inadequacies and are offered simple solutions to remedy them, such as ingesting a pill that can produce significant effects in as little as an hour. This has led to the perceived normalcy of using pharmaceuticals in everyday life and what some have characterized as the medicalization of America.²¹⁷ This ordinariness of pharmaceutical treatment has readied the public for rehabilitation's return.

B. ADVANCES IN GENETICS

Recent advances in genetics are perhaps even more staggering than

²¹⁵ See Thomas, *supra* note 209, at 212.

²¹⁶ See Flower, *supra* note 199, at 183 (describing how the development and marketing of lifestyle drugs is changing our "social fabric"); Elizabeth C. Melby, Comment, *The Psychological Manipulation of the Consumer-Patient Population Through Direct-to-Consumer Prescription Drug Advertising*, 5 SCHOLAR 325, 327 (2003) (noting that "many physicians feel that drug ads entice patients into believing that a pill can treat any symptom"); cf. PETER CONRAD, *THE MEDICALIZATION OF SOCIETY: ON THE TRANSFORMATION OF HUMAN CONDITIONS INTO TREATABLE DISORDERS* 148–49 (2007) (discussing the transformation of ordinary human characteristics into medical pathologies).

²¹⁷ See Corydon Ireland, *Scholars Discuss "Medicalization" of Formerly Normal Characteristics*, HARV. GAZETTE (Apr. 28, 2009), <http://news.harvard.edu/gazette/story/2009/04/scholars-discuss-%E2%80%98medicalization%E2%80%99-of-formerly-normal-characteristics/>.

those in the pharmaceutical industry. Since famed scientists James Watson and Francis Crick deciphered the structure of DNA in 1953,²¹⁸ there have been significant strides in the field, especially in more recent decades. These advances, when communicated to the public, set the stage for the reacceptance of rehabilitation by promoting a deterministic worldview that is believed to condition the public to view rehabilitation as an appropriate penological approach. Further, these advances create possibilities for new methods of offender rehabilitation.

The use of DNA is exceptionally prominent in the criminal justice context. Alec John Jeffreys developed “genetic fingerprinting” in 1984,²¹⁹ and, when coupled with advances in the sophistication and general availability of DNA identification techniques, this has made using DNA evidence in legal cases more feasible.²²⁰ In fact, 1987 marks the first year in which a criminal defendant was convicted using DNA evidence,²²¹ and just two years later was the first DNA-based exoneration of a convicted criminal defendant.²²² There is now heavy reliance on DNA in both criminal convictions and exonerations.²²³

²¹⁸ See J.D. Watson & F.H.C. Crick, 171 NATURE 737 (1953) (describing the discovery); see also Eric S. Lander & Robert A. Weinberg, *Journey to the Center of Biology*, 287 SCIENCE 1777 (2000) (explaining that Watson and Crick’s discovery “struck like a thunderbolt”).

²¹⁹ See N. Zagorski, *Profile of Alec J. Jeffreys*, 24 PROC. NAT’L ACAD. SCI. 8918, 8918–20 (2006).

²²⁰ See Paul C. Giannelli, *The Double Helix and the Law of Evidence*, 52 JURIMETRICS J. 107, 110 (2011) (reviewing DAVID H. KAYE, *THE DOUBLE HELIX AND THE LAW OF EVIDENCE* (2010)).

²²¹ See Randy James, *A Brief History of DNA Testing*, TIME, June 19, 2009.

²²² See Samuel R. Gross et al., *Exonerations in the United States 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 531 (2005).

²²³ Diane E. Hoffmann & Karen H. Rothenberg, *Judging Genes: Implications of the Second Generation of Genetic Tests in the Courtroom*, 66 MD. L. REV. 858, 861 & n.8

The prominence of DNA extends beyond its use in the criminal justice system. The discovery of DNA amplification in 1983 has furnished scientists with tools to use DNA analysis for more purposes than ever before. It has revolutionized the field of genetics and has become an indispensable technique for DNA sequencing and cloning, diagnosing hereditary diseases, and identifying genetic fingerprints.²²⁴ One highly publicized feat in this area was scientists' publication of a rough draft of the human genome in 2001.²²⁵ Access to this amazingly detailed information has raised old questions about whether genes or free will determine individual action. Raising another issue relevant to the return to rehabilitation—the potential to change individuals' compositions—scientists have also drawn on their knowledge of genetics to engineer new molecules and organisms. For example, scientists have created genetically modified crops (also known as “Frankenfoods”) and, in 2010, the first entirely synthetic life form.²²⁶

One exciting outgrowth of the progress in genetics that highlights

(2007) (noting “the legal system’s enthusiastic embrace of DNA tests for purposes of identifying, or excluding from consideration, the perpetrator of a crime or the father of a child”).

²²⁴ See Robert Aronson & Jacqueline McMurtrie, *The Use and Misuse of High-Tech Evidence by Prosecutors: Ethical and Evidentiary Issues*, 76 *FORDHAM L. REV.* 1453, 1469 n.100 (2007).

²²⁵ See Nicholas Wade, *Genome Analysis Shows Humans Survive on Low Number of Genes*, *N.Y. TIMES*, Feb. 11, 2001, at 1. See generally *The Human Genome*, 409 *NATURE* 745, 813–941 (2001) (setting forth details of the draft).

²²⁶ See Daniel G. Gibson et al., *Creation of a Bacterial Cell Controlled by a Chemically Synthesized Genome*, 329 *SCIENCE* 52, 52–56 (2010); Elizabeth Pennisi, *Synthetic Genome Brings New Life to Bacterium*, 328 *SCIENCE* 958, 958–59 (2010); Rachel Swaby, *Scientists Create First Self-Replicating Synthetic Life*, *WIRED SCI.* (May 20, 2010), <http://www.wired.com/2010/05/scientists-create-first-self-replicating-synthetic-life-2/>.

the potential to modify the composition of criminal offenders is the advancement of gene therapy. In 1990, Dr. W. French Anderson and his colleagues used gene therapy to successfully²²⁷ treat a four-year-old girl suffering from a genetic disorder by extracting the girl's white blood cells, inserting different genes into the cells, and then transferring the cells back into the girl's body.²²⁸ Although this genetically-based therapy was effective in treating the girl, there has been significant skepticism about how successful gene therapy has been in many cases;²²⁹ and gene therapy has caused illnesses and even death in certain instances.²³⁰ But recent

²²⁷ *But cf. infra* notes 229–230 and accompanying text.

²²⁸ See KEVIN DAVIES, *CRACKING THE GENOME: INSIDE THE RACE TO UNLOCK HUMAN DNA* 222 (2001); Theodore Friedmann, *A Brief History of Gene Therapy*, 2 *NATURE GENETICS* 93, Table 1 (1992) (noting the “[f]irst approved human clinical marking and potentially therapeutic studies”). The girl's genetic disorder was severe combined immunodeficiency—a genetic disorder that severely compromises an individual's immune system because the body cannot produce the necessary adenosine deaminase (ADA) enzyme. See Natalie Angier, *Girl, 4, Becomes First Human to Receive Engineered Genes*, *N.Y. TIMES*, Sept. 15, 1990, at 1; *The History of Gene Therapy*, *SCIENCE ENCYCLOPEDIA*, <http://science.jrank.org/pages/2959/Gene-Therapy-history-gene-therapy.html> (last visited Dec. 9, 2013).

