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MASS MONITORING

AVLANA K. EISENBERG*

ABSTRACT

Business is booming for criminal justice monitoring technology: these days “ankle bracelet” refers as often to an electronic monitor as to jewelry. Indeed, the explosive growth of electronic monitoring (“EM”) for criminal justice purposes—a phenomenon which this Article terms “mass monitoring”—is among the most overlooked features of the otherwise well-known phenomenon of mass incarceration.

This Article addresses the fundamental question of whether EM is punishment. It finds that the origins and history of EM as a progressive alternative to incarceration—a punitive sanction—support characterization of EM as punitive, and that EM comports with the goals of dominant punishment theories. Yet new uses of EM have complicated this narrative. The Article draws attention to the expansion of EM both as a substitute for incarceration and as an added sanction, highlighting the analytic importance of what it terms the “substitution/addition distinction.” The Article argues that, as a punitive sanction, EM can be justified when used as a substitute for incarceration, but that its use as an added sanction may result in excessive punishment and raises significant constitutional and policy concerns.

The Article’s findings have crucial implications for hotly contested

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questions over whether monitoring can be imposed retroactively and whether pretrial house arrest plus monitoring (which resembles the post-conviction use of monitoring as a substitute for incarceration) should count toward time served. The Article provides a framework for addressing these questions and, at the same time, offers practical policy guidance that will enable courts and policymakers to ensure that EM programs are genuinely a cost-saving, progressive substitute for incarceration rather than another destructive expansion of government control.

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INTRODUCTION

In recent decades, electronic monitoring (“EM”) of those convicted or suspected of crimes has become so ubiquitous in American society that the term “ankle bracelet,”¹ which once designated a fashion accessory, now frequently refers to a judicially imposed electronic monitor.² EM use in the United States expanded from fewer than one hundred people in 1984 to more than 200,000 by 2009,³ and every state has enacted legislation enabling the use of EM for criminal justice purposes.⁴ In California, some offenders serve their entire sentences in their communities, wearing Global Positioning System (“GPS”) ankle bracelets 24/7.⁵ In Rhode Island, eligible offenders may opt to serve their sentences in a Community Confinement program where they are subject to home confinement plus radio frequency monitoring.⁶ In Florida, EM routinely is imposed as a condition of pretrial release, sometimes instead of, and often in addition to, bail.⁷ Wisconsin is one of twelve states where offenders who have completed their sentences may be subject to lifetime monitoring.⁸

1. The terms “ankle bracelet,” “ankle monitor,” “electronic monitor,” and “tag” have been used interchangeably in the criminal justice context. *See, e.g.*, Mike Nellis, *Surveillance, Stigma and Spatial Constraint: The Ethical Challenges of Electronic Monitoring*, in ELECTRONICALLY MONITORED PUNISHMENT 193, 203–05 (Mike Nellis et al. eds., 2013).

2. In the United States alone, more than 200,000 people are subject to electronic monitoring (“EM”). James Kilgore, *Electronic Monitoring: Some Causes for Concern*, PRISON LEGAL NEWS (Mar. 15, 2012), <https://www.prisonlegalnews.org/news/2012/mar/15/electronic-monitoring-some-causes-for-concern>. The global market is “projected to be in excess of \$6 billion by 2018.” SuperCom Ltd, *SuperCom Introduces Enhanced PureSecurity™ Electronic Monitoring Suite*, PR NEWSWIRE (July 9, 2014), <http://www.prnewswire.com/news-releases/supercom-introduces-enhanced-puresecurity-electronic-monitoring-suite-266404871.html>.

3. BUREAU OF JUSTICE ASSISTANCE, U.S. DEP’T OF JUSTICE, OFFENDER SUPERVISION WITH ELECTRONIC TECHNOLOGY: COMMUNITY CORRECTIONS RESOURCE 17 tbls.1a & 1b (2d ed. 2009), https://www.appa-net.org/eweb/docs/APPA/pubs/OSET_2.pdf; Mark E. Burns, *Electronic Home Detention: New Sentencing Alternative Demands Uniform Standards*, 18 J. CONTEMP. L. 75, 82 (1992).

4. Deanna M. Button et al., *Using Electronic Monitoring to Supervise Sex Offenders: Legislative Patterns and Implications for Community Corrections Officers*, 20 CRIM. JUST. POL’Y REV. 414, 423–24 (2009).

5. BRANDON MARTIN & RYKEN GRATTET, PUB. POLICY INST. OF CAL., ALTERNATIVES TO INCARCERATION IN CALIFORNIA 1 (Apr. 2015), http://www.ppic.org/content/pubs/report/R_415B_MR.pdf.

6. DEP’T OF CORRECTIONS, STATE OF R.I., COMMUNITY CONFINEMENT 8, <http://www.doc.ri.gov/rehabilitative/community/Community%20Confinement%20Info%20Booklet.doc> (last visited Jan. 6, 2017).

7. *See, e.g.*, *Supervised Pretrial Release*, LEON COUNTY, <https://cms.leoncountyfl.gov/Home/Departments/Office-of-Intervention-and-Detention-Alternatives/Supervised-Pretrial-Release> (last visited Jan. 6, 2017).

8. These states include California, Florida, Georgia, Kansas, Louisiana, Maryland, Michigan, Missouri, North Carolina, Oregon, Rhode Island, and Wisconsin. CAL. PENAL CODE § 3004(b) (West 2016); FLA. STAT. § 948.012(4) (2016); GA. CODE ANN. § 42-1-14(e) (2016); KAN. STAT. ANN. § 22-

Despite the scholarly focus on mass incarceration,⁹ this explosion of EM remains relatively unstudied. This Article fills that gap, identifying and analyzing this phenomenon, which it terms “mass monitoring.” The Article addresses the question central to future uses of EM in the criminal justice context: How should EM be characterized according to U.S. law? This question is especially timely, as bipartisan commitment to reducing the prison population has created newfound interest in alternatives to imprisonment generally,¹⁰ and in EM technology in particular.¹¹

The existing accounts of EM are incomplete. A rich criminological literature offers insights into the sociological effects of EM use but does not address the significant legal implications of mass monitoring.¹² Where EM is mentioned in the legal literature, it is either reduced to merely one of its many uses or included as part of a larger phenomenon. For example, some accounts deal only with one aspect of EM use at a particular stage of

3717(u) (2016); LA. REV. STAT. ANN. § 15:560.3(A)(3) (2016); MD. CODE ANN., CRIM. PROC. § 11-723(d)(3)(i) (LexisNexis 2016); MICH. COMP. LAWS § 750.520n (2016); MO. REV. STAT. § 217.735(4) (2016); N.C. GEN. STAT. § 14-208.40 (2016); OR. REV. STAT. §§ 137.700, 144.103 (2016); 11 R.I. GEN. LAWS § 11-37-8.2.1 (2016); WIS. STAT. § 301.48 (2016).

9. See generally MICHELLE ALEXANDER, *THE NEW JIM CROW: MASS INCARCERATION IN THE AGE OF COLORBLINDNESS* (2010) (arguing that mass incarceration of African Americans creates a modern caste system comparable to Jim Crow segregation); MARIE GOTTSCHALK, *THE PRISON AND THE GALLOWS: THE POLITICS OF MASS INCARCERATION IN AMERICA* (2006) (discussing the development of four key movements that shaped the structure of the “carceral” state); IMPRISONING AMERICA: *THE SOCIAL EFFECTS OF MASS INCARCERATION* (Mary Pattillo et al. eds., 2004) (collecting analyses of the impact of mass incarceration on family, community, and economic life); MARC MAUER, *RACE TO INCARCERATE* (2006) (discussing the evolution of incarceration in the United States over the past two hundred years); WILLIAM J. STUNTZ, *THE COLLAPSE OF AMERICAN CRIMINAL JUSTICE* (2011) (arguing that America’s criminal justice system has unraveled and exploring solutions for repair); James Forman, Jr., *Racial Critiques of Mass Incarceration Beyond the New Jim Crow*, 87 N.Y.U. L. REV. 21 (2012) (disputing the analogy of Jim Crow to mass incarceration).

10. See, e.g., Mary D. Fan, *The Political Climate Change Surrounding Alternatives to Incarceration*, 38 HUM. RTS. 6, 6 (2011).

11. See, e.g., *More Electronic Monitoring Could Relieve Prison Overcrowding, Prison Officials Say*, ARK. NEWS (Sept. 2, 2013, 1:09 AM), <http://arkansasnews.com/sections/news/arkansas/more-electronic-monitoring-could-relieve-prison-overcrowding-prison-officials>; Erika Slife, *More Non-Violent Offenders Getting Home Monitoring in Cook County*, CHI. TRIB. (Oct. 5, 2011), http://articles.chicagotribune.com/2011-10-05/news/chi-more-nonviolent-offenders-getting-home-monitoring-in-cook-county-20111005_1_home-monitoring-house-arrest-defendants.

12. See, e.g., WILLIAM BALES ET AL., DEP’T OF JUSTICE, *A QUANTITATIVE AND QUALITATIVE ASSESSMENT OF ELECTRONIC MONITORING* 127 (2010); Richard Jones, *The Electronic Monitoring of Offenders: Penal Moderation or Penal Excess?*, 62 CRIME, L. & SOC. CHANGE 475, 477 (2014); J. Robert Lilly & Mike Nellis, *The Limits of Techno-Utopianism: Electronic Monitoring in the United States of America*, in *ELECTRONICALLY MONITORED PUNISHMENT*, *supra* note 1, at 21–22; Jamie S. Martin et al., *Offenders’ Perceptions of House Arrest and Electronic Monitoring*, 48 J. OFFENDER REHABILITATION 547, 547–67 (2009).

the criminal justice process, such as pretrial EM.¹³ But such a narrow focus does not lend itself to assessing the breadth and diversity of EM use throughout the criminal justice process.

Other accounts are limited because they address EM in an abstract, general way, precluding questions about the legitimacy of specific uses of EM. For instance, scholars have discussed EM as one of many examples in the broad contexts of the ethics of mass surveillance,¹⁴ crime prevention through technology,¹⁵ and the collateral consequences of punishment.¹⁶ But by situating EM among other burgeoning technologies used by the criminal justice system or within the broad category of obstacles individuals face after completion of their sentences, the particular features, strengths, and limitations of EM are obscured.¹⁷

This Article is the first sustained examination of mass monitoring and its place in the criminal justice landscape. It argues that EM as currently

13. See, e.g., Samuel R. Wiseman, *Pretrial Detention and the Right to Be Monitored*, 123 YALE L.J. 1344, 1382–96 (2014) (proposing a “right to be monitored” in the pretrial context).

14. See generally, e.g., SURVEILLANCE: POWER, PROBLEMS, AND POLITICS (Sean P. Hier & Josh Greenberg eds., 2009); Gary Marx, *Ethics for the New Surveillance*, 14 INFO. SOC’Y 171 (1998).

15. See, e.g., Erin Murphy, *Paradigms of Restraint*, 57 DUKE L.J. 1321, 1328–40, 1394–400 (2008) (linking various technologies, including DNA databasing, electronic indexing, biometric scanning, and EM, to the rise of preventative detention and the regulatory state, and concluding that all of these technologies should be subject to increased constitutional scrutiny).

16. See, e.g., Gabriel J. Chin, *The New Civil Death Rethinking Punishment in the Era of Mass Conviction*, 160 U. PA. L. REV. 1789, 1816–21 (2012); Sandra G. Mayson, *Collateral Consequences and the Preventive State*, 91 NOTRE DAME L. REV. 301, 306–17 (2015).

17. This tendency to generalize is most visible in three separate, though related, approaches to criticizing the use of EM. One approach invokes the historical association between EM (especially eavesdropping) and totalitarianism. Putting aside constitutional doctrine, this approach counsels that the use (let alone expansion) of EM is dangerous, repressive, and antidemocratic. See, e.g., Julie M. Houk, *Electronic Monitoring of Probationers A Step Toward Big Brother?*, 14 GOLDEN GATE U. L. REV. 431, 431–32 (1984). By invoking this visceral, negative association, this approach essentially cuts off consideration of a legitimate role for EM in the criminal justice system. A second approach counsels that EM should not be used because to be subject to monitoring technology as a punitive sanction is inherently distasteful, even inhumane. See generally, e.g., Richard Jones, *The Electronic Monitoring of Offenders Penal Moderation or Penal Excess?*, 62 CRIME, L. & SOC. CHANGE 475 (2014). This approach in effect smuggles in an Eighth Amendment “cruel and unusual” punishment analysis. However, in today’s world of lengthy sentences and often horrendous prison conditions, the general proposition that monitoring is more objectionable than incarceration seems unconvincing. The third and most well-articulated approach invokes the specter of “net widening,” a broad, generally amorphous concern about government encroachment on civil liberties. See generally, e.g., JAMES KILGORE, CTR. FOR MEDIA JUSTICE, ELECTRONIC MONITORING IS NOT THE ANSWER: CRITICAL REFLECTIONS ON A FLAWED ALTERNATIVE 12 (Oct. 2015), <http://centerformediajustice.org/wp-content/uploads/2015/10/EM-Report-Kilgore-final-draft-10-4-15.pdf>. This approach to understanding EM, arguably a modern version of the antitotalitarianism approach, is unproductive because it puts EM in a heterogeneous category and assumes that net widening is inherently bad, thus obscuring the possibility that EM could also be a legitimate form of punishment.

practiced in the United States is a punitive sanction and, further, that EM is a justifiable form of punishment for sufficiently serious crimes.¹⁸ Crucially, once EM is understood to be a punitive sanction, questions about whether the imposition of EM in a particular instance is consistent with constitutional dictates or sound policy must take into account what this Article terms the “substitution/addition distinction,” whether EM is being used as a substitute for incarceration or as an added sanction.

The Article thus challenges courts and policymakers that have deemed EM to be “merely regulatory.” For example, in 2016, writing for the Seventh Circuit in *Belleau v. Wall*, Judge Posner referred to a Wisconsin law imposing lifetime EM on citizens who had completed their sentences as “not punishment; it is prevention.”¹⁹ Relying on this classification of the EM sanction as non-punitive, the Seventh Circuit ruled that retroactive application of the Wisconsin law did not violate the Ex Post Facto Clause of the U.S. Constitution, which forbids retroactive punishment.²⁰ This Article highlights the inconsistency and illogic of legislative and judicial decisions that, on the one hand, provide for the use of EM as a substitute for incarceration (thus suggesting that EM is punitive), while, on the other hand, impose or condone the use of EM as “non-punitive.”

The Article invokes history, sociology, and normative theory to support the argument that EM functions as a punitive sanction: EM has been and currently is imposed as a consequence of involvement in the criminal justice system, EM is experienced by those subject to it as punishment, and the use of EM as a punitive sanction accords with traditional theories of punishment.²¹ Accordingly, the Article argues, EM should be analyzed as a form of punishment. Importantly, this Article’s

18. The Article exposes and challenges widespread misconceptions that manifest as criticisms of EM from both ends of the political spectrum. One criticism of EM use—most commonly identified with the political left—is that EM is closely associated with totalitarian symbolism and assumed to be a violation of civil liberties. Another criticism of EM use—most widely identified with the political right—is that EM is not punitive, but rather merely regulation. This Article challenges both of these perspectives. It attacks the characterization of EM as non-punitive while also suggesting that EM could play a progressive role in criminal justice reform if deployed in a limited, non-additive manner.

19. *Belleau v. Wall*, 811 F.3d 929, 937 (7th Cir. 2016).

20. U.S. CONST. art. 1, § 10; *Cal. Dep’t of Corrections v. Morales*, 514 U.S. 499, 504 (1995).

21. This Article’s inquiry into the character of EM resembles the Supreme Court’s inquiry into history, sociology, and normative theory when called to determine whether the imposition of a law is “punitive in effect” for purposes of a retroactivity analysis under the Ex Post Facto Clause. The Court applies the multi-factor test outlined in *Kennedy v. Mendoza-Martinez*, 372 U.S. 144 (1963), asking whether the sanction at issue “has been regarded in our history and traditions as a punishment; imposes an affirmative disability or restraint; promotes the traditional aims of punishment; has a rational connection to a nonpunitive purpose; or is excessive with respect to this purpose.” *Smith v. Doe*, 538 U.S. 84, 97 (2003).

claim is not that one could never imagine a use of EM technology that is non-punitive,²² but rather that, as EM is currently used in the criminal justice context, it is punitive.²³

EM's origins and the history of its use as a substitute for incarceration support its characterization as a punitive sanction. EM technology was initially conceived in the 1960s as a progressive alternative to imprisonment.²⁴ By the 1980s, radio frequency monitoring technology became commercially available and was used in conjunction with house arrest to alleviate dire prison overcrowding.²⁵ This criminal justice use of the new EM technology skyrocketed in the late 1980s,²⁶ and thus the mass monitoring phenomenon was born.

The original conception and use of EM as a substitute for incarceration fits squarely within the parameters of punishment theory and is consistent with punitive goals, including retribution, expression of condemnation, deterrence, and rehabilitation.²⁷ A retributivist, for example, could endorse EM as an alternative to incarceration if the harm visited upon offenders, including loss of liberty and privacy, is harm that the offender deserves to suffer.²⁸ The use of EM could also satisfy the expressivist, at least to the extent that monitoring devices are visible and limit the mobility of offenders, so that these devices are understood by other members of the community to signify wrongdoers being held accountable for their wrongs.²⁹

22. Whether one would ever want to use EM for non-punitive purposes is a legislative, normative question that is beyond the scope of this inquiry.

23. Importantly, for EM not to be presumptively construed as punishment, monitoring programs would need to be conceptualized (and devices would need to be constructed) differently. This Article does not recommend such an expansion to the use of EM in civil contexts, but by way of illustration, if EM were used widely in non-criminal contexts, the social meaning of EM as punitive would necessarily evolve. Or, imagine if instead of bulky EM devices, monitoring programs utilized embedded chips. While many might object to a world where embedded chips were widely used in the civil context as nightmarish, crucially, their rationale would not be connected to punishment. Indeed, the existing concern of over-punishing would be transformed to a new, different problem—that of the technophobes' nightmare—namely, the expanding influence of technology in modern life. This thought experiment highlights the importance of assessing the social meaning of a phenomenon—in this case, EM—as it is currently practiced.

24. See *infra* Part I.A.1.

25. See *infra* Part I.A.2.

26. *Id.*

27. See *infra* Part I.B. The persuasiveness of the punitive justification, however, will vary depending upon whether EM functions as an alternative to incarceration or as an additional punishment beyond incarceration. See *infra* Part II.B.