²²⁹ See Andrew Pollack, *Gene Therapy's Focus Shifts from Rare Illnesses*, *N.Y. TIMES*, Aug. 4, 1998, at F1, F6 (“When it first made headlines about a decade ago, gene therapy seemed the answer to the prayers of thousands of people affected by hereditary diseases.”). Some of the most challenging problems are finding ways to efficiently transfer the new genes into cells and having the genes produce enough of the desired protein in the patient's body. See *id.* In addition, lack of funding poses a significant hurdle for gene therapy research. See *id.* Rare genetic disorders, which likely provide the best targets for research, provide little profitability potential for pharmaceutical companies, which are thus less likely to fund this research. See *id.* As a result, gene therapy research has been redirected to target more common diseases like cancer, but, at least in some ways, this is a more difficult area in which to achieve successful gene therapy. See *id.*

²³⁰ See James M. Wilson, *Lessons Learned from the Gene Therapy Trial for*

research has renewed faith in the promise of gene therapy,²³¹ and once again there is hope for curing illnesses and modifying individuals' compositions for the purpose of rehabilitation.²³²

Cloning—related technology that goes beyond just genetically modifying organisms—similarly highlights the deterministic viewpoint and, perhaps more clearly, the potential to control individuals' compositions.²³³ Scientists were able to clone sheep and cows in the 1980s

Ornithine Transcarbamylase Deficiency, 96 *MOLECULAR GENETICS & METABOLISM* 151, 152–53 (2009). In 1999, an eighteen-year old boy suffering from ornithine transcarboxylase deficiency (OTCD) died after doctors attempted to treat him using gene therapy. *See id.*; Sheryl Gay Stolberg, *The Biotech Death of Jesse Gelsinger*, *N.Y. TIMES*, Nov. 28, 1999, at SM136. The following year, some children developed an illness similar to leukemia after a scientist attempted to treat their immunity disorders by modifying the “patients’ bone marrow cells . . . by transfer of the gene encoding the interleukin-2 receptor gamma chain, encoded by a murine retroviral vector.” *See* Cormac Sheridan, *Gene Therapy Finds Its Niche*, 29 *NATURE BIOTECHNOLOGY* 121 (2011).

²³¹ *See* Luigi Naldini, *A Comeback for Gene Therapy*, 326 *SCIENCE* 805 (2009); Gina Kolata, *After Setbacks, Small Successes for Gene Therapy*, *N.Y. TIMES*, Nov. 6, 2009, at A19; *see also, e.g.*, Andrew Pollack, *New Hope of a Cure for H.I.V.*, *N.Y. TIMES*, Nov. 29, 2011, at D1 (reporting how a patient who underwent gene therapy to treat his HIV experienced positive results, but noting that, while the treating physician declared the results “remarkable,” he cautioned that, “[a]t 12 weeks, you can’t say that this therapy [is necessarily working]”).

²³² *Cf.* Sheryl G. Stolberg, *Visions: Biology: A Genetic Future Both Tantalizing and Disturbing—A Small Leap to Designer Babies*, *N.Y. TIMES*, Jan. 1, 2000, at E7 (exploring concerns that gene therapy may lead to “designer babies”).

²³³ While plants and single-celled organisms that reproduce asexually lend themselves to cloning, creating exact duplicates of more complex animals that reproduce sexually has proven to be more difficult. It is important to note, however, that clones are ordinarily not exact duplicates of their originators. They still contain the host’s mitochondrial DNA, despite the transfer of the originator’s nuclear DNA into the host’s cells. Further, as the creation of Dolly the sheep illustrated, clones may have shorter telomeres, suggesting premature aging.

using nuclei from donor sheep and cow oocytes (early embryos) to renucleate other sheep and cow embryos.²³⁴ In 1996, scientists stunned the world by reporting that they had for the first time cloned a mammal from adult cell nuclei rather than from cells extracted from embryos. This cloned mammal, Dolly the sheep, appeared to be healthy and normal in all respects, except that the cloning may have caused her to age prematurely.²³⁵ This project was described as a “genetic engineering feat anticipated and dreaded more than any other.”²³⁶

Recent advances in stem-cell research similarly possess undertones of determinism, as well the potential to change individuals. Stem-cell research focuses on providing replacement cells and tissue for injured patients rather than on altering patients’ genes.²³⁷ Scientists developed the first human embryonic stem cell line in 1998, and this advancement soon became entangled with politics and religion.²³⁸ Proponents were excited about cures that stem cell research could spawn, but opponents were

²³⁴ See *History of Cloning*, BASIC SCIENCE PARTNERSHIP: HARVARD MEDICAL SCHOOL, <https://bsp.med.harvard.edu/?q=node/18> (last visited Mar. 24, 2014).

²³⁵ See Rick Weiss, *Dolly: “A Sheep in Lamb’s Clothing”—Clones Inherit Age with Genes, Studies Show*, WASH. POST, May 27, 1999, at A1. More recently, a California corporation introduced the “Best Friends Again” project, which was intended to clone clients’ dogs for the price of approximately \$150,000 each. See Peter Aldhous, *Interview: It’s a Dog’s Life . . . Again*, NEWSIDENTIST (July 19, 2008) <http://www.newscientist.com/article/dn14249-interview-its-a-dogs-life-again.html?full=true#.VSRInzvF9Zk>; James Barron, *Biotech Company to Auction Chances to Clone a Dog*, N.Y. TIMES, May 21, 2008, at A21.

²³⁶ Gina Kolata, *Scientist Reports First Cloning Ever of Adult Mammal*, N.Y. TIMES, Feb. 23, 1997, at 1.

²³⁷ See Rick Weiss, *The Power to Divide: Stem Cells*, NAT’L GEOGRAPHIC, July 2005.

²³⁸ See *id.*

concerned that scientists were committing murder by destroying life.²³⁹ This controversy has made it difficult for at least American scientists in the field.²⁴⁰ After a long struggle, Geron, a California biotechnology company, gained FDA approval to conduct clinical trials using stem cell treatment.²⁴¹ The company abruptly halted those trials and shut down its stem cell division in 2011 due to economic woes.²⁴² Geron's CEO explained that this move was not due to the trial results or the lack of confidence in the field, but this development has still bruised the stem cell research community.²⁴³ Other companies continue to pursue stem cell therapies, but many of the companies have been hesitant to expend resources in the field due to the uncertain political environment.²⁴⁴ Despite these concerns, though, several recent successes in gene therapy have led to U.S. companies investing hundreds of millions of dollars in the field.²⁴⁵

All of these recent advances in genetics seem to have received greater attention than related breakthroughs in the 1950s through the 1970s. Figure 3 suggests that the discussion of DNA in news stories did not boom until the early- to mid-1990s.²⁴⁶ This is perhaps due to the first use of DNA in the criminal justice context during this period.²⁴⁷ The media's focus on DNA-related matters is broad but often spotlights

²³⁹ *See id.*

²⁴⁰ *See id.*

²⁴¹ *See* Andrew Pollack, *Geron Is Shutting Down Its Stem Cell Clinical Trial*, N.Y. TIMES, Nov. 15, 2011, at B2.

²⁴² *See id.*

²⁴³ *See id.*

²⁴⁴ *See id.* Scientists have found success in using adult stem cells—which are less easily manipulated and thus less versatile—to treat patients in certain circumstances. *See, e.g.,* Reed Abelson, *Blood Treatment's Promise Mired in Bureaucracy: Therapy Impasse—A Cancer Hope Deferred*, N.Y. TIMES, May 29, 2004, at A1 (discussing success stories in transplanting stem cells from umbilical cord blood).

²⁴⁵ *See* Matthew Herper, *Gene Therapy's Big Comeback*, FORBES, Apr. 14, 2014.

criminal convictions dependent on DNA evidence and death row inmates' DNA exonerations. According to many scholars, this media attention to DNA stories in the criminal law context, and the resulting public awareness of DNA's utility in such cases, has led to the "CSI effect"—a phenomenon by which jurors require more certain forensic proof of a criminal defendant's guilt before they will convict.²⁴⁸ DNA and its basic applications, then, have become widely recognizable among members of the public.

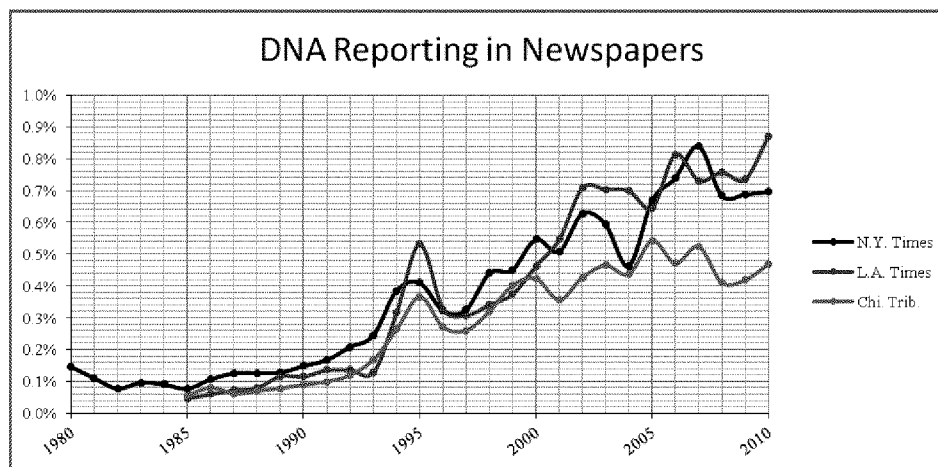


Figure 3

²⁴⁶ For details on how these data were obtained, see *infra* Appendix.

²⁴⁷ See *supra* text accompanying notes 220–2212.

²⁴⁸ See N. J. Schweitzer & Michael J. Saks, *The CSI Effect: Popular Fiction About Forensic Science Affects the Public's Expectations About Real Forensic Science*, 47 JURIMETRICS 357, 362 (2007).

Recent attention to research involving gene therapy, cloning, and stem cells is more likely attributable to the significant ethical and legal issues that these fields spark. For example, is conducting studies on human embryonic stem cells morally wrong because it destroys life? Is it wrong to clone humans? And, despite the Supreme Court's determination that scientists may not patent naturally-occurring DNA sequences, may scientists patent a genetically engineered organism?²⁴⁹ Figure 4, which graphs the increased reporting of gene therapy, cloning, and stem cell advances, suggests that these areas—especially cloning and stem cell research—have received greater attention in recent years. While these advances in genetics are perhaps not as familiar to Americans as the use of DNA evidence in legal cases, they have become more accessible to the general public through their discussion in media-driven political dialogues.

²⁴⁹ See *Ass'n Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2111 (2013); *Technology Beyond DNA: Genomics*, BASIC SCIENCE PARTNERSHIP: HARVARD MEDICAL SCHOOL, <http://bsp.med.harvard.edu/node/42> (last visited Apr. 7, 2015); see also Eliot Marshall, *Can Human Genes Be Patented?*, SCI. INSIDER (Apr. 17, 2013), <http://news.sciencemag.org/scienceinsider/2013/04/can-human-genes-be-patented.html> (describing the U.S. Supreme Court Justices' struggle with the scientific issues involved in *Association for Molecular Pathology v. Myriad Genetics, Inc.*).

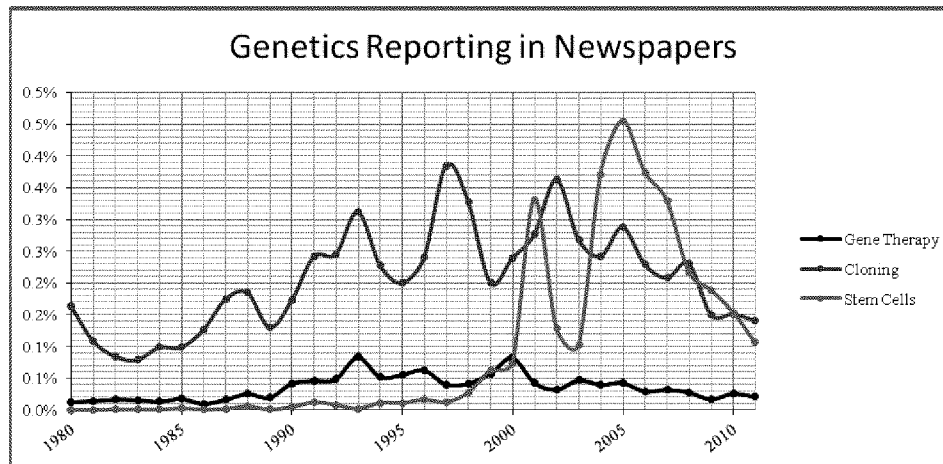


Figure 4

This general exposure to DNA, gene therapy, cloning, and stem cell research likely contributes to the notion that one is in large part a product of his genes but also, paradoxically, to the idea that man is malleable.²⁵⁰ Such scientific breakthroughs create an aura of determinism—the notion that all events, including those that are often perceived as the product of free will, have environmental causes outside of our control. Our DNA is a powerful factor in our individual futures, and, absent scientific manipulation of one’s DNA, it might be suggested that whether one develops cancer or commits a crime is a product of genetics rather than choice, or at least that there is a significant genetic component involved in the outcome.²⁵¹ Yet scientists have discovered a way to

²⁵⁰ There may certainly be tension between these concepts of determinism and malleability. However, if one’s genes determine one’s future, scientific breakthroughs in changing one’s genes means that scientists may also be able to change one’s future.

²⁵¹ That violence is completely inheritable through something like the “violence

intervene in this arguably largely deterministic system. Individuals' genes can possibly be manipulated to treat genetic disorders, and such manipulation could even go beyond addressing only what are currently categorized as medical issues. Of course scientists are not omniscient, and there is much yet to be discovered, but success with genetic interventions suggests that perhaps offenders can be rehabilitated such that different outcomes—non-criminal outcomes—can be achieved.

C. THE NEUROSCIENCE REVOLUTION

Staggering advances in another field—neuroscience—also contribute to an environment of determinism and an increased faith in the malleability of man. Several experts have argued that increasing knowledge about humans' brains and the biochemical bases for brain functions leaves increasingly less room for that elusive concept of free will.²⁵² Further, recent techniques used to alter brain function, just like

gene" is now thought of as a myth. See Gregory Carey & Irving I. Gottesman, *Genes and Antisocial Behavior: Perceived Versus Real Threats to Jurisprudence*, 34 J.L. MED. & ETHICS 342, 346 (2006) (explaining that scientists rejected the media's representation of a "violence gene" because the studies on which this characterization were based showed "no specificity between [the MAO-A gene at issue] and violence").