28. See *infra* Part I.B.1.

29. See *infra* Part I.B.2. Furthermore, when used as an alternative to a criminal sentence, the strongest message-sending aspect—the criminal conviction itself—remains constant, regardless of

The deterrence theorist will care about whether EM is sufficiently undesirable to discourage potential criminal conduct.³⁰ Firsthand accounts suggest that the loss of liberty, privacy, and autonomy is hugely significant to those subject to EM; in some cases, EM is experienced as scarcely less drastic than incarceration.³¹ EM also may contribute to deterrence simply because persons subject to EM are more easily apprehended, thus reducing enforcement gaps. Finally, rehabilitative principles support the use of EM, in conjunction with other programs, instead of incarceration.³² While EM is not inherently rehabilitative, preliminary studies of the use of EM as part of a more holistic reentry program, or as a means by which to preserve family connections, employment, and other social connections that would be lost if the offender were incarcerated, suggest that, as one element of a larger program, EM can serve rehabilitative ends.³³

By the late 1990s, a new monitoring technology entered the corrections scene that would both expand and complicate EM's role as a burgeoning alternative to incarceration. GPS technology promised a new level of precision—the ability to monitor an individual's location 24/7, whether inside or outside the home—giving rise to a broadening of EM uses and new populations subject to EM.³⁴ With the introduction of GPS technology, two discrete strands of EM use emerged: as a *substitute* for incarceration and as an *added condition* to a preexisting punishment.³⁵

Distinguishing between these two strands of EM use—which this Article terms the “substitution/addition distinction”—helps to reconcile conflicting rhetoric about EM.³⁶ Supporters of EM who focus on cost-effectiveness and social benefits of EM tend to assume that EM is used as a substitute for incarceration, while opponents of EM focus on the dangerous

whether the offender is monitored or incarcerated. While a sentence to prison arguably sends a stronger message, on the other hand, while in prison, everyone with whom the offender comes into contact is either also incarcerated or part of the criminal justice machinery. By contrast, when subject to EM, the offender is perhaps more persistently aware of the differences between the life of someone subject to criminal sanction and the lives of those who are not.

30. See *infra* Part I.B.3.

31. See, e.g., Peter B. Wood & Harold G. Grasmick, *Toward the Development of Punishment Equivalencies: Male and Female Inmates Rate the Severity of Alternative Sanctions Compared to Prison*, 16 JUST. Q. 19, 19 (1999).

32. See *infra* Part I.B.4.

33. Brian K. Payne & Randy R. Gainey, *The Electronic Monitoring of Offenders Released from Jail or Prison: Safety, Control, and Comparisons to the Incarceration Experience*, 84 PRISON J. 413, 416 (2004).

34. See *infra* Part II.A. While the use of GPS technology expanded the populations subject to EM—most notably, sex offenders—it did not fundamentally change the punitive nature of EM.

35. See *infra* Part II.B.

36. See *infra* Part II.C.

expansion of state control, assuming that EM is used as an added condition.³⁷

The substitution/addition distinction is also crucial to constitutional analysis and policy assessments of EM use in the criminal justice context. Since, as this Article maintains, government-imposed EM should be presumed to be punishment, whether a particular use of EM is constitutional and justifiable on policy grounds depends on whether it is being used as a substitute for incarceration or as an added condition.³⁸

Retroactive imposition of punishment is unconstitutional, and courts should find retroactive imposition of EM—a clear use of EM as an added condition—in violation of the Ex Post Facto Clause of the U.S. Constitution.³⁹ In the pretrial context, individuals subject to EM coupled with house arrest—a sanction which, in the post-sentence context, may be a substitute for incarceration—should receive credit for time served.⁴⁰

The substitution/addition distinction also should be central to any policy analysis of EM use. Precisely because EM is best understood as serving a punitive function in the criminal justice context, policymakers should take steps to avoid EM creep—the unfettered expansion of criminal justice surveillance. Following the widespread assumption that U.S. sentencing is too punitive, EM should be favored in some instances as an alternative to incarceration, but it should be presumptively disfavored as an added condition. Even when used as a substitute for incarceration, safeguards should be introduced to avoid the financially motivated expansion of EM, and efforts by private companies to further expand EM should be resisted.⁴¹ Finally, metrics should be put in place to evaluate which approaches are most successful for which offender populations. Only then will policymakers be able to make empirically informed choices about the future uses of EM.⁴²

The Article proceeds in three parts. Part I examines the origins and traditional use of criminal justice EM as a substitute for incarceration—a punitive sanction—and finds that this use can be justified by the dominant punishment theories. Part II highlights the bifurcation of mass monitoring that accompanied the introduction of GPS technology and distinguishes

37. See *infra* Part II.D.

38. See *infra* Part II.E.

39. See *infra* Part III.A.1.

40. See *infra* Part III.A.2.

41. See *infra* Part III.B.1.

42. See *infra* Part III.B.2.

between its uses as a substitute for incarceration and as an added sanction. It highlights the primacy of this “substitution/addition distinction,” which is crucial to clarifying polarized discourse around EM and has significant implications for punishment theory, since an added punitive sanction to an existing proportionate punishment would result in excessive punishment. Part III explores the implications of these findings for the future uses of EM, doctrinally in the context of allegedly non-punitive uses in the post-sentence and pretrial stages, and practically with respect to financing EM, measuring results, and preventing the unfettered expansion of this technology.

I. THE HISTORY OF MASS MONITORING AS PUNISHMENT

This Part introduces the mass monitoring phenomenon and anchors the Article’s discussion of EM as a punitive sanction. It first traces the use of EM, from early experiments with parolees through the explosion of its use in conjunction with house arrest as an alternative to incarceration. It then demonstrates that criminal justice use of EM is consistent with the goals of dominant punishment theories.

A. THE PROMISE OF ELECTRONIC MONITORING AS A SUBSTITUTE FOR INCARCERATION

1. Early Experiments and Founding Principles

The use of EM for offenders was originally conceived as a progressive alternative to incarceration—even as a way to phase out the nation’s prisons and jails.⁴³ In 1964, a group of Harvard researchers pioneered EM technology for criminal justice use.⁴⁴ Using equipment measuring “6 inches by 3 inches by 1 inch in size” and “weigh[ing] about two pounds,” this new technology was used to monitor parolees in Boston and Cambridge.⁴⁵ Participants in the experiment wore the technology on a belt and were required to remain within a designated monitoring area approximately 1,000 feet from a repeater station.⁴⁶ When a participant’s transceiver

43. See, e.g., Ralph Kirkland Gable, *Application of Personal Telemonitoring to Current Problems in Corrections*, 14 J. CRIM. JUST. 167, 172–73 (1986).

44. BUREAU OF JUSTICE ASSISTANCE, U.S. DEP’T OF JUSTICE, *supra* note 3, at 13, 19. The literature refers to these researchers alternately as the Schwitzgebel brothers and, after they changed their last names, the Gable brothers.

45. Gable, *supra* note 43, at 168. See also ANN H. CROWE ET AL., OFFENDER SUPERVISION WITH ELECTRONIC TECHNOLOGY 2 (2002). Other experimental groups included mentally ill patients and research volunteers. *Id.*

46. Gable, *supra* note 43, at 168. Accord MATT BLACK & RUSSELL G. SMITH, ELECTRONIC MONITORING IN THE CRIMINAL JUSTICE SYSTEM 2 (Austl. Inst. of Criminology, Trends & Issues in

activated the repeater station, the participant's location would be recorded and displayed.⁴⁷

The researchers involved in these early experiments had high hopes for future use of EM in the criminal context, specifically its use as a favorable alternative to incarceration.⁴⁸ They maintained, "[w]hen specific offending behaviors can be accurately predicted and/or controlled within the offender's own environment, incarceration will no longer be necessary as a means of controlling behavior and protecting society."⁴⁹

2. The Growth of Radio Frequency Monitoring

By the early 1980s, commercial EM equipment was available. Manufacturers pitched this new radio frequency technology as an effective complement to house arrest.⁵⁰ Given the severe prison overcrowding problems at the time,⁵¹ states took note, and the mass monitoring phenomenon was born.⁵² From 1986 to 1989, use of this burgeoning technology exploded, and the number of offenders subject to EM and house arrest grew by 6,700 percent.⁵³ Sanctions that combined EM and house arrest were widely considered cheap, humane, and safe alternatives to

Crime and Criminal Justice No. 254, 2003), http://aic.gov.au/media_library/publications/tandi_pdf/tandi254.pdf (explaining active systems of EM).

47. Gable, *supra* note 43, at 168.

48. Robert Gable, *Electronic Monitoring*, ROBERT GABLE, <https://rgable.wordpress.com/electronic-monitoring-of-criminal-offenders> (last visited Jan. 6, 2017). Notably, contemporaneous accounts, while enthusiastic, were not without some hint of concern for unchecked surveillance. *See generally, e.g.*, Robert L. Schwitzgebel, *A Belt from Big Brother*, PSYCHOL. TODAY, Apr. 1969, at 45, 45 (describing early EM experiments and potential future uses of the technology). Gable claimed that the ominous title of his article was not his choice. Gable, *supra*.

49. Ralph Schwitzgebel et al., *A Program of Research in Behavioral Electronics*, 9 BEHAV. SCI. 233, 237 (1964).

50. James Bonta et al., *Can Electronic Monitoring Make a Difference? An Evaluation of Three Canadian Programs*, 46 CRIME & DELINQ. 61, 62 (1992).

51. *See, e.g.*, Rod Smolla, *Prison Overcrowding and the Courts: A Roadmap for the 1980s*, 1984 U. ILL. L. REV. 389, 402–03 (1984) (detailing some negative effects of overcrowding).

52. Many have traced the commercial proliferation of EM to collaboration between Schwitzgebel and a district court judge from New Mexico who, in the late 1970s, was inspired by a Spider-Man comic book to imagine "a device which monitored a person's proximity to a base station, relaying any violations via telephone." Lilly & Nellis, *supra* note 12, at 24–25. This technology was already used for non-criminal justice purposes; for example, Sears catalog stores used radio frequency technology to alert customers that their orders were ready. Peggy Conway, *Survey of Agencies Using Electronic Monitoring Reveals a Promising Future*, J. OFFENDER MONITORING, Summer/Fall 2003, at 5, 5.

53. *See* GAIL A. CAPUTO, INTERMEDIATE SANCTIONS IN CORRECTIONS 99 (2004) (reporting the increase from 95 individuals in 1986 to 6,490 in 1989). The first EM house arrest program involved ten male offenders in New Mexico, and within the year, counties in Florida, Illinois, Kentucky, and Michigan followed suit. Rolando V. del Carmen & Joseph B. Vaughn, *Legal Issues in the Use of Electronic Surveillance in Probation*, FED. PROB., June 1986, at 60, 60.

prison that nevertheless delivered some deserved punishment.⁵⁴

In 1987, the Florida Department of Corrections pioneered a program that used EM with house arrest as an alternative to incarceration.⁵⁵ The radio frequency unit enabled officers to keep track of whether the individual on house arrest remained at home. According to the profile of this program, “[t]he equipment consists of a tamper-resistant small transmitter worn by the offender. The transmitter communicates with a small receiving unit tied into the phone landline. The receiving unit notifies a monitoring station if the signal is lost; if so, the probation officer is notified.”⁵⁶ The radio frequency system “can be programmed to take work or religious schedules into account allowing offenders to be off-site at predetermined times. Officers can also use a ‘drive by’ monitoring device to verify the location of the offender, whether at home, at work, or in treatment as scheduled.”⁵⁷

Some of these radio frequency EM programs have remained virtually unchanged through the present day. For example, since 1989, Rhode Island has offered eligible offenders⁵⁸ the opportunity to opt into the Community Confinement program,⁵⁹ which consists of house arrest and radio frequency monitoring, instead of going to prison or jail.⁶⁰ Qualifications include a legal residence and a landline, and a screening interview is required for each offender.⁶¹

While in Community Confinement, offenders are expected to spend the vast majority of their time at home, though they are allowed to participate in “life-sustaining activities,” which include laundry and

54. See, e.g., Marc Renzema & David Skelton, *Scope of Electronic Monitoring Today*, J. OFFENDER MONITORING, Fall 1991, at 6, 7.

55. Nat’l Inst. of Justice, *Program Profile Electronic Monitoring (Florida)*, CRIMESOLUTIONS.GOV (Apr. 24, 2012), www.crimesolutions.gov/ProgramDetails.aspx?ID=230.

56. *Id.*

57. *Id.*

58. If the judge, prosecutor, and defense attorney agree, the Department of Corrections will schedule an eligibility hearing. Interview with Anne D’Alessio, Home Confinement Dir., R.I. Dep’t of Corrections, in Cranston, R.I. (July 9, 2015). Ultimately, the judge determines whether the offender can join the Community Confinement program. *Id.*

59. Maryland is the only other state that offers an opt-in community confinement program for the entire duration of a qualified offender’s sentence. Offenders are excluded if they were charged with a violent crime in the previous five years, as well as if the current charge is intent to deliver illegal drugs (though drug possession does not exclude an offender from consideration for the program). Use of firearms is also an exclusionary factor. *Id.*

60. DEP’T OF CORRECTIONS, STATE OF R.I., *supra* note 6, at 3–4.

61. If the offender will be living with someone, there is a separate interview required of that person. Interview with Anne D’Alessio, *supra* note 58. No offender is allowed to live with someone on active probation unless that person is a family member. *Id.*

grocery shopping.⁶² Participants in Community Confinement meet weekly or biweekly with their community counselors, each of whom supervises approximately fifty offenders; the offender brings a proposed schedule for the coming week, and the counselor approves or denies the proposed activities and also collects program fees.⁶³ Once approved by the counselor, the written schedules provided by offenders are data entered into a Department of Corrections computer.⁶⁴

The program is overseen from the Community Confinement office at the Department of Corrections, which is centralized in Cranston, and two corrections officers are on call for each shift.⁶⁵ During their shift, the officers sit in front of a computer watching for alerts.⁶⁶ There are also random “community field visits,” often assisted by “drive-by” machines to detect radio frequency, ensuring that offenders are where they said they would be.⁶⁷ If the offender is not where the offender is supposed to be, or if the band of the offender’s monitor has been tampered with, an alert will be activated in the Community Confinement program headquarters.⁶⁸ An offender who has been missing for thirty minutes or more is considered on “escape status.”⁶⁹ In the case of an alert, once the situation is resolved, the on-duty corrections officer consults with the Community Confinement program supervisor about the appropriate sanction.⁷⁰

This Rhode Island example illustrates key features of radio frequency EM programs: monitoring technology is administered by criminal justice officials as a more humane alternative to prison and as a means to reduce prison overcrowding. The following Section scrutinizes this use of EM through the lens of punishment theory, finding that the use of EM as an alternative to incarceration comports with traditional goals of punishment.

62. *Id.*

63. Random drug and alcohol testing is also administered during these visits. *Id.*

64. *Id.*

65. *Id.* The size of Rhode Island and the centralization of its Department of Corrections—a single campus that houses everyone from maximum security inmates to the Community Confinement headquarters for the state—is unique, and the Community Confinement program benefits from these features. For example, this concentration of resources makes it logistically feasible for inmates to check in with their counselor each week. Larger states wishing to adopt this model could create multiple Community Confinement branches across the state.

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. Sanctions could range from the entry of a case management note to a warning to incarceration. *Id.* However, only the Director and Associate Director of the Community Confinement program are empowered to incarcerate an offender who has violated the conditions of the program. *Id.*

B. ELECTRONIC MONITORING AS PUNISHMENT

Both retributive and consequentialist analyses raise questions about how EM compares to other sanctions, particularly incarceration. While each person's experience of EM (like incarceration) is unique,⁷¹ as a general principle, EM should be considered less restrictive than incarceration.⁷² But this fact alone does not cut against its punitiveness. Especially given the surge of interest in alternatives to incarceration, it simply cannot be the case that anything less restrictive than incarceration is insufficiently punitive, for such argument would preclude the very possibility of alternatives to incarceration.

If one imagines broad levels of restrictiveness, the highest level, Level 4, is incarceration.⁷³ The next level, Level 3, is home confinement with EM, which restricts one's mobility but is widely believed to be less punitive than imprisonment.⁷⁴ The next level, Level 2, is home confinement without EM, which is obviously less restrictive as the offender is not required to wear a monitor, which many have reported to be physically painful;⁷⁵ even if the offender is subject to restrictions on mobility, the offender's moment-to-moment whereabouts are not subject to criminal justice oversight.⁷⁶ The final level, Level 1, is EM alone without home confinement.⁷⁷

71. See, e.g., Adam J. Kolber, *The Subjective Experience of Punishment*, 109 COLUM. L. REV. 182, 196 (2009).

72. See, e.g., Martin et al., *supra* note 12, at 567.

73. Of course, there are huge distinctions in levels of restrictiveness *within* many prisons, but that discussion is beyond this Article's scope.

74. Some offenders, however, find EM and home confinement *worse* than prison. Martin et al., *supra* note 12, at 563 (reporting that, of 61 surveyed offenders from Western Pennsylvania, "28% of the respondents stated that they would prefer a jail sentence to [house arrest] and EM—for these respondents, [house arrest] was viewed as being less palatable than serving time in the local jail"). However, the Rhode Island experience, where every eligible offender has opted into the Community Confinement program, suggests that these are outliers. Perhaps this is a function of expectation bias—people may assume that EM and home confinement will not feel especially restrictive, and when they experience otherwise, they become particularly malcontented.

75. See, e.g., *Problems Plague GPS Tracking of WA Offenders*, KING5.COM (Feb. 26, 2014, 8:17 PM), <http://www.king5.com/story/news/local/investigations/2014/08/05/13398446>.

76. How much the punitive effect of monitoring is related to the physical device attached to one's body versus the knowledge that one's every movement can be recorded is a question for future research.

77. Some may argue that Level 1 is actually more restrictive than Level 2. This determination may vary depending on how one assesses the value of physical mobility versus that of not having one's whereabouts under scrutiny. Regardless, this Article's analysis does not hinge on the difference between Level 1 and Level 2. Rather, a crucial distinction is between Level 2 and Level 3. Since EM is experienced as restrictive and painful, there should be little doubt that the addition of EM to a punishment will make it more restrictive, and, thus, that Level 3 is more restrictive than Level 2. As for

The experience of those subject to EM and the broader social meaning of EM are deeply relevant to the question whether EM comports with punishment theory.⁷⁸ This Section draws on qualitative data revealing that EM causes pain and unpleasantness, and may negatively affect a wearer's employment prospects, family relationships, and general wellbeing. In its examination of how EM comports with traditional punishment theories, this Section will address retributive, expressive, deterrence, and rehabilitative theories in turn.

1. Electronic Monitoring as Retributive

According to retributive theory, offenders morally deserve punishment, and this punishment should impose pain or unpleasantness.⁷⁹ For the retributivist, the appropriate punishment should be proportional to the offender's crime.⁸⁰

The first foundational question for the retributivist is whether EM causes pain or unpleasantness.⁸¹ The requirement that offenders wear monitors on their persons 24/7—during all waking and sleeping hours—will strike many as objectively unpleasant, and subjective experiences gleaned from qualitative studies substantiate that EM imposes pain.⁸² One

the use of EM as a substitute for incarceration, the salient distinction is between Level 4 and Level 3. One scholarly account, without delineating the various levels of restrictiveness, noted that “[e]lectronic monitoring operates as an intermediate sanction because it is less severe than imprisonment, but more restrictive than traditional probation.” Button et al., *supra* note 4, at 417.

78. The question whether EM use can be justified by punishment theory may be uniquely American. Other countries that use EM routinely make assumptions about its punitiveness. *See, e.g.*, George Mair & Mike Nellis, ‘Parallel Tracks’ *Probation and Electronic Monitoring in England, Wales and Scotland*, in ELECTRONICALLY MONITORED PUNISHMENT, *supra* note 1, at 63, 77 (noting that in England and Wales, EM was adopted as a way to make probation more punitive). Accounts from the criminology literature also routinely conclude that EM is a punitive sanction. *See, e.g.*, William Bülow, *Electronic Monitoring of Offenders An Ethical Review*, 20 SCI. & ENG’G ETHICS 505, 514 (2014) (asserting that EM “can be conceptualized as a form of punishment, that is, it is an intended deprivation (of freedom of movement) on the offender authorized by the state as a response for his or her criminal offense”).