²⁵² See Eddy Nahmias, *Is Neuroscience the Death of Free Will?*, N.Y. TIMES (Nov. 13, 2011), http://opinionator.blogs.nytimes.com/2011/11/13/is-neuroscience-the-death-of-free-will/?_r=0 (explaining that several leading experts believe that advances in neuroscience have demonstrated that we do not possess free will as the concept is traditionally understood); see also, e.g., Joshua Greene & Jonathan Cohen, *For the Law, Neuroscience Changes Nothing and Everything*, 359 PHIL. TRANSACTIONS ROYAL SOC'Y LONDON B 1775, 1775 (2004) ("Cognitive neuroscience, by identifying the specific mechanisms responsible for behaviour, will vividly illustrate what until now could only be appreciated through esoteric theorizing: that there is something fishy about our ordinary conceptions of human action and responsibility . . .").

advances in pharmacology and genetics, suggest that individuals and their decisionmaking may possibly be transformed through science.

Although scientific interest in the brain has been popular throughout the centuries—as with the phrenology craze of the late eighteenth and early nineteenth centuries²⁵³ and the lobotomies and brain-implanted electrodes of the mid-twentieth century²⁵⁴—there has been a recent explosion in both the perceived usefulness of and interest in neuroscience.²⁵⁵ From computed tomography (CT), to positron emission tomography (PET), to magnetic resonance imaging (MRI), technology has significantly advanced over the past few decades to provide different types of images of the brain.

One particular advancement from the late 1980s has had a powerful impact on the field of neuroscience and its relationship to the law. In the late 1980s, Seiji Ogawa discovered that MRI technology could be used to distinguish oxygenated blood from deoxygenated blood.²⁵⁶ This was useful for deducing brain function (as opposed to brain structure) because scientists had concluded that firing neurons use oxygen; as a result, deoxygenated blood leaving an area of the brain could be associated with neurons firing in that area.²⁵⁷ Thus, by employing this technology, scientists could obtain a functional picture—a functional MRI (“fMRI”)—of individuals’ brains and determine the areas in their brains where

²⁵³ See Amanda C. Pustilnik, *Violence on the Brain: A Critique of Neuroscience in Criminal Law*, 44 WAKE FOREST L. REV. 183, 191–95 (2009).

²⁵⁴ See *id.* at 198–204.

²⁵⁵ See Henry T. Greely, *Law and the Revolution in Neuroscience: An Early Look at the Field*, 42 AKRON L. REV. 687, 688 (2009) (stating that “we are in the middle of a revolution in neuroscience”).

²⁵⁶ See Stacey A. Tovino, *Functional Neuroimaging Information: A Case for Neuro Exceptionalism?*, 34 FLA. ST. U. L. REV. 415, 421 (2007).

²⁵⁷ See *Connecting the Dots*, 12 NATURE NEUROSCIENCE 99, 99 (2009).

neurons would fire when the individuals were performing specific tasks.²⁵⁸ This advancement was interpreted to provide insight into how individuals think and spurred the development of broader interest in the field of neuroscience.²⁵⁹

The burgeoning scientific interest and technological developments in the area of neuroscience were soon followed by Congress's proclamation that the 1990s would be the "Decade of the Brain."²⁶⁰ Advances in the field were interpreted to provide insight into how individuals think, attracting broad public, as well as legal, interest. In the legal arena, neuroimaging techniques and evidence have altered arguments in the courtroom. In 1992, an attorney argued for the first time that a PET scan of his client's brain, which revealed that the client had a cyst pressing on his frontal lobe, should be admitted into evidence.²⁶¹ The theory was that the cyst rendered the client, who had strangled his wife and thrown her out the window of a high-rise apartment, unable to distinguish between

²⁵⁸ See Tovino, *supra* note 256, at 421–22.

²⁵⁹ See Steven K. Erickson, *Blaming the Brain*, 11 MINN. J.L. SCI. & TECH. 27, 35 (2010).

²⁶⁰ Decade of the Brain—Proclamation, Pub. L. No. 101-58, 103 Stat. 152 (1989). Considering the breakthroughs in brain imaging and pressing concerns of brain-related diseases and injuries, both houses of Congress resolved "[t]hat the decade beginning January 1, 1990, [would be] designated the 'Decade of the Brain,' and [that] the President of the United States [was] authorized and requested to issue a proclamation calling upon all public officials and the people of the United States to observe such decade with appropriate programs and activities." *Id.* Accordingly, on July 17, 1990, President George H. W. Bush proclaimed that the 1990s would be the "Decade of the Brain." Proclamation No. 6158, 55 Fed. Reg. 29,553 (July 17, 1990), available at <http://www.loc.gov/loc/brain/proclaim.html>.

²⁶¹ See Jeffrey Rosen, *The Brain on the Stand: How Neuroscience is Transforming the Legal System*, N.Y. TIMES, Mar. 11, 2006, at E48; Emily Sachar, *Ad Exec: Cyst Made Me Murder*, NEWSDAY, May 6, 1992.

right and wrong.²⁶² Since then, defendants have also offered up brain scans in sentencing proceedings to mitigate their punishments, and there is much speculation that neuroscientific evidence such as fMRI scans will be more heavily relied on in criminal proceedings in the future. Moreover, a recent study suggests that brain scans can be used to predict which offenders are most likely to re-offend, and some hypothesize that cognitive exercises are one way to control such recidivism.²⁶³

²⁶² See Sachar, *supra* note 261. In this case, the judge determined that the PET scans could be presented to the jury but ruled that defense counsel could not inform the jury that the cysts represented in the scans led to violence. See Rosen, *supra* note 261, at E50. Shortly after this ruling, the parties agreed to a plea bargain instead of proceeding with the jury trial. See *id.*

²⁶³ See DAVID EAGLEMAN, *INCOGNITO: THE SECRET LIVES OF THE BRAIN* 182–83 (Pantheon Books 2011); Regina Nuzzo, *Brain Scans Predict Which Criminals Are More Likely to Reoffend: Neuroimaging “Biomarker” Linked to Rearrest After Incarceration*, NATURE (Mar. 25, 2013) <http://www.nature.com/news/brain-scans-predict-which-criminals-are-more-likely-to-reoffend-1.12672>.

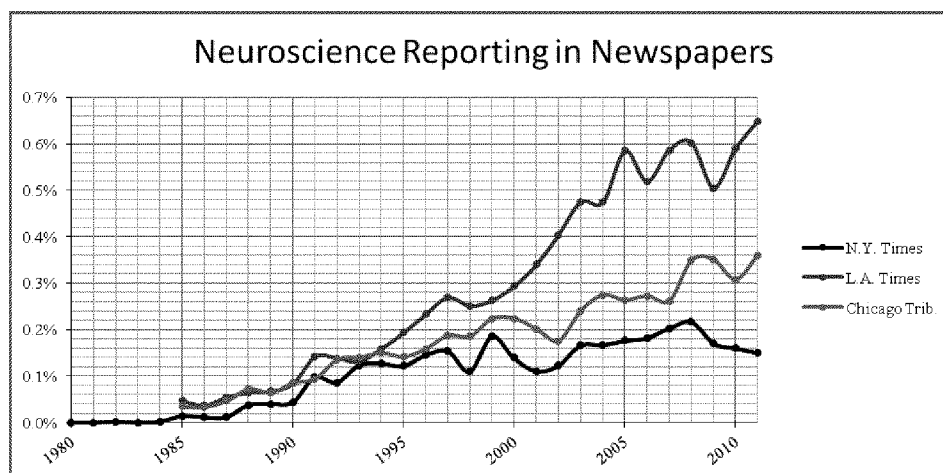


Figure 5

The exploding interest in neuroscience has spread to the general public as well.²⁶⁴ As the data in Figure 5 indicate, public reporting of neuroscience markedly increased during the 1990s.²⁶⁵ Moreover, reporting on how technology such as fMRI scans may provide new insights into how we think and feel has continued to steadily grow up until the present moment.