79. John Rawls, *Two Concepts of Rules*, 64 PHIL. REV. 3, 4–5 (1955). *See also* John Bronsteen, *Retribution’s Role*, 84 IND. L.J. 1129, 1129 (2009); Kent Greenawalt, *Punishment*, 74 J. CRIM. L. & CRIMINOLOGY 343, 347 (1983).

80. *See, e.g.*, RICHARD L. LIPKE, RETHINKING IMPRISONMENT 111–12 (2007) (“The aim of legal punishment . . . is . . . to impose equalizing losses on [offenders] in ways consistent with recognizing their status as autonomous moral beings.”)

81. This premise appears to be taken for granted in the broader international context, where use of EM is debated but its punitiveness is assumed. *See, e.g.*, Mair & Nellis, *supra* note 78, at 77–78.

82. *See, e.g.*, BALES ET AL., *supra* note 12, at 89–102 (discussing the effect of EM on offenders’ relationships); Payne & Gainey, *supra* note 33, at 418, 421–22 tbl.1 (describing survey responses of forty-nine offenders on EM). *See also* Joan Petersilia & Elizabeth Piper Deschenes, *What Punishes? Inmates Rank the Severity of Prison vs. Intermediate Sanctions*, FED. PROB., Mar. 1994, at 3, 3

individual subject to EM explained: “The ankle bracelet is the bane of my every day existence. I loathe it with every pore in my body. It is unsightly, uncomfortable and huge.”⁸³ Another reported that the EM device “was beating my ankle into a bloody pulp.”⁸⁴ Thus, the answer to the retributivist’s first question is that EM often does cause pain and unpleasantness to those who are required to wear the monitoring devices.⁸⁵

The second foundational question for retributivists is whether EM, with or without other punishment conditions, is proportional to a given offender’s crime. This is an inherently subjective and contextual determination. To a large extent, the proportionality of a punishment is in the eye of the beholder, and criminal justice norms differ across individuals and jurisdictions. For example, in Finland, fines are routinely used as a criminal punishment.⁸⁶ By contrast, in the United States, there is no social consensus that fines are punitive.⁸⁷ Importantly, because proportionality is context dependent, it is also malleable as underlying criminal justice norms evolve.⁸⁸ Thus, perceptions regarding the suitability of EM as a sanction

(discussing subjective perceptions of interpediate sanction programs); Peter B. Wood & Harold G. Grasmick, *supra* note 31, at 19 (finding that offenders may experience “alternative sanctions as significantly more punitive than imprisonment”).

83. *Electronic Ball and Chain (Day 25)*, 180 DAYS ON HOUSE ARREST (Oct. 25, 2009), <https://the180daysblog.wordpress.com/category/house-arrest/ankle-bracelet>.

84. *Problems Plague GPS Tracking of WA Offenders*, *supra* note 75. See also *Electronic Ball and Chain (Day 25)*, *supra* note 83 (“I am always tired since House Arrest began, I believe it is a combination of the random phone calls which seem to come at 5:30–6:00 AM quite often, and the constant, annoying, discomfort. This I also feel is a component of the sadistic punishment, sleep deprivation.”)

85. This conclusion is not meant to suggest that *every* offender experiences EM similarly. For example, one study found that “older offenders find [EM] to be more punitive than younger offenders do.” Brian K. Payne et al., *The Pains’ of Electronic Monitoring: A Slap on the Wrist or Just as Bad as Prison?*, 27 CRIM. JUST. STUD. 133, 145 (2014). However, this lack of uniformity does not refute evidence that, in the aggregate, EM is experienced as punitive.

86. EDWIN W. ZEDLEWSKI, NAT’L INST. OF JUSTICE, U.S. DEP’T OF JUSTICE, NCJ No. 230401, ALTERNATIVES TO CUSTODIAL SUPERVISION: THE DAY FINE 3 (2010), <https://www.ncjrs.gov/pdffiles1/nij/grants/230401.pdf> (describing the history of day fines, which were first used in Finland in 1921); Joe Pinsker, *Finland, Home of the \$103,000 Speeding Ticket*, ATLANTIC (Mar. 12, 2015), <http://www.theatlantic.com/business/archive/2015/03/finland-home-of-the-103000-speeding-ticket/387484>.

87. Dan M. Kahan, *What Do Alternative Sanctions Mean?*, 63 U. CHI. L. REV. 591, 618–19 (1996).

88. MODEL PENAL CODE: SENTENCING § 6.10A cmt. b, at 59–60 (AM. LAW INST., Council Draft No. 2, 2008), *quoted in* Douglas A. Berman, *Re-Balancing Fitness, Fairness, and Finality for Sentences*, 4 WAKE FOREST J.L. & POL’Y 151, 171 (2014) (“On proportionality grounds, societal assessments of offense gravity and offender capability sometimes change over the course of a generation or comparable period. In recent history, . . . there has been flux in community attitudes toward some classes of drug offenders, and even in crime categories as serious as homicide, such as when a battered spouse kills an abusive husband or in cases of assisted suicide.”).

for a particular crime may change over time.

To satisfy the retributivist, the specific use of EM (as well as the particularities of the technology) could be calibrated in accordance with the demands of proportionality. Punishments could vary on a number of axes: amount of time subject to EM, additional restrictions (for example, where and when the monitored person could travel), and visibility or size of the monitor. For example, the addition of other sanctions would make the aggregate effect of EM more painful (for example, EM in addition to home confinement as opposed to EM alone). Additionally, the size of the monitor, and whether the monitor is designed to be worn over or under the offender's clothing, could make the punishment of EM more or less severe. In theory, a proportionality inquiry might require that, for some crimes, a large, bulky monitor should be worn over the offender's outer layer of clothing while, for others, a smaller, less visible device would suffice. The length of time one is subject to EM should also be important to the retributivist. Since qualitative data suggest that EM is experienced as painful, each day that a person spends subject to EM is another day's experience of pain and unpleasantness.

The use of EM as a substitute for incarceration can be justified since, having established that EM causes the offender pain, it follows that the imposition of EM would be proportional to some crime or, at least, that the addition of EM as a component part of an offender's sentence would be proportional. The remaining challenge for the retributivist is an age-old one: to calibrate punishment to crime.⁸⁹

Of course, the retributivist might believe that EM—even as part of a home confinement program—could never be a proportionate punishment for certain crimes, such as the particularly heinous crime of murder.⁹⁰ Here the concern would be that the monitoring sanction is not sufficiently painful given the severity of the offender's crime. But presumably the same retributivist would feel differently about less serious crimes, such as shoplifting.

Ultimately, any effort to calibrate punishment to crime brings us back to default presumptions about the appropriateness of particular sanctions. If the default presumption is that offenders convicted of a certain crime should go to jail or prison, then anything less than incarceration may appear

89. Calibrating punishment to crime is inherently subjective. See Kolber, *supra* note 71, at 182.

90. See, e.g., Max Fisher, *A Different Justice Why Anders Breivik Only Got 21 Years for Killing 77 People*, ATLANTIC (Aug. 24, 2012), <http://www.theatlantic.com/international/archive/2012/08/a-different-justice-why-anders-breivik-only-got-21-years-for-killing-77-people/261532>.

indulgent or, at the very least, not sufficiently punitive. To the extent that this is the case for certain crimes in the United States, EM as substitute, even when used as part of a bundle of sanctions, may not satisfy the retributivist. By contrast, where fines are the expected punishment for many crimes,⁹¹ incarceration for such crimes would seem *overly* punitive. Crucially, this baseline is malleable, as are the social norms that inform it and are informed by it. If we were to begin punishing certain classes of offenders by EM or criminal fines instead of incarceration, this may at first seem unusual (or possibly even unfair to those who were incarcerated for the same behavior at a different time), but eventually it would become the new default presumption.⁹²

Determining how to weigh different sanctions based on level of restrictiveness, among other factors, imposes yet another subjective dimension. For example, California and Rhode Island both routinely impose EM for the duration of an offender's sentence, but these states use different EM-to-incarceration ratios. California uses a 1:1 ratio (that is, a six-month sentence to jail would be substituted with six months of home confinement with EM),⁹³ while Rhode Island employs a 2:1 ratio (that is, the same six-month jail sentence would be substituted with one year of community confinement with EM).⁹⁴ These examples illustrate the lack of consensus regarding the EM-to-incarceration ratio and may also speak to the inherent subjectivity associated with the retributivist's determination of proportionality.

91. Hanns von Hofer, *Notes on Crime and Punishment in Sweden and Scandinavia*, in ANNUAL REPORT FOR 1999 AND RESOURCE MATERIAL SERIES NO. 57, at 283, 289 (UNAFEI ed., 2001), www.unafei.or.jp/english/pdf/RS_No57/No57_26VE_Hofer.pdf (noting that 81 percent of those convicted in Finland receive fines, the highest percentage of any Scandinavian country).

92. By analogy, over time, many behaviors that were once criminal have been legalized. Alexandra Natapoff, *Misdemeanor Decriminalization*, 68 VAND. L. REV. 1055, 1070–71 (2015) (discussing decriminalization of marijuana in eighteen states and decriminalization of “traffic offenses, regulatory offenses, and urban order maintenance”).

93. Telephone Interview with Kevin O’Connell, Research Analyst, Probation Officers of Cal. (Jan. 12, 2016).

94. Perhaps one reason why Rhode Island settled on a 2:1 ratio is because its Community Confinement program was one of the very first of its kind. It was not put into place primarily because of budgetary concerns, so maybe there was more thought devoted to what the ideal ratio would be to satisfy retributive (as well as other) concerns. Or, perhaps, the ratio was chosen because of the widespread intuition—and documentation by offenders—that home confinement plus EM is simply less restrictive than prison or jail. Payne & Gainey, *supra* note 33, at 428 (“Electronic monitoring is heaven compared to jail. . . I learned a very valuable lesson but house arrest is better than jail. . . It was . . . not as bad as the shame of jail.”). Ultimately, there is no universal ratio, and as EM use continues to expand as a substitute for incarceration, it will be interesting to see whether these ratios become more varied or whether a 1:1 ratio becomes commonplace.

2. Electronic Monitoring as Expressive

According to expressive theory, laws and their enforcement patterns influence social norms and send messages about the values of a society.⁹⁵ Thus, the expressivist will care especially about what message is sent by the use of EM as a criminal sanction.

A classic example of expressive punishment is shaming penalties,⁹⁶ which are “explicitly designed to make a public spectacle of the offender’s conviction and punishment, and to trigger a negative, downward change in the offender’s self-concept.”⁹⁷ The expressivist might favor use of an electronic monitor as a shaming sanction or expression of blame⁹⁸—a modern-day “scarlet letter”⁹⁹—to send the message to both the offender and the wider community that the offender’s conduct is unacceptable and will be punished.¹⁰⁰ To manifest this expression of disapproval, the monitor would need to be visible.

The expressivist would condone the use of EM as a component of an offender’s punishment. Individuals subject to EM have described the monitoring devices as a source of embarrassment and shame,¹⁰¹ and the imposition of EM as a sanction can be said to send a message both to the offender and to society more broadly. According to one individual subject to EM: “It truly is the electronic version of the ball and chain, there is never a waking moment I am not aware of its presence on my person. The band is loose enough so that the box can be rotated 360 degrees, but no matter how you spin it . . . it is always reminding me it is there.”¹⁰² Others have experienced unpleasant encounters with family members, friends, and

95. See, e.g., Avlana Eisenberg, *Expressive Enforcement*, 61 UCLA L. REV. 858, 860 (2014); Lawrence Lessig, *The Regulation of Social Meaning*, 62 U. CHI. L. REV. 943, 949–62 (1995); Richard H. McAdams, *An Attitudinal Theory of Expressive Law*, 79 OR. L. REV. 339, 339 (2000); Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2022–23 (1996).

96. See, e.g., Chad Flanders, *Shame and the Meanings of Punishment*, 54 CLEV. ST. L. REV. 609, 612 (2006); Kahan, *supra* note 87, at 594; James Q. Whitman, *What Is Wrong with Inflicting Shame Sanctions?*, 107 YALE L.J. 1055, 1061 (1998).

97. Toni M. Massaro, *Shame, Culture, and American Criminal Law*, 89 MICH. L. REV. 1880, 1886 (1991).

98. Carol S. Steiker, *Punishment and Procedure: Punishment Theory and the Criminal-Civil Procedural Divide*, 85 GEO. L.J. 775, 803 (1997) (crediting the expressionists with bringing to light the role of blame in defining punishment).

99. See generally NATHANIEL HAWTHORNE, *THE SCARLET LETTER* (Brian Harding ed., Oxford Univ. Press 2d ed. 2007) (1850).

100. Bülow, *supra* note 78, at 512 (considering, though ultimately rejecting, the argument that “the feeling of shame ascribed to the offender when he or she has to wear a device which can potentially be displayed is desirable, since it may foster a sense of repentance”).

101. See, e.g., Payne & Gainey, *supra* note 33, at 417.

102. *Electronic Ball and Chain (Day 25)*, *supra* note 83.

prospective employers as a result of their EM devices,¹⁰³ suggesting that these devices are perceived as shaming by society at large.

3. Electronic Monitoring as Deterrent

The deterrence theorist will prioritize crime prevention,¹⁰⁴ and will assess possible punishments using a cost-benefit analysis,¹⁰⁵ weighing both positive and negative consequences of punishment.¹⁰⁶ Both general deterrence and specific deterrence are relevant to the analysis of EM and punishment theory.¹⁰⁷

For EM use to be justified by the principle of general deterrence, the imposition of EM must cause sufficient unpleasantness such that potential criminals will view that punishment as a cost they want to avoid.¹⁰⁸ Since EM imposes unpleasantness—including physical pain and mental anguish¹⁰⁹—and may adversely impact relationships with friends and family as well as employment prospects,¹¹⁰ EM should function as a deterrent for prospective criminals. Of course, given that EM is less restrictive than incarceration,¹¹¹ it cannot be said that EM would deter as much as the threat of incarceration. However, since an offender cannot realistically anticipate *ex ante* whether, if caught, the offender would serve time in jail or prison or be subject to EM,¹¹² or a combination, this restrictiveness (and deterrence) differential should not matter in practice.¹¹³

For EM use to satisfy the principles of specific deterrence theory,

103. See, e.g., BALES ET AL., *supra* note 12, at 89–97 (discussing the impact of EM on offenders' relationships).

104. See JEREMY BENTHAM, *THEORY OF LEGISLATION* 322–24 (Charles Kay Ogden ed., F.B. Rothman 1931). Many have critiqued deterrence theory. See, e.g., Kevin C. Kennedy, *A Critical Appraisal of Criminal Deterrence Theory*, 88 DICK. L. REV. 1, 7 (1983).

105. Darryl K. Brown, *Cost-Benefit Analysis in Criminal Law*, 92 CAL. L. REV. 323, 344 (2004).

106. See R. A. DUFF, *PUNISHMENT, COMMUNICATION, AND COMMUNITY* 18 (2001); Bülow, *supra* note 78, at 515.

107. John B. Mitchell, *Crimes of Misery and Theories of Punishment*, 15 NEW CRIM. L. REV. 465, 487–93 (2012).

108. This calculus must be delicately calibrated to avoid the problem of overdeterrence. See, e.g., Walter Olsen, *Overdeterrence and the Problem of Comparative Risk*, 37 PROC. ACAD. COMP. RISK 42, 43 (1988).

109. See, e.g., Payne & Gainey, *supra* note 33, at 417.

110. See, e.g., BALES ET AL., *supra* note 12, at 89–97.

111. See Martin et al., *supra* note 12, at 565.

112. A notable exception would be if EM were imposed as a default sanction for certain crimes as a substitute, though this is unlikely, and a case-based determination is far more plausible.

113. Deterrence theory might support the use of bulky or unwieldy monitoring devices if necessary to deter prospective criminals. Questions of degree (both of calibrating the EM device and of determining the deterrent effect of EM relative to incarceration) are empirical ones that call for future research.

offenders should be deterred from reoffending because they are afraid of being caught.¹¹⁴ Specific deterrence in this context has an almost “incapacitating” function.¹¹⁵ The question of how effective EM is on specific deterrence grounds is an empirical one. Two factors crucial to the efficacy of EM as a specific deterrent are the technology itself and the people monitoring the devices.¹¹⁶

Furthermore, since more than 95 percent of all incarcerated offenders will eventually be released,¹¹⁷ and since prisons and jails are known to be criminogenic,¹¹⁸ it follows that limiting offenders’ exposure to prison and jail may make them less predisposed to future criminal activity.¹¹⁹ Deterrence arguments support the use of EM instead of imprisoning offenders who do not present a significant risk to the public.¹²⁰ Given the

114. An added deterrent aspect of EM is that, if offenders are caught, they will be subject to more punitive sanctions, namely jail or prison. Preliminary qualitative work suggests that this is part of the offender’s calculus: “I wouldn’t escape. That’s another charge, more time. . . . Well anyone that’s on the monitoring is stupid if they try to escape because they are the one that’s going to suffer consequences.” Payne & Gainey, *supra* note 33, at 425.

115. Generally, incapacitation entails removing offenders from society by either locking them up in jail or prison or otherwise restraining them. While incapacitation is a component of utilitarian punishment theory, an analysis of EM through the lens of incapacitation is not applicable: as with other alternatives to incarceration, EM outside of prison or jail walls by definition does not incapacitate.

116. Critics of EM have highlighted limitations of the technology that may minimize the effectiveness of the sanction. For example, a GPS device may fail to send appropriate alerts. *See, e.g.*, Paige St. John, *Tests Found Major Flaws in Parolee GPS Monitoring Devices*, L.A. TIMES (Mar. 30, 2013) [hereinafter St. John, *Tests Found Major Flaws*], <http://articles.latimes.com/2013/mar/30/local/la-me-ff-gps-monitors-20130331>. Or there may be many false positives. *See, e.g.*, Mario Koran, *Lost Signals, Disconnected Lives*, WISCONSINWATCH.ORG (Mar. 24, 2013), <http://wisconsinwatch.org/2013/03/lost-signals-disconnected-lives>. These factors may cause those tasked with responding not to take the alarms seriously. Additionally, critics have expressed concern that those tasked with oversight and response may lack proper training or may be supervising such a large number of offenders that they simply cannot be sufficiently responsive to all of them. *See, e.g.*, *Report Prisons System Lacks Guidelines for Electronic Monitoring* (Colorado Public Radio radio broadcast Aug. 31, 2014), <http://www.cpr.org/news/audio/report-prisons-system-lacks-guidelines-electronic-monitoring>; Paige St. John, *GPS Monitoring Alerts Overwhelm Probation Officers*, L.A. TIMES (Feb. 15, 2014), <http://articles.latimes.com/2014/feb/15/local/la-me-ff-gps-overload-20140216>. While these are serious concerns, as the technology continues to improve and as resources are allocated for appropriate training of those overseeing EM programs, these concerns are not insurmountable.

117. 2 ENCYCLOPEDIA OF PRISONS & CORRECTIONAL FACILITIES 711 (Mary Bosworth ed., 2005).

118. *See generally* Scott D. Camp & Gerald G. Gaes, *Criminogenic Effects of the Prison Environment on Inmate Behavior Some Experimental Evidence*, 51 CRIME & DELINQ. 425 (2005) (testing the intuition that prisons are criminogenic).

119. *See, e.g.*, Jones, *supra* note 12, at 477; Payne & Gainey, *supra* note 33, at 416–17.

120. While the lower costs of EM as compared with prison have been discussed elsewhere, *see infra* notes 163–165 and accompanying text, it bears mentioning that the utilitarian who is concerned with incapacitating offenders to avoid their commission of future crimes will also be inclined to engage in a cost-benefit analysis. EM offers significant cost savings as compared with incarceration, which should make it more attractive to the utilitarian.

high level of risk-aversion of parole agents and other criminal justice stakeholders,¹²¹ many of these low-risk offenders would otherwise be incarcerated if not for the availability of EM technology.¹²² Indeed, the availability of EM technology should inspire criminal justice leaders to think carefully about the distinction between those who present a high risk to the public, and therefore should be subject to the highest level of restraint (that is, prison), and those whose risk factors do not rise to that level and should instead be subject to a lower level of restrictiveness (for example, EM with or without home confinement).¹²³

4. Electronic Monitoring as Rehabilitative

The theorist whose priority is rehabilitation will care most about the offender's eventual ability to reintegrate into society.¹²⁴ One who is rehabilitated will not recidivate, so rehabilitative principles would demand that an offender avoid criminogenic environments while gaining access to whatever treatment, educational, or vocational programs would aid in that person's reintegration. Other factors that may facilitate reentry include maintaining close ties with the offender's family and community.¹²⁵ The use of EM as a substitute for incarceration could allow the offender to maintain these relationships while avoiding the criminogenic prison or jail environment.

Crucially, EM is not inherently rehabilitative.¹²⁶ EM at best is a facilitating device¹²⁷—a tool that can be used as part of a “rehabilitation-rollout,” which might include cognitive-behavioral treatment, educational

121. Telephone Interview with Patricia Caruso, Former Dir., Mich. Dep't of Corrections (July 15, 2014).

122. Of course, the same could be true of those convicted of more serious crimes—for example, sex offenders in Michigan, who would have remained incarcerated (rather than released on parole) if not for the option of EM. *Id.*

123. While it would be foolhardy to consider EM and incarceration as the only two options, EM provides an alternative sanction that can achieve specific deterrence goals while also avoiding the criminogenic environment of prison.

124. See Henry M. Hart, Jr., *The Aims of the Criminal Law*, 23 L. & CONTEMP. PROBS. 401, 407–10 (1958).

125. *Id.*

126. See Bülow, *supra* note 78, at 516.

127. Perhaps the best argument that there is something inherently rehabilitative about EM is less about the device itself and more about “show[ing] offenders that society is placing trust back into them.” Payne & Gainey, *supra* note 33, at 416. Arguably, this is also an expressive justification for the use of EM as a substitute for incarceration, specifically in the early release context. Randy R. Gainey et al., *The Relationships Between Time in Jail, Time on Electronic Monitoring, and Recidivism: An Event History Analysis of a Jail-Based Program*, 17 JUST. Q. 733, 748 (2000) (“[J]ail incarceration followed by electronic monitoring affords offenders respect by trusting them with early release into the community.”).

programming, or vocational training.¹²⁸ One whose priority is rehabilitation would thus insist that EM use was part of a program tailored toward reentry rather than mere incapacitation. A preliminary study suggests that, when EM is used as part of such a tailored program, offenders experience EM as rehabilitative.¹²⁹ Nearly 95 percent of a study of forty-nine offenders “agree[d]” or “strongly agree[d]” that the EM sanction, when part of a rehabilitation rollout, “helps in treating offenders by maintaining close supervision, may be effective because the offender can still work, may be effective because the offender can maintain contact with his or her family, and may be effective because the offender can help with his or her household duties.”¹³⁰ Unlike the expressivist or the deterrence theorist, one whose priority is rehabilitation should also prefer that the EM device not be large, unwieldy, or uncomfortable; if the goal is successful reentry into mainstream society, a less stigmatic and more discreet monitor should be favored.

II. THE NEW MASS MONITORING AND THE SUBSTITUTION/ADDITION DISTINCTION

The introduction of GPS technology, which allows for 24/7 supervision of offenders, both expanded and complicated EM’s role as a burgeoning alternative to incarceration. This Part first highlights the expansion of EM use as an alternative to incarceration to new offender subpopulations. It then introduces the substitution/addition distinction, discussing the novel use of EM as an added sanction. This distinction between the use of EM as a substitute for incarceration and its use as an added sanction clarifies conflicting rhetoric surrounding the criminal justice use of EM and has significant implications for punishment theory. If, as Part I maintains, criminal justice use of EM should be characterized as punitive, EM’s use as a substitute for incarceration is justifiable, while its use as an added sanction to an existing, proportionate punishment cannot be justified.

128. For example, a study of “high-risk offenders supervised with an electronic monitoring device” found that these offenders “had a greater likelihood of completing treatment,” and that “the interaction between these two interventions—cognitive-behavioral treatment and electronic monitoring—reduced recidivism.” Button et al., *supra* note 4, at 418.

129. *Id.*

130. Payne & Gainey, *supra* note 33, at 423.

A. GPS AND THE EXPANSION OF ELECTRONIC MONITORING TO NEW POPULATIONS

By the late 1990s, a new monitoring technology entered the corrections scene.¹³¹ GPS technology, which relies on a network of satellites to provide accurate location and time information, was originally designed for military use by the U.S. Department of Defense but was soon appropriated for use by telephone companies and corrections departments.¹³² In 1998, forty individuals were subject to criminal justice supervision via GPS monitoring systems.¹³³ Within two years, the number had increased to six hundred.¹³⁴

EM's continued and expanded use as a substitute for incarceration is consonant with traditional EM use and envisions EM as a favorable alternative to incarceration on fiscal and humanitarian axes. For example, GPS technology has been embraced in California as a component of "realignment," the state's plan to reduce prison overcrowding.¹³⁵ California's realignment legislation resulted from the U.S. Supreme Court's ruling in 2011 that California's prisons were unconstitutionally overcrowded.¹³⁶ California has realigned thousands of state offenders to local jails, and EM has been used with respect to a broad array of offenders as a substitute for incarceration.¹³⁷ Eligible offenders are classified as part of the "three nons" category: their crimes are characterized as nonviolent, nonsexual, and nonserious.¹³⁸ Offenders who fall into this category might serve their entire sentence in jail, or they might serve a split sentence (that

131. Scott Vollum & Chris Hale, *Electronic Monitoring A Research Review*, CORRECTIONS COMPENDIUM, July 2002, at 1, 1.

132. Marc Renzema, *How the Global Positioning System Works*, J. OFFENDER MONITORING, Spring 1998, at 8, 8 (describing as the primary Defense Department goal to use GPS technology to locate downed soldiers and missile silos).

133. Marc Renzema, *Tracking GPS A Third Look*, J. OFFENDER MONITORING, Spring 2000, at 6, 6.

134. *Id.* While GPS monitoring grew quickly in popularity, it did not immediately replace radio frequency technology. According to a 2003 report, at that point radio frequency technology was still the dominant monitoring technology, used for almost 90 percent of criminal justice uses of EM. Conway, *supra* note 52, at 21. Some states, such as Rhode Island, made the decision *not* to switch to GPS technology (at least in the community confinement context), preferring the lower-cost, less privacy-intrusive radio frequency technology. Interview with Anne D'Alessio, *supra* note 58 (explaining that, for the Community Confinement program, this more "intrusive" technology was "unnecessary").

135. Telephone Interview with Kevin O'Connell, *supra* note 93.

136. *Brown v. Plata*, 563 U.S. 493, 502 (2011).

137. Telephone Interview with Kevin O'Connell, *supra* note 93.

138. *Id.*; Chief Probation Officers of Cal., *Public Safety Realignment—What Is It?*, CPOC ISSUE BRIEF, Summer 2012, at 1, 1, <http://www.cpoc.org/assets/Realignment/public%20safety%20realignment%20brief%201.pdf>.

is, part of their sentence in jail and part of it on EM), or they might serve their entire sentence on EM.¹³⁹ For whatever portion of their sentence they serve on EM, they receive that amount of credit for time served—a 1:1 ratio of EM to incarceration.¹⁴⁰

With the advent of GPS, EM was no longer inextricably connected to an offender's home. Rather, it provided a means to identify the specific whereabouts of an offender 24/7 and to create zones of inclusion and exclusion. Accordingly, the archetypal example of EM coupled with house arrest gave way to new archetypes and offender populations. For example, in the pretrial context, an experimental program in Indiana used EM as an alternative to pretrial detention for offenders who could not afford bail.¹⁴¹ Such programs have continued to grow, as cost savings of using EM as an alternative to pretrial detention are substantial. In Seminole County, Florida, "releasing suspects on bond with electronic monitoring as a condition has resulted in savings of more than \$948,000 by not housing people in the jail at a cost of \$80 per day."¹⁴²

EM use also was expanded to offender subpopulations that historically were not eligible for EM—most notably, those convicted of sex offenses,¹⁴³ a uniquely vilified category of offenders.¹⁴⁴ GPS monitoring was appealing in the sex offender context both because it allowed 24/7 supervision of offenders and because it facilitated the enforcement of exclusion zones where an offender was forbidden to travel. For example, sex offenders routinely are prohibited from traveling within a certain distance of schools or parks, and GPS technology can be programmed to set off an alarm that would alert corrections staff if an offender has violated these travels

139. Telephone Interview with Kevin O'Connell, *supra* note 93. These decisions differ by county, and no aggregate statistics are currently available. Collecting comprehensive survey data from this "natural experiment" is a subject for future research.

140. *Id.*

141. Michael G. Maxfield & Terry L. Baumer, *Home Detention with Electronic Monitoring Comparing Pretrial and Postconviction Programs*, 36 CRIME & DELINQ. 521, 522–23 (1990).

142. Elyssa Cherney, *Lingering Questions over GPS Monitoring Delay Action*, ORLANDO SENTINEL (June 22, 2015, 5:52 PM), <http://www.orlandosentinel.com/news/os-gps-orange-county-courts-20150622-story.html> (reporting on a six-year period from 2009 through 2015).

143. Darren Gowen, *Remote Location Monitoring—A Supervision Strategy to Enhance Risk Control*, FED. PROB., Sept. 2001, at 38, 40.

144. See, e.g., Karen Harrison, *Preface* to MANAGING HIGH-RISK SEX OFFENDERS IN THE COMMUNITY, at xvii, xvii (Karen Harrison ed., 2010); Kelly K. Bonnar-Kidd, *Sexual Offender Laws and Prevention of Sexual Violence or Recidivism*, 100 AM. J. PUB. HEALTH 412, 412 (2010); Editorial, *Do Sex Offenders Deserve a Scarlet Letter on Their Passport?*, L.A. TIMES (Feb. 3, 2016, 5:00 AM), <http://www.latimes.com/opinion/editorials/la-ed-0203-sex-offenders-20160203-story.html> (discussing the vilification of sex offenders in reference to a congressional proposal to mark the passports of some sex offenders post-sentence so they would be identifiable while traveling abroad).

restrictions.¹⁴⁵

Especially in the context of parole, some states have used GPS monitoring of sex offenders as a substitute for incarceration. For example, in Michigan, the Parole Board historically was reluctant to release eligible sex offenders, but it changed course once promised that these parolees would be subject to GPS monitoring. In 2003, Michigan's prison system housed 17,000 sex offenders who had passed their earliest release date; these prisoners were legally eligible for parole yet were routinely denied it. At that time, the parole rate in Michigan for sex offenders was 11 percent.¹⁴⁶ Patricia Caruso, the newly appointed Director of Michigan's Department of Corrections, believed that this rate could increase if she managed to stratify sex offenders to separate out "who we're angry at from who we're actually afraid of."¹⁴⁷ Central to this strategy was a \$10 million investment in GPS technology.

EM helped to drastically reduce the population of sex offenders in prison. Under the "new regime" that Caruso oversaw, 100 percent of paroled sex offenders would be on active GPS monitoring. Caruso restructured parole supervision so there would be "sex offender specialists" with special training.¹⁴⁸ By 2011, when Caruso left the Department of Corrections, the parole rate for sex offenders had increased to 50 percent.¹⁴⁹ Caruso described the "peace of mind" that EM provided, which enabled the parole board to become more comfortable with the idea of granting parole to sex offenders.¹⁵⁰ Notably, none of these parolees was convicted for another sex offense.¹⁵¹

B. THE USE OF ELECTRONIC MONITORING AS AN ADDED SANCTION

Beyond the use of GPS monitoring as a *substitute* for incarceration, the introduction of GPS technology into the criminal justice sphere resulted in a spike of novel uses of EM as an *addition*—an added condition for individuals who are no longer subject to probation or parole (what is colloquially referred to as "off paper").¹⁵² The use of EM as an added

145. See Jonathan J. Wroblewski, *ReSTART GPS, Offender Reentry, and a New Paradigm for Determinate Sentencing*, 20 FED. SENT'G REP. 314, 315 (2008).

146. Telephone Interview with Patricia Caruso, *supra* note 121.

147. *Id.*

148. *Id.*

149. *Id.*

150. *Id.* Caruso also explained that she would not have guessed how effective and successful GPS technology would be, recounting that many employers were open to working with people on parole. *Id.*

151. *Id.*

152. Christopher Uggen & Jeff Manza, *Lost Voices: The Civic and Political Views of*

condition—rather than as a way to reduce prison overcrowding, save money, or promote rehabilitation—has been particularly prevalent in the sex offender context. For example, in 2005, Florida lawmakers enacted the Jessica Lunsford Act, which included the provision that certain sex offenders would be subject to GPS monitoring for life.¹⁵³ This means that, in Florida, after some offenders complete their sentences and would otherwise be released from criminal justice purview, they remain subject to EM for the rest of their lives. The Florida law neither provides for individual assessment nor allows review based on documentation of changed circumstances.¹⁵⁴ Many states have followed Florida's lead and require sex offenders to be electronically monitored for some amount of time post-sentence.¹⁵⁵ In twelve states, some sex offenders are subject to lifetime GPS monitoring.¹⁵⁶

This additive use of EM represents a striking departure from the traditional conception of EM as well as from its prior uses. When EM is used as an added condition—or collateral consequence¹⁵⁷—it imposes additional costs but does not aid in reducing imprisonment.¹⁵⁸ This additive use thus runs counter to the founding principles of EM: to reduce and eventually eliminate the need for prisons and jails. Yet these uses of EM as an added condition are imposed on persons by virtue of their having been brought into the criminal justice system, and they arguably have the same social meaning associated with punishment as does EM when used as a substitute for incarceration.

The new mass monitoring can best be understood as bifurcated—used either as a substitute or as an added condition—and it demands an analytic approach that takes these two distinct uses into account. As the next Section illustrates, disaggregating the uses of EM as substitute and addition helps to clarify discourse and reconcile competing claims about mass monitoring.

Disenfranchised Felons, in IMPRISONING AMERICA: THE SOCIAL EFFECTS OF MASS INCARCERATION, *supra* note 9, at 165, 182.

153. Jessica Lunsford Act, 2005 FLA. LAWS ch. 28 (codified as amended in scattered sections of FLA. STAT.).

154. *See id.*

155. *See, e.g.*, TENN. CODE ANN. § 40-39-207 (2016).

156. *See supra* note 8.

157. For a general discussion of collateral consequences, see Anthony C. Thompson, *Navigating the Hidden Obstacles to Ex-Offender Reentry*, 45 B.C. L. REV. 255, 258 (2004).

158. That is, it does not substitute the sanction of incarceration with the sanction of EM. However, the use of EM as an addition potentially could reduce recidivism through deterrence and incapacitation, thus reducing imprisonment overall. Studies of the recidivism-reduction effect of EM, however, are inconclusive. *See infra* notes 292–297 and accompanying text.

C. MASS MONITORING RHETORIC

Criminal justice use of EM has generated polarized reactions. Supporters stress the cost savings associated with EM as well as its rehabilitative potential. Detractors focus on the intrusiveness of EM, expressing concerns about a net-widening effect, that EM use will significantly expand the purview of the criminal justice system and the number of individuals subject to government surveillance.¹⁵⁹ These conflicting claims are premised on an understanding of EM as a unitary, theoretical concept that is either a wholly positive or wholly negative criminal justice development.

This Article rejects this dominant approach, identifying EM instead as a tool that has many specific functions, and demonstrates that this disaggregated approach enables a more nuanced understanding of the varied uses of EM in the criminal justice system and can help to reconcile competing normative claims.¹⁶⁰ Central to this preferred disaggregated approach is the substitution/addition distinction: whether EM is used as an added condition to an existing sanction or as a substitute for incarceration. Indeed, closer scrutiny reveals that supporters of EM tend to assume its use is as a substitute for incarceration, while those opposed to EM tend to assume its use is in addition to an already proportionate punishment, and thus is both unnecessary and excessive. The substitution/addition distinction helps to clarify these conflicting reactions to the expansion of EM, illustrating that these reactions are largely predicated on distinct notions of what this expansion entails, what populations will be monitored, and whether modern uses of EM comport with founding principles. While it is not always possible to know for certain whether EM is being used as an addition or substitution, the inquiry itself is crucial and often provides persuasive evidence of how a particular use of EM relates to criminal justice ends.

1. Support for Electronic Monitoring Use as a Substitute

Supporters of criminal justice EM tend to assume, whether explicitly or implicitly, that it is used as a substitute for incarceration. In the face of severely (and even unconstitutionally)¹⁶¹ overcrowded prisons (and

159. Bonta et al., *supra* note 50, at 71–73.

160. Scholarly accounts of EM have tended to approach the technology as a concept rather than as a tool, thus blurring EM's many distinct criminal justice uses. *See, e.g.*, Bülow, *supra* note 78, at 506 (analyzing concerns about privacy, stigmatization, and equity without disaggregating the many uses of EM). Such abstract assessments are of limited help to legal and policy debates about EM use.

161. *See, e.g.*, *Brown v. Plata*, 563 U.S. 493, 502 (2011) (holding that California's prisons were

immigration centers) and state budget deficits, these supporters have lauded EM as a partial solution.¹⁶² Proponents point to significant cost savings that result from monitoring offenders rather than incarcerating them.¹⁶³ Estimates show that, including personnel costs, monitoring an individual with a second-by-second GPS system costs approximately \$20 per day.¹⁶⁴ This is compared to \$30 to \$150 daily for incarceration.¹⁶⁵

In addition to significant cost savings, proponents of EM point to the social benefits of interfering less dramatically with offenders' family structures, again assuming that the alternative is prison or jail.¹⁶⁶

unconstitutionally overcrowded).

162. Early proponents of criminal justice use of surveillance technology included prison abolitionists who envisioned the future use of EM as the catalyst to "empty the world's prisons." *E.g.*, Ralph K. Schwitzgebel, *Behavioral Electronics Could Empty the World's Prisons*, *FUTURIST*, Apr. 1970, at 59, 59–60. Many pilot EM programs have been instituted with the central goal of reducing prison overcrowding. *See, e.g.*, VT. STAT. ANN. tit. 13, § 7554d (2016) ("The goal of the pilot program is to assist policymakers in determining whether electronically monitored home detention and home confinement can be utilized . . . to save valuable bed space for detainees and inmates who . . . would otherwise be lodged in a correctional facility.").

163. *E.g.*, Brian K. Payne & Randy R. Gainey, *Attitudes Toward Electronic Monitoring Among Monitored Offenders and Criminal Justice Students*, 29 *J. OFFENDER REHABILITATION* 195, 196 (1999). Others have pointed out the "opportunity cost" associated with public spending on prisons since "resources directed to prisons could have been directed instead to another area of criminal justice, or to education or health." Jones, *supra* note 12, at 477. However, to the extent that EM is used as an addition, states will end up paying more per offender and will need to employ more individuals to monitor those subject to EM. *See* Button et al., *supra* note 4, at 419 ("There may not be enough time or financial resources for officers to accomplish all of the necessary duties to adequately manage a growing population of parolees with electronic monitoring.").