As with genetics and pharmacology, these advances in neuroscience have helped shape how society views criminal offenders. Commentators have suggested that greater knowledge about the brain suggests that there may be less room for free will than previously

²⁶⁴ See Sandra Blakeslee, *Just What's Going on Inside that Head of Yours? Some Question the Value of New Brain Maps*, N.Y. TIMES, Mar. 14, 2000, at F6 (referencing fMRI techniques).

²⁶⁵ For details on how these data were obtained, see *infra* Appendix.

thought.²⁶⁶ In fact, scientists ordinarily view the world more deterministically than non-scientists based on their understandings of physics, neuroscience, and other scientific disciplines.²⁶⁷ Further, several legal scholars focusing on neuroscience's effects on the legal system question whether criminal law can survive neuroscientific discoveries, as most of criminal law is based upon the concept of *mens rea*.²⁶⁸ Neuroscience has thus created a situation in which our criminal justice system is ripe for the reemergence of rehabilitation.

Considering advances in pharmacology, genetics, and neuroscience, new applications of science to the punishment enterprise may not be that far off. One can imagine treating sexual offenders with a pill instead of injections or providing pharmaceuticals to aid in treating other compulsions such as stealing or gambling. Perhaps pharmaceuticals could also be beneficial in curbing individuals' violent tendencies. Further, recent advances in deep brain stimulation suggest that there may be additional interventions available other than resorting to pharmaceuticals. While attempting to treat offenders through invasive brain surgery such as was done during the earlier rehabilitative period may seem far off, there may be less invasive ways to treat patients today. In fact, one neuroscientist has suggested that offenders should engage in frontal lobe exercises so that they can improve their impulse controls and

²⁶⁶ See *supra* note 252 and accompanying text.

²⁶⁷ See *supra* note 252 and accompanying text; see also Nita A. Farahany, *A Neurological Foundation for Freedom*, 2012 STAN. TECH. L. REV. 4, at *3 (2011) ("Scholars are coalescing around the belief that neuroscience supports determinism . . .").

²⁶⁸ See *supra* note 252.

thus make better decisions once released back into society.²⁶⁹ The possibilities for effecting rehabilitation by employing the advances from these fields seem limitless.

V. DIFFERENCES IN THE NEW REHABILITATION

The New Rehabilitation that is emerging in the wake of these pharmacological, genetic, and neuroscientific revolutions differs in kind from the old rehabilitation that evolved well into the 1970s and subsequently abated. Instead of focusing on changing the character of offenders, this new form of rehabilitation instead focuses on changing offender behaviors. Whereas early rehabilitative efforts focused on removing the offender from his corrupt surroundings and treating his character through religious and vocational training, modern understandings of rehabilitation focus on the offender's behavior by placing primary importance on the offender's reintegration into society. This transition may be seen in commentators' understandings of rehabilitation throughout history. In the early 1900s, for example, discussions of rehabilitation (ordinarily referred to as "reformation") were quite basic and distinguished reformation from protecting the public.²⁷⁰ In the 1960s and 1970s, commentators began merging this earlier notion of character reform with offender behavioral change.²⁷¹ Today,

²⁶⁹ See EAGLEMAN, *supra* note 263, at 182–83.

²⁷⁰ See, e.g., JOEL PRENTISS BISHOP, 1 BISHOP ON CRIMINAL LAW 139 (1923) (suggesting that offender reformation is distinct from protection of the community); THOMAS WELBURN HUGHES, CASES ON CRIMINAL LAW & PROCEDURE 13 (Callaghan & Company, 1922) (offering "reform of the offender" as a theory of punishment distinct from "prevent[ing] the offender from committing future wrongs" and also noting that reformation at that time was being "given much greater consideration").

²⁷¹ See VON HIRSCH, *supra* note 75, at 11 (noting that the scholarly literature at the time was ambiguous as to whether rehabilitation's goal was "to reduce recidivism (a form

commentators on rehabilitation often focus almost exclusively on offenders' behaviors and reintegration into society. For example, Professor Wayne LaFave describes rehabilitation as treating the offender "in order to rehabilitate him and return him to society so reformed that he will not desire or need to commit further crimes."²⁷² *Black's Law Dictionary* similarly defines rehabilitation as "[t]he process of seeking to improve a criminal's character and outlook so that he or she can function in society without committing other crimes."²⁷³ Although modern commentators may refer to character change, it is most often with the aim of improving society through offender reintegration. This notion is emphasized through commentators' primary method of determining whether rehabilitation has been achieved: recidivism.²⁷⁴ This measures offenders' effects on society rather than necessarily measuring any change within the offenders themselves.

Perhaps one of the clearest examples of this modern focus on behavioral over character change can be found in the context of capital punishment. Commentators have long held the view that rehabilitation is

of crime prevention) or to help the offender with his own problems (a paternalistic goal)").

²⁷² WAYNE R. LAFAVE, *CRIMINAL LAW* 28 (West, 5th ed. 2010).

²⁷³ BLACK'S LAW DICTIONARY 1311 (9th ed. 2009).

²⁷⁴ See Marguerite A. Driessen, *Challenging the Irrelevant Acquittal*, 11 *GEO. MASON L. REV.* 331, 334 (2002) ("Recidivism is believed to be an objective measure of whether an offender has truly been rehabilitated."); E. Lea Johnston, *Theorizing Mental Health Courts*, 89 *WASH. U. L. REV.* 519, 577 (2012) ("Rates of recidivism are often considered the most tangible and suitable outcome measures of rehabilitative treatment . . ."); see also *The Legality of Innovative Alternative Sanctions for Nonviolent Crimes*, 111 *HARV. L. REV.* 1944, 1961 (1998) ("As with the goal of rehabilitation, the goal of public protection is best measured with respect to probationers by the recidivism rate.").

irrelevant to the discussion of capital punishment.²⁷⁵ Yet, in early America, capital punishment was thought to spur an offender's rehabilitation and was thus imposed for this very reason.²⁷⁶ So why do modern scholars conclude that capital punishment cannot serve a rehabilitative purpose? This is because modern views of rehabilitation focus on the offender's reintegration into society,²⁷⁷ which clearly is not possible if an offender is being put to death.