164. Stuart S. Yeh, *Cost-Benefit Analysis of Reducing Crime Through Electronic Monitoring of Parolees and Probationers*, 38 *J. CRIM. JUST.* 1090, 1091 (2010).

165. Natasha Alladina, *The Use of Electronic Monitoring in the Alaska Criminal Justice System A Practical Yet Incomplete Alternative to Incarceration*, 28 *ALASKA L. REV.* 125, 144 n.136 (2011); David Ovalle, *Plan to Release Low-Level Miami-Dade Inmates on GPS Monitors to Save over \$1 Million a Year*, *MIAMI HERALD* (Aug. 30, 2014, 7:14 PM), <http://www.miamiherald.com/news/local/community/miami-dade/article1985206.html>. Another study concluded that pretrial detention costs more than four times the cost of EM per day. *See also* Marie VanNostrand & Gena Keebler, *Pretrial Risk Assessment in the Federal Court*, *FED. PROB.*, Sept. 2009, at 3, 6 (reporting that the average cost of pretrial detention was \$19,000 per defendant, compared to the average daily cost of EM, which was between \$3,100 and \$4,600).

166. *See, e.g.*, Payne & Gainey, *supra* note 33, at 429 ("I feel fortunate to be back in my family. . . I've been able to help my mother tremendously with household duties and yard work."); Matthew J. Kucharson, Note, *GPS Monitoring A Viable Alternative to the Incarceration of Nonviolent Criminals in the State of Ohio*, 54 *CLEV. ST. L. REV.* 637, 639 (2006). *But see* James Kilgore, *Progress or More of the Same? Electronic Monitoring and Parole in the Age of Mass Incarceration*, 21 *CRITICAL CRIMINOLOGY* 123, 129 (2013) (noting that EM can strain familial relationships). A survey funded by the Department of Justice found that 89 percent of probation officers believed that "offenders' relationships with their significant others changed as a result of being placed on EM." BALES ET AL., *supra* note 12, at 92. Both officers and those monitored observed that the ankle band had a distinct impact on children. As one parent testified, "When it beeps, the kids worry about whether the probation

Supporters also stress that EM may enable an offender to pursue an education¹⁶⁷ or to remain employed,¹⁶⁸ which can provide many benefits, including to the offender's dependents.¹⁶⁹ These advantages hearken back to the early visions of EM as a progressive, humane alternative to incarceration.

2. Criticism of Electronic Monitoring Use as an Addition

Detractors tend to assume that EM will be used as an added condition and have decried the increased use of this technology as an invasive and inhumane expansion of the power and reach of the criminal justice system. Indeed, much of the criticism of EM has focused on the "increased state control" that it may engender¹⁷⁰ and is based on an (often implicit)

officer is coming to take me to jail. The kids run for it, when it beeps." *Id.* at 90. Another noted that his child "straps a watch around his ankle to be like daddy." *Id.*

167. See, e.g., John C. Rapone, Note, *Thinking Outside of the Box Why Prisons Are Only Part of the Solution*, 18 SUFFOLK J. TRIAL & APP. ADVOC. 128, 149 (2013) (emphasizing that EM can provide opportunities for rehabilitation that include education and support from family and friends); Boone Cty. Cmty. Corrections, *GPS Monitoring*, BOONE CTY. IND., <http://boonecounty.in.gov/Default.aspx?tabid=442> (last visited Jan. 6, 2017) (noting that, as part of the Boone County EM program, "[o]ffenders without a GED or high school diploma . . . will be encouraged to complete their GED").

168. See, e.g., Inka Wennerberg, *High Level of Support and High Level of Control An Efficient Swedish Model of Electronic Monitoring?*, in ELECTRONICALLY MONITORED PUNISHMENT, *supra* note 1, at 113, 119. However, while EM could be used to facilitate employment, offenders subject to EM have complained about significant obstacles due to requirements associated with EM. One advised that the Maryland Department of Corrections should allow offenders to schedule their day so they can preserve time to search for jobs, questioning the wisdom of extensive restrictions regarding time outside the home for someone already wearing a GPS monitor. Put simply, "I'm on GPS; why are you asking where I'm at?" James Kilgore, *Shawn Harris Advice to MDOC on Electronic Monitoring*, YOUTUBE (Aug. 10, 2013), <http://www.youtube.com/watch?v=pIauXw100ys>. One individual who had experienced EM reflected on the challenges associated with seeking or maintaining a job while on EM: "A good eighty, ninety percent of [employers] will have a problem" with an interviewee arriving under EM; "if they know you're under that monitoring system, you're pretty much—you know you're not going to get that job." James Kilgore, *Shawn Harris Talks About Finding a Job on GPS*, YOUTUBE (Aug. 10, 2013), <http://www.youtube.com/watch?v=7yeKk1jJyMI>. An attorney representing a company that declined to hire an applicant on EM explained that the applicant's "two-hour application process was disrupted four to six times by his GPS device," "indicat[ing] a high level of potential for disruption in any assignment where the applicant could be placed." Koran, *supra* note 116 (internal quotation marks omitted).

169. See, e.g., Edna Erez et al., *Electronic Monitoring of Domestic Violence Cases—A Study of Two Bilateral Programs*, FED. PROB., June 2004, at 15, 16, 18. *But see* Kilgore, *supra* note 166, at 129–31 (noting that EM can make it difficult to find employment). While the Danish criminal justice system is different in many respects from that of the United States, a study in Denmark reported that offenders who were monitored while remaining gainfully employed were less likely to be dependent on state benefits when compared to their incarcerated counterparts. Lars Højsgaard Andersen & Signe Hald Andersen, *Losing the Stigma of Incarceration Does Serving a Sentence with Electronic Monitoring Causally Improve Post-Release Labor Market Outcomes?* 24 (Rockwood Found. Research Unit & Univ. Press of S. Den., Study Paper No. 40, 2012).

170. See Michael Tonry & Mary Lynch, *Intermediate Sanctions*, 20 CRIME & JUST. 99, 122

assumption that EM is being used as an added condition.¹⁷¹ This concern is particularly salient in the pretrial context, when defendants are presumed innocent and would, in the absence of EM, be released either on their own recognizance or after posting bail (and without any additional restrictions).¹⁷²

Critics have also raised concerns that EM could eventually replace traditional probation.¹⁷³ According to one detractor, “the question that arises is less ‘why would the state want to remotely monitor and manage offenders’ locations?’ and more ‘why would it not?’”¹⁷⁴ Implicit in this observation is the concern that, unlike prisons, monitoring costs are so minimal that there may be little reason for states to reduce the imposition that EM makes on the freedom of disenfranchised groups.

Private companies—including private prisons—increasingly are investing in monitoring technology,¹⁷⁵ which has given rise to concerns

(1996) (citing an EM program in Arizona that was originally created to provide early release for low-level offenders, but, due to the reluctance of parole boards to approve inmates for eligibility and a rate of technical violations two times the rate for ordinary parolees, became a way to exercise more stringent controls over inmates than would have been previously possible); Molly Carney, Note, *Correction Through Omniscience: Electronic Monitoring and the Escalation of Crime Control*, 40 WASH. U. J.L. & POL’Y 279, 294 (2012).

171. See, e.g., Carney, *supra* note 170, at 296; Wiseman, *supra* note 13, at 1376–77. U.S. criminal justice norms with respect to EM vary considerably from those of some European, and particularly Scandinavian, countries. For example, in Greece, EM is viewed as excessively punitive for any criminal justice purpose and has been categorically prohibited. Mike Nellis, *Understanding the Electronic Monitoring of Offenders in Europe: Expansion, Regulation and Prospects*, 62 CRIME, L. & SOC. CHANGE 489, 496 (2014). In Sweden, some probation (and prison) officers “thought that EM was inhumane and represented an unacceptable intrusion in the life of offenders, inconsistent with basic probation values.” Mike Nellis & Jan Bungerfeldt, *Electronic Monitoring and Probation in Sweden and England and Wales: Comparative Policy Developments*, 60 PROB. J. 278, 283 (2013) (internal quotation marks omitted).

172. See Burns, *supra* note 3, at 88 (citing arguments from organizations such as the ACLU). Of course, EM in this context is used as a condition of bail, which raises the question: if not for the possibility of EM, would the suspect have been given the option of money bail, or would the suspect otherwise have been detained?

173. See Elizabeth D. Chicknavorian, Note, *House Arrest: A Viable Alternative to the Current Prison System*, 16 NEW ENG. J. ON CRIM. & CIV. CONFINEMENT 53, 59–60 (1990).

174. Mike Nellis, *Surveillance-Based Compliance Using Electronic Monitoring*, in WHAT WORKS IN OFFENDER COMPLIANCE 143, 161 (Pamela Ugwudike & Peter Raynor eds., 2013).

175. Private industry stakeholders have begun adapting to changing times by investing in surveillance, reentry, non-criminal detention, and probation, “looking at all streams to generate revenue” and pursuing the “grow or die” strategy. Avlana K. Eisenberg, *Incarceration Incentives in the Decarceration Era*, 69 VAND. L. REV. 71, 119 (2016) (internal quotation marks omitted). “[T]he GEO Group recently acquired Behavioral Interventions, a GPS monitoring company,” and “[i]n 2009, Behavioral Interventions signed a five-year, \$372 million contract with U.S. Immigration and Customs Enforcement (ICE) to monitor nearly 30,000 immigrants awaiting asylum or deportation hearings.” *Id.* at 119–21. For private prison companies, an investment in monitoring is a means of diversification in

about potential conflicts of interest due to companies' financial incentives to monitor and incarcerate more people. Private sector investment in EM technology thus contributes to the broader narrative of the "commercial corrections complex."¹⁷⁶ Critics have described the system as "runn[ing] non-stop like a hamster wheel . . . it goes round and round and round and everybody's gettin' their money."¹⁷⁷

In the pretrial context, EM detractors have expressed concern that as private corporations continue to enter the market for EM technology, they may lobby to add GPS as a default condition of pretrial release, even when the suspect is non-dangerous, presents minimal flight risk, and has posted bail.¹⁷⁸ These concerns are not unfounded; for example, in August 2014, a "tracker program" was instituted in Columbia, South Carolina, and during the program's first year, judges "made [EM] a condition of bond hundreds of times, often for minor traffic violations or low-level misdemeanors."¹⁷⁹

For the private sector, EM as substitute and EM as addition represent two separate markets where growth is possible, so manufacturers likely will pursue both. However, especially where the EM provider is also a private prison company, the provider has far more to gain from selling EM for use as an added condition; for example, EM providers may prefer that EM is used as a default pretrial sanction and that more individuals are subject to lifetime EM upon completion of their sentences. Thus, concerns about the private-sector influence on the growth of EM are particularly salient when EM is used as an added condition.

the face of commitments by states to reduce their prison populations. *See id.* at 121. G4S, which monitors "more than 50,000 people in 15 countries," advertises that they offer "a robust alternative to expensive prison custody for offenders who are deemed suitable for tagging." *Electronic Tagging Changes Needed to Save Money*, BBC NEWS, (Sept. 24, 2012) (internal quotation marks omitted), <http://www.bbc.com/news/uk-19692306>.

176. J. Robert Lilly & Richard A. Ball, *Selling Justice Will Electronic Monitoring Last?*, 20 N. KY. L. REV. 505, 529–30 (1993).

177. James Kilgore, "You Just Turned My Family's House into Another Cell," VOICE MONITORED (Aug. 11, 2013) (internal quotation marks omitted), <https://voiceofthemonitored.com/2013/08/11/you-just-turned-my-familys-house-into-another-cell>.

178. *See, e.g.*, ACLU, IN FOR A PENNY: THE RISE OF AMERICA'S NEW DEBTORS' PRISONS 63 (2010); J. Robert Lilly, *An Overview on Electronic Monitoring The United States and Britain 1988*, in THE ELECTRONIC MONITORING OF OFFENDERS 5, 5 (Ken Russell & J. Robert Lilly eds., 1989) (noting "the development in the US of an increasingly significant number of private corporations organized to offer 'tagging' services to an expanding market").

179. Eric Markowitz, *Chain Gang 2.0 If You Can't Afford This GPS Ankle Bracelet, You Get Thrown in Jail*, INT'L. BUS. TIMES (Sept. 21, 2015, 7:55 AM), <http://www.ibtimes.com/chain-gang-20-if-you-cant-afford-gps-ankle-bracelet-you-get-thrown-jail-2065283>.

D. THE BASELINE PROBLEM

While the use of EM at each stage in the criminal justice process presents discrete analytical problems, whether EM is imposed as an added condition to or a substitute for incarceration is the most salient distinction within each of these categories. So how can one best determine the specific function of a particular EM use? Doing so requires asking the following question: What would be the *alternative* to EM use?

This question is germane to each of the five potential criminal justice uses of EM, and the specific inquiries are as follows:

- Pretrial: In the absence of EM, would the person be detained or be released on personal recognizance or money bail?¹⁸⁰
- Probation: In the absence of EM, would the person be incarcerated or released on probation, though not subject to EM?
- Community confinement: In the absence of EM, would the person be incarcerated or subject to house arrest without EM?
- Parole: In the absence of EM, would the person be incarcerated or paroled without EM?
- Post-sentence: In the absence of EM, would the person be civilly confined or subject to no criminal justice oversight?

Depending on the context of EM use and, specifically, what sanction would attach if EM were not available, assessments of whether EM is cost saving, net-widening, or otherwise justifiable according to various principles will differ substantially.

Importantly, until the advent of GPS technology, the question of whether EM was used as a substitute or added condition was a nonissue, as EM was used exclusively as a substitute. Yet there are now plentiful examples of EM use as substitute and added condition, often by the same state—for example, California. In some instances, these uses are unambiguous and easily distinguishable.

GPS technology was first used by the California Department of Corrections and Rehabilitation in the early 2000s as an added condition: to monitor sex offenders post-sentence.¹⁸¹ This use of EM is an archetypal example of EM as an added condition. Since the offender, post-sentence, is technically no longer subject to criminal justice supervision, the imposition of EM at this stage is unambiguously an added condition rather than a

180. Notably, money bail could be more or less stringent than EM depending on how high bail is set and whether the offender is required to pay for EM. *See infra* Part III.B.1.

181. *See* Telephone Interview with Kevin O'Connell, *supra* note 93.

substitute. Of course, if the individual would otherwise be civilly confined, then EM could be understood as a less restrictive substitute for civil confinement. Otherwise, however, this use clearly constitutes an added condition.

Other uses of EM in California are unambiguously a substitute for incarceration. Since the 2011 Supreme Court decision in *Brown v. Plata*, which mandated that California address its prison overcrowding problem, and the resulting realignment scheme designed to comply with the court's order, EM has been used for a broad array of offenders as a substitute for incarceration.¹⁸² For whatever portion of their sentence they serve on EM, offenders receive that amount of credit for time served, a 1:1 ratio of EM to incarceration. The 1:1 ratio of EM to incarceration represents the most archetypal use of EM as a substitute.

For a contrasting example of EM as a substitute at the post-conviction stage, recall that in Rhode Island, eligible post-conviction offenders can opt into a community confinement program, where they are subject to radio frequency monitoring, instead of going to prison or jail.¹⁸³ The duration of an offender's stay in Community Confinement is based on a 2:1 ratio: twice the length of the prison term the offender received.¹⁸⁴ So while the same offender profile in California and Rhode Island might serve the entirety of a sentence in the community subject to EM, that offender would be subject to criminal justice surveillance for twice the amount of time in Rhode Island.¹⁸⁵ Nonetheless, Rhode Island's use of EM still fits squarely within the substitution framework (although the 2:1 ratio raises questions about what ratio of EM to incarceration is most defensible).

These are the easy cases. But what about borderline cases where EM is neither obviously a substitute nor an addition? Recall the Michigan parole example, where the use of EM helped to reduce drastically the population of sex offenders in prison by increasing the parole rate from 11 percent to 50 percent.¹⁸⁶ In that example, once EM was included as part of parole, offenders were released from prison earlier than they otherwise

182. See *supra* notes 135–140 and accompanying text.

183. DEP'T OF CORRECTIONS, STATE OF R.I., *supra* note 6, at 8.

184. Interview with Anne D'Alessio, *supra* note 58.

185. Notwithstanding the 2:1 ratio, virtually every eligible offender has opted for the Community Confinement program. *Id.* D'Alessio explained the reasons an eligible offender might not opt to participate: (1) the offender has no money for a phone line or (2) the offender has problems at home and no other place to stay. *Id.* For those individuals who were unable to afford a phone line, the Rhode Island Department of Corrections has provided a payment plan after the offender's release. *Id.*

186. Telephone Interview with Patricia Caruso, *supra* note 121.

would have been. EM thus functioned in this context as a substitute for incarceration. However, one could imagine an analogous situation in which EM functioned as an added condition. Suppose the counterfactual scenario where, in the absence of the EM option, the offenders eligible for parole in Michigan would have been released anyway. In that case, the imposition of EM would be better understood as an added condition.

To assess whether EM in a particular context is used as a substitute or added condition, one must first know to what sanction the offender would be subject if *not* for the availability of EM technology. This presents a potential baseline problem at every stage in the criminal justice process.

Ultimately, proper characterization of a given use of EM is a tall order since it may not always be obvious to what sanction the offender would have been subject if not for the availability of EM technology. Answering this question might require asking decisionmakers, who may not themselves know, what they would have done if the EM technology were not available. Or it might require speculating about what decisionmakers would have done based on how restrictive sanctions were for a given crime in the past. An inquiry into this baseline may be pivotal for analytical purposes, but it is also highly manipulable. Still, in many instances one can derive some clarity by examining how EM is used more broadly in a particular jurisdiction. For example, where EM is imposed in broad brush strokes as a default condition (such as for all suspects pretrial or for all sex offenders post-sentence), it may be safe to presume that EM is being used as an added condition in at least some of these instances.

Meanwhile, the baseline problem, while vexing, is at least not omnipresent. Furthermore, due to prison and jail overcrowding as well as concerns about the fiscal viability of current incarceration rates, states and counties likely will continue turning to EM as an alternative to incarceration, whether combined with community confinement programs, in conjunction with parole or probation supervision, or in the pretrial context.

However, the substitution/addition distinction demands an increased awareness of the relationship between EM use and punitive purposes. When EM is used as an alternative to incarceration, it is *de facto* punitive. However, when the same restriction is imposed in the post-sentence context, some legislatures and courts have tried to distinguish this post-sentence use as “merely regulatory.” Yet there is no principled reason given as to why the meaning of EM is or should be any different in these contexts. As Part I.B demonstrated, EM satisfies the purposes of

punishment, and thus can reasonably be favored by reformers seeking to reduce incarceration rates as an alternative to imprisonment. By contrast, the use of EM as an added sanction results in disproportionately excessive punishment, which is of particular concern given the already severe U.S. sentencing system.

E. PUNISHMENT THEORY IMPLICATIONS

Both retributive and utilitarian theories of punishment value proportionality and thus would disfavor the use of EM as an added condition. The retributivist would be concerned about the use of EM as an added condition since, provided that EM causes a non-negligible amount of pain, the addition of EM to an already appropriate punishment would run afoul of the proportionality requirement. Put simply, if the appropriate punishment is deemed to be X, adding EM to X will increase the offender's punishment beyond its appropriately proportionate level. Similarly, even if the expressivist might generally favor the use of EM to make an offender's conviction and punishment into a "public spectacle," inasmuch as the principle of proportionality is built into expressivism¹⁸⁷—a notion that the shame should fit the crime—adding the shaming sanction of EM to a preexisting proportionate punishment would seem excessive.¹⁸⁸

Strictly speaking, the deterrence theorist would not favor use of EM as an added condition since such use would over-deter criminal conduct.¹⁸⁹ If the appropriate punishment has already been imposed, as calibrated by the principles of deterrence, then the added condition of EM should be unnecessary.¹⁹⁰ The assertion that society would be safer if all offenders on probation or parole were subject to EM may be true in a narrow sense, but would not withstand a cost-benefit analysis. For while society may indeed be safer if we "incapacitate" more people (whether for suspicious behavior or criminal history), this logic would result not only in a sharp uptick in EM use, but also in a continued rise in incarceration, since imprisonment is

187. See, e.g., Carissa Byrne Hessick, *Motive's Role in Criminal Punishment*, 80 S. CAL. L. REV. 89, 113 (2006).

188. While evaluating EM through an expressive lens may be compatible with retributivism, expressivism also can be framed as reflective of utilitarianism. Heidi M. Hurd, *Expressing Doubts About Expressivism*, 2005 U. CHI. LEGAL F. 405, 429. Instead of being a "scarlet letter," a utilitarian, expressive use of EM might stress the rehabilitative potential of EM. For example, the choice might be made to use a tiny monitoring device that is not visible, thus sending the message that we as a society want to do whatever possible to aid in the reintegration of ex-offenders. A gap exists in the message-sending potential of EM between when it is imposed as a lifetime sanction and when EM is integrated into a reentry protocol and understood to be temporary.

189. See Olsen, *supra* note 108, at 43.

190. This analysis echoes that of retributivism and expressivism.

undoubtedly more effective as a means of specific deterrence than is EM use.¹⁹¹ Further, to the extent that EM caseworkers are already overburdened, a drastic increase in the number of individuals subject to EM would exacerbate this problem, resulting in less responsiveness by those tasked with monitoring the EM devices and decreasing the overall efficacy of EM use.

Additionally, where EM is imposed as an added condition solely as a means to punish (that is, as a stick rather than a carrot), EM would not fulfill rehabilitative goals. An early EM experiment with juveniles in the 1960s used EM as a means of “positive reinforcement” “to monitor the movements of juvenile offenders [to] encourage them to show up to places on time.”¹⁹² According to one researcher, “[t]he purpose . . . was to give rewards to the offenders when they were where they were supposed to be, that is they were in drug treatment session, or went to school or a job And then we would signal them that they were eligible for a reward,” which might include pizza, a free haircut, or concert tickets.¹⁹³ He further explained, “What really changes behavior are motivational factors, such as fun and adventure and pride and accomplishment, recognition, affection”¹⁹⁴ While this example is consistent with rehabilitative principles, it is entirely distinct from the way EM currently is used in the adult criminal justice context. Absent are rewards and positive reinforcement; instead, EM use as an added condition functions as a stick, and enhanced supervision creates the possibility for more violations that could lead to incarceration.

III. THE FUTURE OF MASS MONITORING

Part III examines the implications of the foregoing analysis for the future of mass monitoring. It first addresses the additive uses of EM in the post-sentence and pretrial contexts, arguing that these uses are predicated on a faulty understanding of criminal justice EM use as “non-punitive” and

191. Here, analytically, specific deterrence looks a lot like incapacitation, and no one has argued that EM is more effective at incapacitating individuals than prison or jail. Even incarceration, however, is not a perfect fix, as many inmates over the years have managed to escape from prison and jail. See Justin Wm. Moyer, *New York Prison Break Just One of 2,000 Per Year*, WASH. POST (June 8, 2015), <http://wpo.st/dR0Q2> (reporting 2,001 prison escapes in 2013).

192. Emma Anderson, *The Evolution of Electronic Monitoring Devices*, NPR, (May 24, 2014, 5:26 AM), <https://n.pr/1pqaSoH>. See also Kashann Kilson, *How the Best Intentions and Spider-Man Helped Launch Ankle Monitors*, INVERSE (Nov. 20, 2015), <http://inv.rs/b1o>.

193. Anderson, *supra* note 192.

194. *Id.* (“Unfortunately, electronic technology has gone to punishment instead of the use of positive reinforcement.”).

should be revisited by courts and legislatures. It then identifies key policy considerations for the future of mass monitoring, concluding that EM as an added sanction should be presumptively disfavored and that, even where EM is appropriately characterized as punitive and used as a substitute for incarceration, policymakers should institute safeguards to promote fairness and to avoid the unfettered expansion of this technology.

A. DOCTRINAL IMPLICATIONS FOR “NON-PUNITIVE” USES OF ELECTRONIC MONITORING

This Section scrutinizes the allegedly non-punitive uses of EM in the post-sentence and pretrial contexts. It finds that these uses are suspect on constitutional and policy grounds.

First, this Section addresses the constitutional issue. It argues that some courts have erred in their assessment of EM as non-punitive in the context of “civil” collateral consequences.¹⁹⁵ If EM use is appropriately understood as punitive, the retroactive imposition of EM after an offender has completed his or her sentence should be deemed unconstitutional. Yet some courts, including the Sixth and Seventh Circuits, have held that EM is non-punitive and that retroactive “lifetime” imposition of EM does not violate the Ex Post Facto Clause. Courts are split, as detailed below, and this Section suggests that the Supreme Court, when it hears a future case on this issue, should find that because EM is punitive, retroactive imposition of EM is unconstitutional.

Second, this Section casts doubt on how legislatures and courts have approached EM in the pretrial context. Where states use EM in addition to home confinement as a substitute for incarceration in the post-conviction context, the values of fairness and consistency counsel that the same sanction should “count” as credit toward time served. As with the post-sentence use of EM, there is no consensus among lower courts, and the Supreme Court has yet to consider this issue.

1. Retroactive Imposition as a “Civil” Collateral Consequence

In light of the history and widespread use of EM as a punitive sanction and its comportment with punishment theory, claims that the retroactive imposition of EM is merely regulatory are specious. Yet such claims

195. For a historical perspective on collateral consequences, see Chin, *supra* note 16, at 1793 (“[T]he systematic loss of legal status, subjecting an individual to numerous collateral consequences, has historically been treated as criminal punishment.”). See also Margaret Colgate Love, *Managing Collateral Consequences in the Sentencing Process: The Revised Sentencing Articles of the Model Penal Code*, 2015 WIS. L. REV. 247, 251–58.

abound. At the same time that EM is used increasingly by states as a substitute for incarceration—an indisputably punitive sanction—states have also imposed EM as a “civil” collateral consequence post-sentence.¹⁹⁶ In a growing number of states, individuals who have completed their sentences are subject to lifetime EM,¹⁹⁷ and some states have imposed such EM lifetime sentences retroactively.¹⁹⁸

On January 29, 2016, the Seventh Circuit upheld Wisconsin’s retroactive imposition of lifetime EM over an Ex Post Facto challenge.¹⁹⁹ The court’s ruling, reversing the district court,²⁰⁰ was premised on the notion that EM is not punitive.²⁰¹ The court reasoned, “Having to wear the monitor is a bother, an inconvenience, an annoyance, but no more is punishment than being stopped by a police officer on the highway and asked to show your driver’s license is punishment, or being placed on a sex offender registry”²⁰² There was no evidence presented to substantiate this characterization of EM as a mere “annoyance,” nor did the court grapple with existing empirical data that suggest offenders experience EM as punitive.²⁰³ The Seventh Circuit opinion also failed to mention the existing use of EM as a substitute for incarceration—decidedly a punitive use.

Lower courts are split on this issue, and the Supreme Court has yet to weigh in. The Seventh Circuit ruling in *Belleau v. Wall* comports with prior

196. See Chin, *supra* note 16, at 1799–803; *supra* note 8 and accompanying text.

197. See, e.g., FLA. STAT. § 948.012(4) (West 2016) (requiring that any person “who is convicted of a life felony for lewd and lascivious molestation” be subject to EM for the rest of their life, if not subject to life imprisonment); IND. CODE § 35-50-6-1(f) (West 2016) (requiring that sexually violent predators on parole who move to Indiana wear a monitoring device); KAN. STAT. ANN. § 22-3717(u) (2016); LA. REV. STAT. ANN. § 15:560.3(A)(3) (2016); ME. REV. STAT. tit. 17-A, § 1231 (2016); MICH. COMP. LAWS § 750.520n (2016); MO. REV. STAT. § 559.106 (2016) (requiring that “prior sex offender[s] . . . be electronically monitored . . . [by] a global positioning system or other technology that identifies and records the offender’s location at all times”).

198. See, e.g., TENN. CODE ANN. § 40-39-303 (2016); WIS. STAT. § 301.48 (2016).

199. *Belleau v. Wall*, 811 F.3d 929, 937–38 (7th Cir. 2016).

200. *Belleau v. Wall*, 132 F.Supp.3d 1085 (E.D. Wis. 2015), *rev’d*, 811 F.3d 929 (7th Cir. 2016).

201. See *Belleau*, 811 F.3d at 937 (“The monitoring law is not punishment; it is prevention.”).

202. *Id.* But see Lance J. Rogers, *Lifetime GPS Ankle Monitor Is Constitutional*, BLOOMBERG BNA: CRIM. L. REP. (Feb. 3, 2016), <http://www.bna.com/lifetime-gps-ankle-n57982066905> (discussing division among courts as to the punitive nature of EM).

203. The court analogized to a posted speed limit, completely ignoring the physical aspects of the EM device affixed to the wearer’s body 24/7: “[N]o one thinks that a posted speed limit is a form of punishment. It is a punishment trigger if the police catch you violating the speed limit, but police are not required to obtain a warrant before stopping a speeding car. The anklet monitor law is the same: it tells the plaintiff—if you commit another sex offense, you’ll be caught and punished, because we know exactly where you are at every minute of every day.” *Belleau*, 811 F.3d at 938.

decisions by the Sixth Circuit²⁰⁴ and courts in North Carolina²⁰⁵ and South Carolina²⁰⁶ holding that retroactive imposition of EM could withstand an Ex Post Facto challenge. By contrast, courts in Massachusetts²⁰⁷ and New Jersey²⁰⁸ have ruled that the retroactive imposition of EM is unconstitutional.

In the absence of Supreme Court precedent on the constitutionality of retroactive imposition of EM, courts grappling with this issue have relied on the Court's handling of the retroactive imposition of a sex offender registration requirement. In *Smith v. Doe*, which involved the constitutionality of Alaska's Sex Offender Registration Act,²⁰⁹ the Court outlined a two-step process to determine whether the statute at issue was punishment or not.²¹⁰ First, the court determines whether the state legislature intended for the statute to be civil or punitive.²¹¹ If the intent was punitive, then the statute must be struck down as unconstitutional under the Ex Post Facto Clause.²¹²

If the court determines that the legislature's intent was non-punitive,²¹³ then the court next considers the *effect* of the statute and, specifically, whether the statute is so punitive in purpose or effect that the

204. *Doe v. Bredesen*, 507 F.3d 998, 1000 (6th Cir. 2007).

205. *State v. Bowditch*, 700 S.E.2d 1, 2 (N.C. 2010).

206. *State v. Nation*, 759 S.E.2d 428, 432 (S.C. 2014) (upholding "Jessie's Law" and finding that GPS monitoring is a "civil requirement," and "not a punishment"). Notably, this was a 3-2 decision, and the dissenters argued that the law was unconstitutional because it failed to require an individualized determination of the defendant's likelihood of recidivism. *Id.* at 432-33 (Hearn, J., dissenting).

207. *Commonwealth v. Cory*, 911 N.E.2d 187, 197 (Mass. 2009).

208. *Riley v. N.J. State Parole Bd.*, 98 A.3d 544, 560 (N.J. 2014).

209. *Smith v. Doe*, 538 U.S. 84, 89 (2003) (citing 1994 Alaska Sess. Laws ch. 41).

210. *Smith*, 538 U.S. at 92 (examining the constitutionality of retroactive imposition of the Alaska Sex Offender Registration Act, which required all sex offenders to register with the Department of Public Safety). Notably, this case involved two reversals: the district court ruled against petitioners, *id.* at 91, and the appellate court reversed, holding that the Act was punitive, and thus retroactive imposition violated the Ex Post Facto Clause, *id.* at 91-92. The Supreme Court reversed the appellate court's ruling. *Id.* at 106.

211. *Id.* at 92. See also Frank Jaehoon Lee, Note, *Severing the Invisible Leash: A Challenge to Tennessee's Sex Offender Monitoring Act in Doe v. Bredesen*, 44 U.C. DAVIS L. REV. 683, 688 (2010). Many have noted the fraught nature of inquiries into legislative intent. See, e.g., Frank H. Easterbrook, *The Role of Original Intent in Statutory Construction*, 11 HARV. J. L. & PUB. POL'Y 59, 66 (1988).

212. See *Smith*, 538 U.S. at 92.

213. In *Smith*, the majority determined that the legislative intent was civil. With no hint of irony, the majority noted that "[t]he notification provisions of the Act are codified in the State's 'Health, Safety, and Housing Code,' . . . confirming our conclusion that the statute was intended as a nonpunitive regulatory measure," while also maintaining that the fact that the Act's registration provisions are codified in the State's Code of Criminal Procedure is not dispositive, since "[t]he location and labels of a statutory provision do not by themselves transform a civil remedy into a criminal one." *Id.* at 94.

statute is in fact properly characterized as punishment.²¹⁴ In determining whether Alaska’s law requiring sex offenders to register with the Department of Safety could be imposed retroactively, the Supreme Court in *Smith* referred to the *Kennedy v. Mendoza-Martinez* precedent,²¹⁵ which set forth a balancing test²¹⁶ to determine whether the statute’s effect is punitive or non-punitive for purposes of Ex Post Facto analysis.²¹⁷ The *Smith* Court applied five “*Mendoza-Martinez* factors,” examining whether the Act at issue “has been regarded in our history and traditions as a punishment; imposes an affirmative disability or restraint; promotes the traditional aims of punishment; has a rational connection to a nonpunitive purpose; or is excessive with respect to this purpose.”²¹⁸ Over a sharply worded dissent,²¹⁹ the majority found that each factor supported the conclusion that the registration requirement was non-punitive.²²⁰ There is, however, reason to suspect that the Court’s ruling on this issue is inconclusive. The *Smith* case was decided 6-3, and those in the majority included Chief Justice Rehnquist and Justices Scalia, Souter, O’Connor, Kennedy, and Thomas. With only two of these Justices remaining on the Supreme Court, the question whether registration requirements are punitive could be resolved differently should the Supreme Court hear another similar challenge.

Furthermore, lower courts that have applied the *Smith* precedent have diverged considerably. While many have upheld laws that retroactively require sex offender registration,²²¹ a 2016 Sixth Circuit opinion distinguished Michigan’s Sex Offender Registration Act (“SORA”) from

214. See *Kennedy v. Mendoza-Martinez*, 372 U.S. 144, 168–69 (1963) (delineating a seven-factor test of whether a sanction is punitive); *Simmons v. Galvin*, 575 F.3d 24, 44 (1st Cir. 2009) (applying the *Mendoza-Martinez* factors to new laws disenfranchising imprisoned felons); *Myrie v. Comm’r*, 267 F.3d 251, 256 (3d Cir. 2001) (applying the *Mendoza-Martinez* factors to New Jersey law); *Doe v. Lee*, 132 F. Supp. 2d 57, 68 (D. Conn. 2001) (applying the *Mendoza-Martinez* factors to Connecticut’s sex offender registration act).

215. *Smith*, 538 U.S. at 97.

216. *Mendoza-Martinez*, 372 U.S. at 168 (enumerating “the tests traditionally applied to determine whether an Act of Congress is penal or regulatory in character”). See also *Belleau v. Wall*, 811 F.3d 929, 943 (7th Cir. 2016) (describing the discretionary nature of balancing tests, which “are neither exhaustive nor dispositive, they merely supply useful guideposts”).

217. *Mendoza-Martinez*, 372 U.S. at 164 (considering statutes that retroactively “impose[d] forfeiture of citizenship” to determine whether they were “essentially penal in character” for purposes of Ex Post Facto Clause analysis).

218. *Smith*, 538 U.S. at 97. Additional factors not considered by *Smith* included “whether the regulation comes into play only on a finding of scienter and whether the behavior to which it applies is already a crime,” which were “of little weight in this case.” *Id.* at 105.

219. *Id.* at 114–18 (Ginsburg, J., dissenting).

220. *Id.* at 97–103 (majority opinion).

221. *E.g.*, *Belleau v. Wall*, 811 F.3d 929, 941 (7th Cir. 2016).

the Alaska law found to be non-punitive by the Supreme Court in *Smith*.²²² After describing the evolution of SORA from “a non-public registry” to “a byzantine code governing in minute detail the lives of the state’s sex offenders,”²²³ the Sixth Circuit applied the five *Mendoza-Martinez* factors and found that the law was punitive in effect.²²⁴ The court found that the SORA restrictions comported with “the general, and widely accepted, definition of punishment offered by legal philosopher H.L.A. Hart,”²²⁵ and that SORA’s requirements resembled both the punishments of shaming and parole or probation.²²⁶ The court also focused on “the threat of serious punishment, including imprisonment” that would accompany a failure to comply.²²⁷ The court was not convinced by Michigan’s argument that since “these restraints are not physical in nature . . . the actual effects are therefore ‘minor and indirect.’”²²⁸ The court also observed, “SORA advances all of the traditional aims of punishment.”²²⁹ Notably, as to the question, “Does it have a rational connection to a non-punitive purpose?” the court highlighted the “significant doubt cast by empirical studies on the pronouncement in *Smith* that ‘[t]he risk of recidivism posed by sex offenders is frightening and high.’”²³⁰ The court also criticized SORA for its lack of “individualized assessments of proclivities or dangerousness.”²³¹ Finally, analyzing the question, “Is it excessive with respect to this purpose?” the court chided Michigan for “never analyz[ing] recidivism rates despite having the data to do so,” concluding that the “punitive effects” of SORA “far exceed even a generous assessment of their salutary effects.”²³²

Courts that confront an Ex Post Facto challenge to retroactive EM statutes invariably analyze EM by reference to sex offender registration requirements, among other sanctions,²³³ and they look to the two-part test

222. *Does #1–5 v. Snyder*, 834 F.3d 696, 703 (6th Cir. 2016).

223. *Id.* at 697.

224. *Id.* at 701–03.

225. *Id.* at 701.

226. *Id.* at 701–03.

227. *Id.* at 703.

228. *Id.*

229. *Id.* at 704.

230. *Id.* at 704 (quoting *Smith v. Doe*, 538 U.S. 84, 103 (2003)).

231. *Id.* at 705.