Of course character and behavioral changes are closely linked. It is difficult to determine whether an offender has transformed his character, and behavioral change may be the only real objective indicator of whether character change has been achieved. But a primary focus on behavioral change rather than character change poses the difficulty of concentrating on the societal benefit of rehabilitation rather than on the value of rehabilitation for the offender. Certainly, effective rehabilitation can benefit society by returning to it an individual who will contribute to the community through useful labor, innovative ideas, and other services. Rehabilitation can also benefit society by expressing to the community that offenders are capable of change. This could encourage members of the community to assist offenders in reintegrating into society after they have served their sentences, which could reinforce the offenders' rehabilitation and, as a result, reduce recidivism. But rehabilitation also has value to the offenders themselves, a fact which is often overlooked

²⁷⁵ See Ryan, *Death and Rehabilitation*, *supra* note 3, at 1243–45.

²⁷⁶ See BANNER, *supra* note 19, at 16–23; Ryan, *Death and Rehabilitation*, *supra* note 3, at 1246–49.

²⁷⁷ See Ryan, *Death and Rehabilitation*, *supra* note 3, at 1261–68; *see, e.g.*, OXFORD ENGLISH DICTIONARY (3d ed. 2009) (defining “rehabilitation” as “[i]mprov[ing] the character, skills, and behaviour of an offender through training, counselling, education, etc., in order to aid reintegration into society”); BLACK’S LAW DICTIONARY 1311 (8th ed. 2004) (defining the term as “[t]he process of seeking to improve a criminal’s character and outlook so that he or she can function in society without committing other crimes”).

today. Not only might rehabilitation allow offenders to function better in society, but it may also allow them to feel differently about their worth, their purpose, or their lives.

The New Rehabilitation's focus on behavioral change could translate into employing a different methodology in attempting to achieve offender rehabilitation. The science that has paved the way for this New Rehabilitation may more easily demonstrate effective rehabilitation when aimed at offender behavior rather than offender character; it seems easier to change an offender's behavior than his character, and measuring character change is much more difficult than measuring behavioral change.²⁷⁸ This emphasis on behavioral change is beginning to move rehabilitative efforts toward changing offenders' biochemical compositions rather than taking the more holistic approach of transforming offenders' personhoods. For example, the nineteenth-century character-focused approach to rehabilitation revolved around altering the offender's environment—removing him from his corrupt surroundings and requiring him to toil in silence. These environmental changes were thought to encourage the offender to reflect upon what he had done and kindle his interest in reforming his character.²⁷⁹ As rehabilitation moved into the 1960s and early 1970s, these aims of traditional character reform were redirected at practices such as counseling and educational training, and were occasionally supplemented by crude practices like psychosurgeries and shock therapy.²⁸⁰ Many have characterized these changes in rehabilitation as being based on a “medical model.”²⁸¹ But medicine has now changed, leading to parallel changes in rehabilitation. The new version of rehabilitation has followed medicine's trend of

²⁷⁸ See *supra* text accompanying note 274.

²⁷⁹ See *supra* text accompanying notes 23–34.

²⁸⁰ See *supra* text accompanying notes 47–53.

²⁸¹ See *supra* text accompanying note 43.

increasing reliance on biochemical interventions—usually through the use of pharmaceuticals—to effectively treat individuals. For example, by requiring a sexual offender to undergo MPA treatment, a state is reducing the amount of testosterone produced by the offender’s testes, “boost[ing]” the offender’s liver testosterone metabolic clearance rate, and as a result “reducing circulating levels.”²⁸² And by requiring an offender to undergo methadone treatment for heroin addiction, a state is introducing into the offender’s body a molecule that will occupy the offender’s receptors where heroin molecules ordinarily lodge, thus preventing dosed offenders from reaching the signature heroin high.²⁸³ In contrast, the older approaches to rehabilitation—which involved isolating offenders, providing them with counseling or training, or in some circumstances subjecting them to behavior modification techniques or surgically removing parts of their brains—did not, in most instances, directly introduce new molecules into the offenders’ bodies. Certainly, these older methods may have, over the long term, altered the biochemical composition of the offender. Indeed, studies have demonstrated that certain behaviors—such as playing video games—repeated for an extended period of time can alter the structure of an individual’s brain.²⁸⁴ But, by directly introducing foreign substances into an offender’s body, the New Rehabilitation speeds this transformation process and also may provide the opportunity for better predictions about some of the

²⁸² Marnie E. Rice & Grant T. Harris, *Is Androgen Deprivation Therapy Effective in the Treatment of Sex Offenders?*, 17 *PSYCHOL. PUB. POL’Y & L.* 315, 317 (2011).

²⁸³ See Greely, *supra* note 201, at 1108. Even if pharmaceuticals are not employed in weaning a substance abuser off of his drug of addiction, by depriving the substance abuser of the drug on which he has so long relied, one is effecting a biochemical change in the substance abuser’s composition.

²⁸⁴ See S. Kuhn et al., *The Neural Basis of Video Gaming*, *TRANSLATIONAL PSYCHIATRY* (Nov. 15, 2011) (finding increased left striatal grey matter volume in frequent video game players).

biochemical changes taking place in the offender as a result. Transformations caused by the New Rehabilitation are often temporary in nature, though, unless the catalyst for the transformation is again introduced into the offender's body. However, over time biochemical interventions, too, may cause permanent changes in an individual's brain, just as the scientific literature suggests that methamphetamine addicts may suffer permanent effects as a result of repeatedly ingesting substances that alter their biochemical compositions.²⁸⁵

This New Rehabilitation is also more targeted than the rehabilitative approaches that preceded it. Such a focused approach may appear to be more desirable than methods like brutal psychosurgeries and shock therapy. But these more targeted approaches of the New Rehabilitation treat one aspect of the offender rather than treating the offender as a whole. This reflects the general behaviorally focused aspect of this New Rehabilitation. One might argue that this more targeted approach is justified because individuals are nothing more than their biochemical processes. To the extent that we buy into this deterministic worldview, however, we run into difficulties such as the general "free will" assumption of criminal law; if human behavior is biologically determined, how can we try to sentence offenders for actions that are entirely outside of their control?²⁸⁶

These differences in the New Rehabilitation require us to reevaluate whether this new version of the age-old penological goal raises the same concerns that contributed to rehabilitation's decline in the 1970s. While new scientific advances may increase the effectiveness of

²⁸⁵ See CTR. FOR SUBSTANCE ABUSE TREATMENT, TREATMENT FOR STIMULANT USE DISORDERS 13–35 (1999), available at <http://www.ncbi.nlm.nih.gov/books/NBK64328/> ("Some of the most frightening research findings about [methamphetamine] suggest that its prolonged use not only modifies behaviors, but literally changes the brain in fundamental and long-lasting ways.").