232. *Id.*

233. While sex offenders may be subjected to civil confinement post-sentence, and some may claim that EM is obviously less restrictive, there is a crucial difference. Sex offenders are not relegated to civil confinement en masse; rather, each is eligible for an individual assessment. Whatever one believes about the wisdom of civil confinement, this individualized treatment is a fundamental difference between the domain of civil commitment and that of the imposition of EM post-sentence on

outlined in *Smith* for guidance.²³⁴ Legislators are savvy enough to know that their legislation—whether related to sex offender registration or EM—will be struck down if they explicitly refer to the punitive intent of a retroactive statute,²³⁵ so they will almost certainly choose not to express this intent, regardless of their underlying motivations.²³⁶ Consequently, statutes that impose EM retroactively to post-sentence offenders will likely survive this first inquiry.²³⁷ Indeed, this inquiry can be understood as overdetermined since there is always a public safety or rehabilitative rationale for any collateral consequence.²³⁸ To wit, in a Sixth Circuit challenge to a Tennessee statute that retroactively imposed EM on sex offenders who had completed their sentences, the court reasoned that the legislature’s intent was to ensure public safety and rehabilitate sex offenders, and that the imposition of EM was intended to be civil and not to function as a punishment.²³⁹

Once having determined that an EM law is not punitive in intent, courts turn to the question whether that law is punitive in effect. To resolve this question, courts have grappled with how the EM sanction relates—with respect to level of restrictiveness—to the sex registration sanction at issue in *Smith*. Some courts, as illustrated by the Seventh Circuit’s opinion in *Belleau*, have grouped sex registration requirements and EM together in a broad category of those sanctions that are less restrictive than incarceration, determining that neither is punitive in effect.²⁴⁰ Other courts have offered a more fine-grained analysis, concluding that EM, while less restrictive than incarceration, is more punitive than sex registration requirements, and that the monitoring law’s adverse effects are so punitive that they negate whatever civil intent was envisioned by the state legislature.²⁴¹ For example, in *Commonwealth v. Cory*, a Massachusetts court holding that EM was punitive in effect found that compared to a yearly registration

all members of a class.

234. See *supra* note 214.

235. See, e.g., Wayne A. Logan, “Democratic Despotism” and Constitutional Constraint: An Empirical Analysis of Ex Post Facto Claims in State Courts, 12 WM. & MARY BILL RTS. J. 439, 506–07 (2004).

236. See, e.g., *supra* note 213. This is not to suggest that the legislative intent in such cases is punitive, but rather that we are unlikely to glean useful information from an inquiry into intent.

237. See, e.g., TENN. CODE ANN. § 40-39-303 (2016); WIS. STAT. § 301.48 (2016).

238. Importantly, a rehabilitative justification is both administrative and punitive.

239. *Doe v. Bredesen*, 507 F.3d 998, 1004 (6th Cir. 2007).

240. E.g., *Belleau v. Wall*, 811 F.3d 929, 937 (7th Cir. 2016).

241. See, e.g., *Riley v. N.J. State Parole Bd.*, 98 A.3d 544, 557 (N.J. 2014) (citing *Smith v. Doe*, 538 U.S. 84, 92 (2003)); *State v. Dykes*, 744 S.E.2d 505, 509 (S.C. 2013); *Commonwealth v. Cory*, 911 N.E.2d 187, 197 (Mass. 2009).

requirement, “a requirement permanently to attach a GPS device seems dramatically more intrusive and burdensome.”²⁴² The Massachusetts court drew a distinction between monitoring and registration, placing monitoring closer to incarceration than to registration requirements.²⁴³ Courts remain divided, and this debate highlights the centrality of the foundational question: “What is punitive?”²⁴⁴

When eventually faced with an Ex Post Facto challenge to a retroactive EM law, the Supreme Court should find, as the Sixth Circuit did in the context of Michigan’s SORA, that these laws are punitive in effect under the *Mendoza-Martinez* balancing test. First, while EM technology is relatively new, it has from its inception been envisioned and used in distinctly punitive terms as an alternative to incarceration.²⁴⁵ More broadly, EM use in this context “bears a striking resemblance to historical forms of punishment” inasmuch as it is “a catalyst for public ridicule—ridicule likened to the punishment of public shaming or humiliation,” which are “well-recognized historical forms of punishment.”²⁴⁶ Second, EM promotes the traditional aims of punishment, serving retributive, expressive, deterrent, and rehabilitative ends.²⁴⁷ Most notably, EM causes pain or unpleasantness, which is central to the punishment goals of both retributivism and deterrence.²⁴⁸ Third, while EM certainly has a rational connection to the non-punitive purpose of protecting public safety, the sanction of EM is excessive with respect to this purpose. Central to the excessiveness inquiry is “whether the regulatory means chosen are reasonable in light of the non-punitive objective.”²⁴⁹ Judge Keith of the

242. *Cory*, 911 N.E.2d at 196.

243. *See id.*

244. This analysis highlights the problematic use of “punishment baselines” by courts facing a *Mendoza-Martinez* inquiry. If, as many have argued, U.S. criminal justice policy is overly punitive and our imposition of collateral consequences post-sentence are particularly harsh, then comparing new collateral consequences to preexisting post-sentence sanctions will undoubtedly yield the conclusion that many are comparable or even less severe. This Article joins the call for a large-scale reevaluation of our system of collateral sanctions. *See* Thompson, *supra* note 157, at 260 (noting the American Bar Association’s call for reevaluating and abolishing some categories of collateral sanctions). In this instance, judicial intervention may be necessary since legislative rolling back of collateral sanctions (especially for those classified as violent sex offenders) appears politically infeasible.

245. *See supra* Part I.A.

246. *Doe v. Bredesen*, 507 F.3d 998, 1010 (6th Cir. 2007) (Keith, J., concurring in part and dissenting in part). *See also supra* Part I.B.2.

247. *See supra* Part I.B.

248. *See supra* Part II.E.

249. *Smith v. Doe*, 538 U.S. 84, 105 (2003). This inquiry recalls the proportionality inquiry discussed above and the retributivist’s challenge of calibrating punishment to crime. *See supra* Parts II.B.1 & II.E.

Sixth Circuit observed that, even if one assumes that a post-sentence sex offender registration requirement is reasonable in light of a non-punitive objective, the additional requirement of 24/7 GPS surveillance demands further scrutiny.²⁵⁰ He maintained that EM in this context was excessive, explaining:

[B]ecause of the newly enacted satellite-based monitoring program under the Surveillance Act, Doe must openly wear a relatively large G.P.S. monitoring device—making his offender status known not only to those who choose to inquire (via the World Wide Web), but also to the general public, namely, those who do not actively seek such information. Undeniably, because of the visibly worn monitoring device, Doe’s offender status is now known to his co-workers, fellow worshipers at church, onlookers at the mall, diners at restaurants, patrons at gas stations, passengers on planes, trains, or buses, fans at sporting events, moviegoers at theaters, visitors at museums, sightseers, or any other person who may be at any conceivable location where Doe rightfully chooses to go²⁵¹

Judge Keith reflected further on the punitive nature of EM and why he believed it to be excessive:

[A] public sighting of the modern day “scarlet letter”—the relatively large G.P.S. device—will undoubtedly cause panic, assaults, harassment, and humiliation. Of course, a state may improve the methods it uses to promote public safety and prevent sexual offenses, but requiring Doe to wear a visible device for the purpose of the satellite-based monitoring program is not a regulatory means that is *reasonable* with respect to its non-punitive purpose.²⁵²

While the Sixth Circuit denied en banc review of an Ex Post Challenge to Tennessee’s retroactive EM law, five circuit judges joined Judge Keith’s dissent from the denial of rehearing,²⁵³ further confirming that this issue remains hotly contested.

In the meantime, courts’ classification of EM as “non-punitive” has drastic practical implications. More than 800,000 people are currently subject to sex offender registration requirements.²⁵⁴ In the absence of judicial intervention, more states may follow the example set by Tennessee

250. *Bredesen*, 507 F.3d at 1011 (Keith, J., concurring in part and dissenting in part).

251. *Id.*

252. *Id.* at 1012.

253. *Doe v. Bredesen*, 521 F.3d 680, 680–81 (2008), *denying reh’g en banc to* 507 F.3d 998.

254. *See Registered Sex Offenders in the United States and its Territories Per 100,000 Population*, NAT’L CTR. FOR MISSING & EXPLOITED CHILD. (Dec. 6, 2016), http://www.missingkids.org/en_US/documents/Sex_Offenders_Map.pdf.

and Wisconsin and pass retroactive “life sentence” statutes imposing EM on huge swaths of the post-sentence population. With the increasing use and availability of EM technology, it is not unrealistic to imagine a steadily increasing number of individuals subject to years, or a lifetime, of EM after their sentence is complete. Additionally, under existing jurisprudence, EM could be imposed post-sentence on new categories of offenders beyond the sex offender population.

2. Pretrial Release Conditions and Credit for Time Served

The foregoing analysis informs two contested questions in the pretrial release context: First, how does EM, as a condition of pretrial release, compare to pretrial detention? Second, should an individual subject to EM as a condition of bail receive credit for time served? That is, should a convicted person’s sentence be shortened by the amount of time that person already spent subject to EM?

If EM in the criminal justice context is a punitive sanction, then it is error for legislatures and courts to consider pretrial imposition of home confinement coupled with EM as noncustodial, and for individuals subject to this pretrial sanction not to be eligible for credit for time served. Furthermore, the pretrial sanction of EM plus house arrest looks very similar to the post-conviction context where EM routinely is used as a substitute for incarceration. Thus, claims that this same sanction is non-punitive in the pretrial context are dubious.

According to the American Bar Association, in the pretrial context, preference should be given to the least restrictive sanction that ensures the defendant will not abscond and promotes public safety. Specifically, “[t]he law favors the release of defendants pending adjudication of charges. Deprivation of liberty pending trial is harsh and oppressive, subjects defendants to economic and psychological hardship, interferes with their ability to defend themselves, and, in many instances, deprives their families of support.”²⁵⁵ “In deciding pretrial release, the judicial officer should assign the least restrictive condition(s) of release that will reasonably ensure a defendant’s attendance at court proceedings and protect the community, victims, witnesses or any other person.”²⁵⁶

At the pretrial stage, the judge has three options. From least to most

255. STANDARDS FOR CRIMINAL JUSTICE: PRETRIAL RELEASE § 10-1.1 (AM. BAR ASS’N 3d ed. 2007), http://www.americanbar.org/content/dam/aba/publications/criminal_justice_standards/pretrial_release.pdf.

256. *Id.* § 10-1.2.

restrictive, they are as follows: The least restrictive option, Level 1, is to release the defendant on personal recognizance. The defendant promises to appear in court as appropriate, and if the defendant fails to do so, the defendant will be held in contempt of court.²⁵⁷ No supervision, money bail, or other conditions are imposed.²⁵⁸ The next level of restrictiveness, Level 2, entails the release of a defendant on a condition or combination of conditions, which could include a secured bond, EM, travel and curfew restrictions, and job training or drug treatment programs, among others.²⁵⁹ The most restrictive option, Level 3, is the decision to detain the defendant without bail.

When analyzing EM use at the pretrial stage, the key question is what the alternative sanction would be for a particular defendant.²⁶⁰ The two most extreme examples are easiest to analyze. If the defendant would otherwise be released on personal recognizance, then the imposition of EM is an added condition. If the defendant would otherwise be detained pretrial, then the imposition of EM is a substitute for pretrial detention. On the restrictiveness axis, EM use as a substitute for pretrial detention should be preferred, assuming that there is not a significant risk of flight or a concern about dangerousness. Furthermore, with respect to cost, use of EM as a substitute for pretrial detention should appeal to states, counties, and defendants alike.²⁶¹ By contrast, if the defendant would have been released anyway, and EM is merely an added condition, then EM imposes an unduly restrictive burden on the defendant and an extra cost on both the defendant and the state. Thus, on both axes of restrictiveness and cost, policymakers as well as defendants should prefer that, at the pretrial stage, EM be used only as a substitute, and that credit for time served be granted to those who are subject to home confinement with EM.

This analysis raises the question: How should policymakers calibrate the ratio of incarceration to EM use at the pretrial stage?²⁶² One option

257. See Erin Murphy, *Manufacturing Crime Process, Pretext, and Criminal Justice*, 97 GEO. L.J. 1435, 1454–55 (2009).

258. See AMANDA PETTERUTI & NASTASSIA WALSH, JUSTICE POLICY INST., *JAILING COMMUNITIES: THE IMPACT OF JAIL EXPANSION AND EFFECTIVE PUBLIC SAFETY STRATEGIES* 11 (2008), http://www.justicepolicy.org/images/upload/08-04_rep_jailingcommunities_ac.pdf.

259. THOMAS H. COHEN & BRIAN A. REAVES, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ No. 214994, *PRETRIAL RELEASE OF FELONY DEFENDANTS IN STATE COURTS* 5 (2007), <http://www.bjs.gov/content/pub/pdf/prfdsc.pdf>.

260. See *supra* Part II.D.

261. Wiseman, *supra* note 13, at 1379–81. *But see* Eisenberg, *supra* note 175, at 101–14 (discussing resistance to reform by powerful public- and private-sector industry stakeholders).

262. While this Article asserts a bright line between punitive and non-punitive, it does not attempt to resolve the question of which EM-to-incarceration ratio is most appropriate, nor does it suggest that

would be for states to align pretrial ratios with existing post-conviction ratios. For example, since Rhode Island uses a 2:1 ratio (that is, each day of post-conviction incarceration can be substituted with two days of EM),²⁶³ for consistency's sake, perhaps Rhode Island should grant one day of time served per each two days an offender spends pretrial on EM.²⁶⁴ By contrast, California uses a 1:1 ratio at the post-conviction stage,²⁶⁵ so perhaps the computation for time served in California should be 1:1 as well. The existence or lack of other conditions imposed is also significant—home confinement plus EM resembles the post-conviction community confinement alternative enough that it should be presumed sufficiently custodial;²⁶⁶ however, EM with no other restrictions would not seem comparably custodial.²⁶⁷

At the pretrial stage, it will not always be clear whether EM is an added condition or whether, if not for EM, a particular defendant would be detained. The baseline problem introduced above is particularly acute at the pretrial stage because Level 2—the release of a defendant on a condition or combination of conditions, which include a secured bond and EM—is a vast category. Furthermore, there is unlikely to be a consensus about which pretrial release conditions are more or less restrictive. This determination will depend substantially on the defendant's economic circumstances as well as other preferences. For example, what of the use of EM when defendants simply cannot afford bail? At any time, approximately 500,000 people are in jail, subject to pretrial detention.²⁶⁸ Two-thirds of this population of pretrial detainees are designated “low bail risk,” which means that they pose “no significant risk to themselves or the community, as well as representing a low risk of flight.”²⁶⁹ It seems likely that a significant

this determination should necessarily be the same across jurisdictions.

263. Interview with Anne D'Alessio, *supra* note 58. Theoretically, any ratio could be justified. The question of what ratio is appropriate, while worthy of future theoretical and empirical study, is beyond the scope of this Article and entirely distinct from the determination of whether EM is punitive or non-punitive.

264. Noting that a 2:1 ratio in this context would be internally consistent should not be construed as weighing in on the appropriateness of this ratio.

265. Telephone Interview with Kevin O'Connell, *supra* note 93.

266. See *supra* Part I.A.2 (documenting the post-conviction use of EM plus house arrest as an alternative to incarceration).

267. This Article distinguishes between custodial and punitive; it argues that EM use generally is punitive, and that it should also be considered custodial when coupled with home confinement or a similar restriction on the offender's movement.

268. Shima Baradaran, *The State of Pretrial Detention*, in *THE STATE OF CRIMINAL JUSTICE 2011*, at 187, 190 (Myrna Raeder ed., 2011).

269. *State Policy Implementation Project*, ABA, http://www.americanbar.org/groups/criminal_justice/spip.html (last visited Jan. 6, 2017).

percent of these detainees are only subject to pretrial detention because they cannot afford bail.²⁷⁰ Arguably, for this population, the imposition of EM would be a significant improvement over pretrial detention.²⁷¹ Barring the first-order solution of calibrating bail for low-risk individuals such that none are assigned a bail amount that they cannot afford, pretrial release with the requirement of EM may be a next-best solution—a less restrictive alternative to detention. This is because, for the low-income defendant, money bail, even set at a low amount, may be prohibitive, and it may, de facto, result in pretrial detention.

Where pretrial defendants are subject to EM and house arrest, it must be noted that this sanction may look strikingly similar to the post-conviction context where EM is used as an alternative to incarceration.²⁷² However, courts have routinely treated these two contexts as entirely different: while EM use post-conviction is understood to serve as a substitute for incarceration, EM use at the pretrial stage, even when coupled with home confinement, has been deemed by many courts to be noncustodial, and thus does not qualify toward credit for time served.

Many state courts have held that, unlike pretrial detention, the pretrial imposition of EM coupled with home confinement is insufficiently custodial and therefore does not accrue credit toward an offender's sentence.²⁷³ Ohio courts have defined confinement as "requir[ing] such a restraint on the defendant's freedom of movement that he cannot leave official custody of his own volition."²⁷⁴ But instead of examining conditions of confinement, the courts have distinguished between confinement and "official custody," making it impossible for defendants to accrue credit for time served unless they are detained. In Indiana, courts have examined pretrial confinement conditions, ultimately concluding that home confinement was not "substantially similar" to pretrial detention.²⁷⁵ A Kansas court even refused to find that a defendant who was

270. Wiseman, *supra* note 13, at 1346 n.2 ("[I]t is likely safe to assume . . . that the low bail amounts at the state level are typically imposed on non-dangerous defendants, and the statistics for this low-bond defendant class are compelling.").

271. *Id.* at 1380.

272. See, e.g., Telephone Interview with Kevin O'Connell, *supra* note 93.

273. See, e.g., Durkin v. Davis, 538 F.2d 1037, 1039–40 (4th Cir. 1976). Thus far, all courts have ruled that EM on its own—without home confinement—is not custodial. The more contested issue, addressed by this Section, is whether home confinement plus EM should be considered custodial and whether there is a meaningful difference to be drawn between this EM use and the use of EM as a post-conviction substitute for incarceration.

274. State v. Blankenship, 949 N.E.2d 1087, 1093 (Ohio Ct. App. 2011) (citation omitted) (internal quotation marks omitted).

275. Roberts v. State, 998 N.E.2d 743, 747 (Ind. Ct. App. 2013).

electronically monitored and “‘locked down’ 24 hours a day” experienced “confinement.”²⁷⁶ Courts in Kentucky have distinguished between “custody as it relates to escape” and custody as it relates to credit for time served, holding that home confinement satisfies the first but not the second.²⁷⁷

Federal courts also typically have found that home confinement coupled with EM as a condition for pretrial release does not qualify for credit toward time served. The Second Circuit found that while home confinement with EM was indeed restrictive, it does not meet the requirements to be considered “official detention” as understood in the Bail Reform Act.²⁷⁸ The Eastern District of New York has held that time spent in home confinement does not qualify for time toward a subsequent sentence.²⁷⁹

A few courts that have yet to consider this issue have hinted that, if confronted with a question about whether a defendant subject to home confinement with EM pretrial should be granted credit for time served, they might depart from existing precedent. For example, while courts in California and Montana were unwilling to grant defendants credit for time served when EM was a condition of the defendants’ release on bond, these courts stressed that the defendants were not also subject to home confinement during that time,²⁸⁰ suggesting that the combination of EM and home confinement might be sufficiently custodial. Ultimately, this remains an open question for future judicial consideration. In the meantime, to avoid inconsistency, policymakers should acknowledge that pretrial EM with home confinement looks virtually identical to post-conviction EM use as part of a community confinement program, and they should introduce legislation that would enable defendants subject to these pretrial conditions to accrue credit for time served.