²⁸⁶ See *supra* text accompanying notes 97–98.

rehabilitative efforts, and while the concern that “nothing works” dominated the movement against rehabilitation in the 1970s, there were other concerns about rehabilitation that contributed to the demise of this theory of punishment. The emergence of the New Rehabilitation does not eradicate the concern that punishment premised on rehabilitation has the potential to create inequality among offenders or that this inequality could possibly be exacerbated by racial and class biases. Just as in the previous rehabilitative era, different “diseases of the mind” will likely have different treatments, some of which may take longer than others to achieve reform. Unlike in the previous era, however, in the age of the New Rehabilitation, there are likely more effective treatments available, and they generally may be implemented more quickly. This could at least lessen the inequality concern raised by the old rehabilitative efforts of the prior era. Further, while racial and class distinctions still remain a significant concern in our criminal justice system such that they may exacerbate any already-existing inequalities in punishment, recent evidence suggests that these concerns may be at least less stark today than they were in the 1970s.²⁸⁷

In addition to inequality, detractors from the rehabilitative ideal cited the impropriety of coercion as a reason to abandon rehabilitative

²⁸⁷ See David C. Baldus & George Woodworth, *Race Discrimination and the Legitimacy of Capital Punishment: Reflections on the Interaction of Fact and Perception*, 53 DEPAUL L. REV. 1411, 1414–26 (2004) (concluding that, after *Furman*, systemic discrimination against black defendants in capital sentencing has greatly decreased); see also James S. Liebman, *Slow Dancing with Death: The Supreme Court and Capital Punishment, 1963–2006*, 107 COLUM. L. REV. 1, 85 n.432 (2007) (citing an empirical study and relating that “the *Furman* reforms . . . decreased discrimination based on the race of the defendant in Georgia, suggesting that additional reforms might do the same for discrimination based on the race of the victim”); William J. Stuntz, *Terrorism, Federalism, and Police Misconduct*, 25 HARV. J.L. & PUB. POL’Y 665, 670 (2002) (asserting that at least one type of police discrimination—employing police officers “to enforce color lines”—“plainly has declined”).

efforts. Coercion remains a concern with the New Rehabilitation, but just as the New Rehabilitation is different in form from its predecessor, the New Rehabilitation also poses different concerns of coercion. In implementing biochemically based rehabilitative programs, governments might force offenders to engage in particular behaviors, such as ingesting a pill or undergoing electric stimulation to the brain. At first glance, this may appear similar to forcing an offender to receive religious instruction, or to toil in silence or isolation. Forcing ingestion of a pill or electric brain stimulation, though, is different in that the offender cannot resist the nearly immediate biochemical change to his body. In this sense, the New Rehabilitation is more coercive than the old. To the extent that being subjected to religious instruction or being forced to work in silence is continuously forced upon the offender, they too can cause physical changes.²⁸⁸ In this sense, then, the offender again cannot resist the changes to his body, although any such changes may take place over a longer period of time. To one who holds a worldview in which free will exists and hard determinism is impossible, the New Rehabilitation might be considered less coercive than the old because it affects, and attempts to affect, only the offender's body rather than his soul. This is in contrast to attempts to change an offender's character through old rehabilitative efforts.

Regardless of the era, unanticipated repercussions of rehabilitative efforts remain a concern. While negative side effects of religious instruction, forced silence, or isolation were unknown at the time when these rehabilitative devices were popular, more recent studies suggest that at least long-term isolation may cause "mental damage."²⁸⁹ Similarly, it is well documented that the psychosurgeries performed in the 1970s caused

²⁸⁸ See *supra* text accompanying note 285.

²⁸⁹ See JOHN IRWIN & JAMES AUSTIN, *IT'S ABOUT TIME: AMERICA'S IMPRISONMENT BINGE* 100-06 (2d ed. 1997).

negative side effects such as significant apathy among lobotomized patients.²⁹⁰ Some byproducts of more modern rehabilitative tactics are also known, such as headaches, nausea, shrunken testes, and lower sperm counts in offenders undergoing chemical castration. But history teaches us that the full array of negative side effects may not yet be known. Still, more is known today about individuals' typical responses to biochemical interventions, which places scientists in better predictive positions than they were just a few decades ago. Recent advances in science are undoubtedly exciting, but as science increases its working realm, so, too, does the potential for negative side effects.

Philosophers' and criminologists' questions from the 1970s of whether a prominent theory of rehabilitative penology essentially guts the criminal law also persist. If effective rehabilitation is based on a deterministic worldview, as many hold, then there may be little room for the concept of free will. Much of criminal law, of course, is based on this assumption of free will because criminal liability often depends on an offender's culpability. Certainly, there are areas of criminal law in which this is not the case, or at least areas in which one can explain criminal liability as independent of notions of culpability and free will. Regulatory offenses, which are most often strict liability offenses, are the primary examples of this. But eradicating the concept of free will would drastically alter the face of criminal law. Still, as many scholars have reasoned, criminal law can indeed exist without free will. Punishment would just instead be premised on theories such as deterrence and rehabilitation rather than retribution.

Apart from these concerns that were raised when rehabilitation was at its height in the 1960s and 1970s, the New Rehabilitation raises an additional issue that was less pressing during the earlier rehabilitative era. The new focus on offender behavior rather than character suggests that

²⁹⁰ See Gobert, *supra* note 50, at 162.

decisionmakers are less concerned about the humanity of offenders than they are about the offenders' effects on society. This may make sense from a classical utilitarian perspective, but it seems to be at odds with how the Supreme Court has interpreted the Eighth Amendment of the Constitution. The Court has repeatedly emphasized that this Amendment commands respect for the "dignity of man."²⁹¹ The Court has not given significant content to this constitutional requirement, but it does in some circumstances mandate sentencers to consider the individual aspects of an offender and his crime in determining the appropriate sentence to impose.²⁹² By discarding offenders' characters and focusing on only their behaviors, those employing the New Rehabilitation are essentially denying the humanness of offenders.²⁹³ Using offenders to achieve greater utility rather than focusing on offenders' own needs—and concentrating on them individually as persons—may indeed be trampling upon their human dignity.²⁹⁴

²⁹¹ See, e.g., *Brown v. Plata*, 131 S. Ct. 1910, 1928 (2011) ("Respect for [human] dignity animates the Eighth Amendment prohibition against cruel and unusual punishment."); *Kennedy v. Louisiana*, 554 U.S. 407, 420 (2008) ("Evolving standards of decency must embrace and express respect for the dignity of the person, and the punishment of criminals must conform to that rule."); *Trop v. Dulles*, 356 U.S. 86, 100 (1958) ("The basic concept underlying the Eighth Amendment is nothing less than the dignity of man.").

²⁹² See, e.g., *Miller v. Alabama*, 132 S. Ct. 2455, 2463–64, 2466–68 (2012) (explaining that sentencers must consider offenders' individual crimes and circumstances before imposing the most serious punishments, such as the death penalty or even life without the possibility of parole).

²⁹³ See Ryan, *Death and Rehabilitation*, *supra* note 3, at 1268–78. For further explanation of how this New Rehabilitation might run contrary to Eighth Amendment dignity demands, see generally Meghan J. Ryan, *Taking Dignity Seriously: Excavating the Meaning of the Eighth Amendment*, 2016 U. ILL. L. REV. (forthcoming).

²⁹⁴ See *id.*

CONCLUSION

A New Rehabilitation has emerged out of recent scientific advances in pharmacology, genetics, and neuroscience. This New Rehabilitation differs in form from the rehabilitation that was popular prior to the 1970s. It focuses on offender behavior rather than offender character, and, as a result, is more hospitable to achieving offender reform through biochemical transformations than through changes focusing on the entire offender. Recognizing science's significant role in bringing about this New Rehabilitation is essential to understanding its new character. And understanding this new character is important to determining the role that this New Rehabilitation should play in our criminal justice system. Constitutional demands of human dignity suggest that rehabilitative efforts ought to treat offenders' characters in addition to just their behaviors, which may be more superficial in nature. And other matters, such as the unique coerciveness that these new methods pose, suggest that there are additional reasons to be concerned about the new behavioral approach to rehabilitation. It is critical to understand this shift in punishment approaches so that we are not lulled into tacitly approving a new breed of punishment that may in many ways be more pernicious than the rehabilitation that came before.

APPENDIX

This Appendix describes the methodologies used in reaching the data displayed in Figures 1–5.

The data displayed in Figure 1 show the increasing references to rehabilitation in Westlaw’s “All State & Federal Cases” database. The “Criminal Context” plot graphs instances of the term “rehabilitation” or “reform” found in the same case that references the term “criminal” by searching the database for “(rehab! reform!) & crim! & da(xxxx),” where the date term—“xxxx”—was varied from 1900 to 2014.²⁹⁵ To control for the varying number of cases found in the database from year to year, these results were divided by the total number of cases referencing various penological theories of punishment in cases using the term “criminal” in each respective year. This data was ascertained by searching for “(rehab! reform! retribut! punish! deterr! deters! incapacitat!) & crim! & da(xxxx),” where the date term was again varied from 1900 to 2014.²⁹⁶ The “Sentencing (paragraph)” plot graphs instances in which the term “rehabilitation” or “reform” was found within the same paragraph as the term “sentencing.” These data were ascertained by searching for “(rehab! reform!) /p sentenc! & da(xxxx),” where the date term was varied from 1900 to 2014. To control for the varying number of cases found within the database from year to year, these results were divided by the number of

²⁹⁵ To account for Westlaw failing to show the number of results past 10,000, when searching in certain years—2009 through 2014—the searching periods had to be shortened and then added together to amount to an entire year. For example, the results from 2009 were obtained by running two searches. The first searched “(rehab! reform!) & crim! & DA(aft 12-31-2008) & bef 07-01-2009),” and the second searched “(rehab! reform!) & crim! & DA(aft 06-30-2009) & bef 01-01-2010).”

²⁹⁶ Again, the limitations of Westlaw required searching periods to occasionally be shortened during certain years—more specifically, 1986 through 2014. *See supra* note 295.

cases yielded per year for the search of “(rehab! reform! retribut! punish! deterr! deters! incapacitat!) /p sentenc! & da(xxxx),” where the date term was varied from 1900 to 2014.²⁹⁷ The “Sentencing (topic)” plot graphs instances in which the term “rehabilitation” or “reform” was found within Westlaw’s Topic 350H—“Sentencing and Punishment”—when the date term was varied from 1900 to 2014. These data were collected by searching for “(to(350h) +p he(rehab! reform!)) & da(xxxx),” where the date term was varied from 1900 to 2014. To control for the varying number of cases found in the database from year to year, these results were divided by the total number of cases referencing the various penological purposes of punishment within the Topic—“(to(350h) +p he(rehab! reform! retribut! punish! deterr! deters! incapacitat!)) & da(xxxx)” —where the date term was again varied from 1900 to 2014.

The data displayed in Figure 2 track the discussion of rehabilitation and sentencing in law review articles. These data were obtained by searching in Westlaw’s “Journals & Law Reviews” (JLR) database for “(rehab! reform!) /p sentenc! & crim! & da(xxxx),” where the date term was varied from 1900 to 2014. To control for the varying number of relevant published law review articles in the database from year to year, these results were divided by the number of articles in the database in each relevant year that were related to the penological theories of punishment in sentencing. These data were obtained by searching for “(rehab! reform! retribut! punish! deterr! deters! incapacitat!) /p sentenc! & crim! & da(xxxx)” in Westlaw’s JLR database, where the date term was varied from 1900 to 2014.

The data displayed in Figure 3 show the increased reporting of DNA-related news in *The New York Times*, the *Los Angeles Times*, and the

²⁹⁷ Again, the limitations of Westlaw required searching periods to occasionally be shortened during certain years—more specifically, 2001 through 2014. See *supra* note 295.

Chicago Tribune from 1980 (or 1985 in the case of the *Los Angeles Times* and the *Chicago Tribune*) to 2011.²⁹⁸ The data were obtained by searching in Westlaw's NYT, LATIMES, and CHICAGOTR databases for "(DNA "deoxyribonucleic acid") & [newspaper] & da(xxxx)," where "[newspaper]" was changed from "New York Times" to "Los Angeles Times" to "Chicago Tribune," depending on the database searched, and the date term was varied from the earliest available date of the publication—1980, 1985, and 1985, respectively—to 2011. To control for the varying number of published articles in these databases from year to year, these results were divided by the total number of articles published in each newspaper in each relevant year. These data were obtained by searching for ""New York Times" & da(xxxx)," ""Los Angeles Times" & da(xxxx)," and ""Chicago Tribune" & da(xxxx)" in each respective database, where the date term was varied again from the earliest available date of publication to 2011.

The data displayed in Figure 4 track the reporting of gene therapy, cloning, and stem cell research in *The New York Times* from 1980 to 2011. The data regarding gene therapy were obtained by searching in Westlaw's NYT database for "(gene! /2 therap!) & da(xxxx)," where the date term was varied from 1980 to 2011.²⁹⁹ The data regarding cloning were obtained by searching in Westlaw's NYT database for "(clone! cloning!) & da(xxxx)," where the date term was again varied from 1980 to 2011.

²⁹⁸ These data were not updated to include the years 2012 through 2014 because, at the time this Article was being updated for publication, Westlaw had discontinued providing access to *The New York Times* and the *Los Angeles Times*. Because of Westlaw's database changes, even the *Chicago Tribune* numbers for this period cannot usefully be compared to the earlier-obtained data for the prior years.

²⁹⁹ These data also were not updated to include the years 2012 through 2014 because, at the time this Article was being updated for publication, Westlaw had discontinued providing access to *The New York Times*.

The data regarding stem cell research were obtained by searching in Westlaw's NYT database for "(("stem cell" "stem cells") & da(xxxx)," where, once again, the date term was varied from 1980 to 2011. To control for the varying number of published articles in the database from year to year, these results were divided by the total number of articles in the database in each relevant year. These data were obtained by searching for "'New York Times" & da(xxxx)," in Westlaw's NYT database, where the date term was varied from 1980 to 2011.

The data displayed in Figure 5 show the increased reporting of neuroscientific news in *The New York Times*, the *Los Angeles Times*, and the *Chicago Tribune* from 1980 (or 1985 in the case of the *Los Angeles Times* and the *Chicago Tribune*) to 2011.³⁰⁰ The data were obtained by searching in Westlaw's NYT, LATIMES, and CHICAGOTR databases for "(neurosci! fmri mri "magnetic resonance" /3 imag!) & [newspaper] & da(xxxx)," where "[newspaper]" was changed from "New York Times" to "Los Angeles Times" to "Chicago Tribune," depending on the database searched, and the date term was varied from the earliest available date of the publication—1980, 1985, and 1985, respectively—to 2011. To control for the varying number of published articles in these databases from year to year, these results were divided by the total number of articles published in each newspaper in each relevant year. This data was obtained by searching for "'New York Times" & da(xxxx)," "'Los Angeles Times" & da(xxxx)," and "'Chicago Tribune" & da(xxxx)" in each respective database, where the date term was varied again from the earliest available date of publication to 2011.

³⁰⁰ These data were not updated to include the years 2012 through 2014 because, at the time this Article was being updated for publication, Westlaw had discontinued providing access to *The New York Times* and the *Los Angeles Times*. Because of Westlaw's database changes, even the *Chicago Tribune* numbers for this period cannot usefully be compared to the earlier-obtained data for the prior years.