B. PRACTICAL CONSIDERATIONS

Use of EM as an added condition does not offer the benefits of alleviating prison overcrowding or aggregate cost savings and should be disfavored. To guard against the imposition of EM as an added condition,

276. *State v. Guzman*, 112 P.3d 120, 122 (Kan. 2005).

277. *Norris v. Commonwealth*, No. 2009-CA-001152-MR, 2010 Ky. App. Unpub. LEXIS 369, at *2 (Ky. Ct. App. Apr. 30, 2010); *Buford v. Commonwealth*, 58 S.W.3d 490, 492 (Ky. Ct. App. 2001).

278. *See United States v. Edwards*, 960 F.2d 278, 283 (2d Cir. 1992) (applying 18 U.S.C. § 3585(b), pertaining to credit toward a term of imprisonment for prior custody).

279. *Kaiser v. United States*, 20 F. Supp. 3d 301, 304 (E.D.N.Y. 2014).

280. *See State v. Lamere*, No. DA 11-0278, 2011 Mont. LEXIS 419, at *4-5 (Mont. Dec. 6, 2011); *People v. Anaya*, 70 Cal. Rptr. 3d 47, 50 (Cal. Ct. App. 2007).

certain guidelines for decisionmakers should be adopted. An individualized assessment and justification should be required for any decision to impose EM where EM appears to be an added condition. For example, post-sentence, the decision to impose EM should be regarded as presumptively improper unless the alternative is civil commitment. And in cases where post-sentence EM serves as a substitute for civil commitment, there should be regular, individualized assessment.²⁸¹ The decision to impose EM should be subject to regular review and should never be permanent. Under no circumstance should there be post-sentence imposition of EM “life sentences.” If EM is used (ill-advisedly) as an added condition rather than as a substitute for incarceration, the financial burden of EM always should lie with the government.

Policymakers should take into account the potential adverse consequences, even if unintended, of any increase in criminal justice uses of EM, especially when new populations are targeted. Even where EM is used chiefly as a substitute for incarceration, policymakers should be vigilant. A holistic assessment of the costs and benefits—both financial and non-financial—of EM is indispensable to prevent the overreach of EM and to avoid the pitfalls of an overextended, underachieving system of mass monitoring. This Section explores implications for financing mass monitoring and for gathering data and evaluating the effectiveness of monitoring programs.

1. Financing Mass Monitoring

The stakeholders with a financial interest in mass monitoring include governments (national, state, and local), private vendors, and individuals subject to EM. It is crucial to consider the financial implications of increased EM use for governments who stand to save considerably by using EM as a substitute for incarceration, for private vendors whose incentives favor broad expansion of EM programs, and for monitored individuals who often are expected to pay their own monitoring costs. Strict oversight of private vendors and program managers in the EM industry is necessary to avoid conflicts of interest and to ensure that EM does not become a tool for financial enrichment of the private sector at the expense of both government and low-income individuals.

281. While courts and scholars may dispute the appropriate standard of proof for civil commitment, there is no question that an individual assessment is required. *See, e.g.*, Alexander Tsesis, *Due Process in Civil Commitments*, 68 WASH. & LEE L. REV. 253, 300–05 (2011).

States and private vendors have starkly different financial incentives. EM expansion may prove a cost-saving mechanism for states, but only if used as a substitute for incarceration and not as an added condition. By contrast, EM vendors have strong incentives to encourage states to expand their use of EM technology at every stage of the criminal justice process as both a substitute and an added condition.

For those private prison companies that are already heavily invested in EM, it would be financially advantageous to encourage EM use as an addition rather than as a substitute for incarceration. This is because the same firm could both incarcerate the offender and provide the EM device at the pretrial stage and upon the person's release—perhaps for the rest of that person's life. Indeed, private vendors should prefer that every person eligible for pretrial release is subject to EM, even if they have already posted bail, and that states broaden requirements for EM use post-sentence.

States should pay heed to the incentives of private vendors and push back against vendor arguments that EM use should be expanded beyond use as a substitute for incarceration. One significant hurdle, however, is that states tend to offset their costs by charging monitored persons for the cost of their EM devices. Only by changing this funding mechanism can policymakers begin to realign these incentives.

Requiring monitored individuals to contribute to the cost of EM raises concerns about the creation of perverse incentives since monitoring is thus “not only . . . cost effective but income generating as well . . . when administered by the state.”²⁸² Additionally, this pay structure raises equity concerns as it, like other fee-based systems in the criminal justice realm, has an unequal effect on the poor.²⁸³ As with money bail in the pretrial context, indigent defendants may be forced to await trial or complete a sentence in jail for the sole reason that they are unable to pay the required fees to support monitoring. By contrast, some jurisdictions allow wealthy

282. Kilgore, *supra* note 166, at 136. Some have suggested that the strong interest of private industry in EM may have led to overzealousness about its effectiveness. See, e.g., Alladina, *supra* note 165, at 129–30.

283. See Leah A. Plunkett, *Captive Markets*, 65 HASTINGS L.J. 57, 59 (2013). For a general overview of criminal justice fees incurred by defendants, see Wayne A. Logan & Ronald F. Wright, *Mercenary Criminal Justice*, 2014 U. ILL. L. REV. 1175; Sonja B. Starr, *Evidence-Based Sentencing and the Scientific Rationalization of Discrimination*, 66 STAN. L. REV. 831 (2014). See also Starr, *supra*, at 831 (discussing *Bearden v. Georgia*, 461 U.S. 660, 663 (1983), which held that “incarcerating a defendant merely because he was unable to pay amounted to unconstitutional wealth-based discrimination”).

defendants to pay for GPS monitoring in order to avoid pretrial detention.²⁸⁴

These inequities are particularly problematic if individuals subject to EM use as an addition are made to bear the financial burden of this sanction. This is not a theoretical concern, but rather a growing practical reality that must be addressed. In some jurisdictions, EM—in addition to posting bail—is a routine condition for pretrial release, and accused individuals are required to pay for their monitoring devices.²⁸⁵ For example, “[i]n Richland County, South Carolina, any person ordered to wear the ankle monitor as a condition of their bail must lease the bracelet from a private, for-profit company called Offender Management Services (OMS), which charges the offender \$9.25 per day, or about \$300 per month, plus a \$179.50 set-up fee.”²⁸⁶ This arrangement can have dire consequences for low-income defendants (such as one Richland County individual who reported “liv[ing] on a monthly \$900 disability check”),²⁸⁷ but both private companies and cash-strapped counties stand to gain. One public defender familiar with this Richland County practice explained that if an offender cannot or does not pay an EM bill, that individual will be sent back to jail, describing this system as “a newfangled debtor’s prison. People are pleading guilty because it’s cheaper to be on probation than it is to be on electronic monitoring.”²⁸⁸ South Carolina is not unique in this regard. In twenty-nine states, offenders are expected to pay a fee for their monitoring device.²⁸⁹

Changes in contracting and compensation schemes for EM could drastically shift the incentives of EM providers, and states should take steps to avoid giving private monitoring vendors an incentive to expand EM.²⁹⁰

284. See, e.g., William Saletan, *Get Out of Jail Unfree*, SLATE (June 1, 2011, 11:11 AM), http://www.slate.com/articles/health_and_science/human_nature/2011/06/get_out_of_jail_unfree.html. This practice raises concerns about a lack of equality based on socioeconomic status and the involvement of the private sector in criminal justice. See *supra* note 283.

285. Markowitz, *supra* note 179.

286. *Id.*

287. *Id.* Indeed, for some low-income defendants, the EM fees and associated costs are prohibitive. This reality challenges the notion that complying with the requirements of EM merely requires awareness or conscientiousness on the part of offenders. See, e.g., Button et al., *supra* note 4, at 432 (“Officers will need to take special care explaining to offenders the importance of remaining up-to-date on all fines, fees, and financial obligations.”).

288. Markowitz, *supra* note 179 (internal quotation marks omitted).

289. Button et al., *supra* note 4, at 427. Some states have instituted a sliding scale, but others have failed to address the special problems associated with low-income offenders who may not be able to afford the cost of their monitoring. *Id.*

290. For detailed suggestions about changing private-sector incentives to promote rehabilitation, see Eisenberg, *supra* note 175, at 124–31 (proposing reforms for contracting and compensation in the

For example, states could insist that contracts with private providers be tied to rehabilitative metrics.²⁹¹ This way, providers would not be compensated more the longer someone is monitored, and private companies would not receive extra monetary rewards for distributing faulty monitors that lead to either longer periods of time subject to EM or incarceration.

2. Measuring Effectiveness

Improved data collection and analysis are crucial to determine the effectiveness of EM programs. They are also indispensable to the development of metrics that could be used to encourage public-sector corrections authorities and private firms to improve outcomes. Studies of EM's crime-reduction effects are sparse, and they tend to involve extremely small samples.²⁹² Despite their shortcomings, however, pilot programs in various states have yielded results suggesting that EM, as a principal component of post-release programs, may contribute to a reduction in recidivism.²⁹³ One study, which involved offenders convicted of a range of crimes, demonstrated that in the post-release context, monitored individuals were 94.7 percent less likely to reoffend than others who remained unmonitored post-incarceration.²⁹⁴ Another study specifically observing high-risk sex offenders found that the monitored group was 38 percent less likely to return to custody than the control group in a typical parole setting.²⁹⁵ Notably, these studies did not compare recidivism rates between the monitored and unmonitored populations after the group subject to EM was released from surveillance.²⁹⁶ Existing studies

context of private prisons).

291. *Id.* at 130–31 (analogizing to the health care context where accountable care organizations are incentivized to improve outcomes and lower costs).

292. *See, e.g.,* Wiseman, *supra* note 13, at 1369–70.

293. Rapone, *supra* note 167, at 145 (discussing a 2011 Pew Center study on postrelease programs in Michigan, Oregon, and Missouri that incorporate EM, which found a correlation between monitoring and lowered recidivism rates).

294. Yeh, *supra* note 164, at 1092 (citing Kathy G. Padgett et al., *Under Surveillance: An Empirical Test of the Effectiveness and Consequences of Electronic Monitoring*, 5 *CRIMINOLOGY & PUB. POL'Y* 61 (2006)).

295. Kilgore, *supra* note 166, at 128 (citing STEPHEN V. GIES ET AL., *MONITORING HIGH RISK SEX OFFENDERS WITH GPS TECHNOLOGY: AN EVALUATION OF THE CALIFORNIA SUPERVISION PROGRAM: FINAL REPORT* (2012)). Similar results were found in Virginia, *see* Kucharson, *supra* note 166, at 664–65, and Vermont, *see* NATHAN LAVERY, VT. LEGISLATIVE JOINT FISCAL OFFICE, *ELECTRONIC MONITORING: PRELIMINARY ANALYSIS OF MONETARY BENEFITS AND COSTS* (2014), http://www.leg.state.vt.us/jfo/issue_briefs_and_memos/Electronic_Monitoring_Issue_Brief.pdf (analyzing the increased benefits and costs of increasing the use of EM in Vermont); Peter Hirschfeld, *State Eyes Electronic Monitoring as Alternative to Incarceration*, VT. PUB. RADIO, (June 17, 2014), <http://digital.vpr.net/post/state-eyes-electronic-monitoring-alternative-incarceration> (same).

296. Such comparisons are crucial to an assessment of the crime-reduction effect of EM, and this

have been criticized on the basis of selection problems (that is, the concern that “at least one potential criterion for the granting of electronic monitoring to an offender is her or his risk of recidivism”) and the differential risk of the sample populations (that is, “the possibility that electronic monitoring programs are restricted to low-risk populations”).²⁹⁷

Future empirical work could investigate whether expanded monitoring in fact leads to less incarceration.²⁹⁸ At a minimum, scholars could use differential rates of EM expansion as a natural experiment to determine whether states that enthusiastically embraced EM experienced decreased incarceration compared with states that adopted it more slowly.²⁹⁹ Ideally, when states expand their EM programs, they could be encouraged to perform a randomized control trial in which certain randomized and representative counties or courthouses are given earlier access to new monitoring resources.³⁰⁰ Scholars could then compare whether these local jurisdictions imposed less pretrial detention and shorter sentences than the comparable control group.

To improve on prior studies, it will be necessary to compare like populations, to distinguish between uses of EM at different criminal justice stages, and, to the extent discernible, to denote when EM is used as an added condition and when it is used as a substitute for incarceration. Relevant metrics and outcomes will be different depending on the criminal justice stage. For example, at the bail stage, it will be crucial to measure how often individuals jump bail and to compare outcomes over the same time period between those who are subject to EM and those who are not monitored. At the post-sentence stage, in order to assess EM’s relationship to recidivism, it will be necessary to compare individuals who have completed EM with those who have completed their time in prison or jail. Ultimately, at each criminal justice stage, the most helpful comparison will be between outcomes of those subject to EM and those not subject to EM

area is ripe for future empirical research.

297. Rafael Di Tella & Ernesto Schargrodsky, *Criminal Recidivism After Prison and Electronic Monitoring*, 121 J. POL. ECON. 28, 30 (2013).

298. Few studies have been conducted despite the explosion of EM use. Early studies examined data from the 1990s and focused on whether offenders violated EM conditions, whether offenders were convicted of new offenses, and whether the public supported EM use. Crucially, these studies did not disaggregate the many uses of EM. See, e.g., Payne & Gainey, *supra* note 33, at 416–17.

299. See, e.g., Aurélie Ouss, *Incentives Structures and Criminal Justice 3* (July 2015) (unpublished manuscript), <https://ssrn.com/abstract=2685952> (describing the use of a natural experiment to test effects of cost structures on sentencing).

300. For a classic example of this experimental design in the insurance industry, see Katherine Baicker et al., *OR. HEALTH INS. EXPERIMENT*, <http://www.nber.org/oregon> (last visited Jan. 6, 2017).

during the period when the sentence is in effect and during the subsequent period when the individual is no longer subject to criminal sanction. Such comparisons are the only way to reconcile competing claims about the crime-reduction effect of EM.

Collecting data on the efficacy of monitoring technology itself also should be a high priority for empirical research. If EM technology is not functioning appropriately, it may end up requiring additional resources, it may jeopardize public safety, and baseless arrest warrants may violate the rights of individuals who are abiding by their ordered conditions.³⁰¹

Documented cases of false negatives and false positives have cast doubt on the reliability of GPS equipment for EM use. Cases involving undetected incidents of offenders tampering with GPS technology have raised concerns about public safety.³⁰² There have also been reports of false alerts, some of which may result in incarceration.³⁰³ According to one report, “Wisconsin’s GPS tracking system repeatedly fails, registering false alerts and landing the offenders in jail although they have done nothing wrong.”³⁰⁴ One offender subject to EM explained, “There are times when

301. An investigation in Massachusetts found that malfunctioning of GPS ankle bracelets has led to an increased number of arrest warrants because law enforcement experienced a dropped signal. Mike Beaudet, *Ankle Bracelet Breakdown Mass. Losing Track of Criminals*, FOX25, (Apr. 23, 2015, 10:29 PM), <http://www.myfoxboston.com/story/28886713/ankle-bracelet-breakdown-mass-losing-track-of-criminals>. More than 600 arrest warrants for monitored individuals were issued in one month in a system that monitors approximately 3,000 people. *Id.* A Massachusetts Superior Court judge said that she will no longer order that a defendant or offender be subject to EM until improvements are made to the system. *Id.* The judge stated that she was aware of several monitored individuals who were arrested and held in jail even though they had not violated their parole. *Id.*

302. See *Problems Plague GPS Tracking of WA Offenders*, *supra* note 75. A news release based on a confidential report by the California Department of Corrections suggested that the public was at risk due to flaws in the 3M GPS system used by the state. St. John, *Tests Found Major Flaws*, *supra* note 116. California has since switched to another GPS company, though 3M still provides GPS monitoring to other jurisdictions including the Washington State Department of Corrections. *Problems Plague GPS Tracking of WA Offenders*, *supra* note 75.

303. See, e.g., Koran, *supra* note 116; Christopher Zoukis, *GPS Monitoring System in Los Angeles Plagued by False Alerts, Ignored Alarms*, PRISON LEGAL NEWS (Apr. 15, 2014), <https://www.prisonlegalnews.org/news/2014/apr/15/gps-monitoring-system-in-los-angeles-plagued-by-false-alerts-ignored-alarms>. Despite documentation to the contrary, a Wisconsin Department of Corrections spokesperson claimed that false positives were not a problem in her jurisdiction: “We are not aware of any ‘problems’ with our GPS monitoring system, and have several protocols in place to ensure that the integrity of our system is maintained.” Koran, *supra* note 116 (internal quotation marks omitted). Corrections experts have acknowledged the limitations of EM technology: “The technology, while improved, is not good at tracking offenders in high-rise buildings, subways, basements or large commercial structures like shopping malls. To be used best, it needs to be used with a clear view of the sky, no clouds, wide open spaces We as people spend 90 percent of our time indoors, so there’s an immediate problem.” *Id.* (internal quotation marks omitted).

304. Koran, *supra* note 116.

I'm afraid to leave whatever room I'm in, even to go to the bathroom. . . . I'm afraid an alert will go off and the police will show up at my door."³⁰⁵

Given that there are many suppliers of EM technology, improved recordkeeping and reporting requirements would enable states to make more informed choices about which vendor to choose and would provide vendors with an incentive to improve their products to reduce the likelihood of both false negatives and false positives. At present, reports about the effectiveness of EM technology are not regularly kept. For example, in Wisconsin, a Department of Corrections spokesperson admitted that, despite repeated complaints about false positives, "the agency does not keep statistics on how many alerts are triggered for GPS offenders, and does not track how often these result in offenders being incarcerated."³⁰⁶ Such failures to measure the effectiveness of EM technology are not only irresponsible, but they also run counter to any desire to improve EM technology.

Another significant impediment to EM outcomes may be the physical characteristics of the monitoring devices. Remarkably, the size and weight of EM devices have not changed significantly in years, despite technological advances that have made it possible to create a device that is smaller and less obtrusive.³⁰⁷ This is particularly notable given the competition among EM providers and the typical trajectory of technological devices getting increasingly small and lightweight. In fact, developments in monitoring technology beyond the corrections domain belie any suggestion that updating the technology is not possible.³⁰⁸ One defendant observed, "I don't know who designs these, but I think they design them to punish the wearer physically as well as mentally. . . . With today's technology I feel there is absolutely no reason this be so large, surely these were engineered by very hateful people intent on inflicting

305. *Id.* (internal quotation marks omitted).

306. Mario Koran, *State's GPS Monitoring of Offenders Raises Concerns*, CAP TIMES (Mar. 24, 2013), http://host.madison.com/ct/news/local/crime_and_courts/state-s-gps-monitoring-of-offenders-raises-concerns/article_123c78ba-93ed-11e2-bce3-001a4bcf887a.html.

307. Notably, the South Korean government set a goal of developing "the world's smallest sized GPS units . . . as a way of minimizing human rights infringements." Younoh Cho & Byung Bae Kim, *From Voice Verification to GPS Tracking: The Development of Electronic Monitoring in South Korea*, in ELECTRONICALLY MONITORED PUNISHMENT: INTERNATIONAL AND CRITICAL PERSPECTIVES, *supra* note 1, at 102, 109 (internal quotation marks omitted).

308. Examples include GPS tracking devices for children and pets. *See, e.g.*, Caroline Maurer, *10 Wearable Safety and GPS Devices for Kids*, SAFEWISE REP. (Sept. 16, 2016), <http://www.safewise.com/blog/10-wearable-safety-gps-devices-kids>; TRACTIVE, <https://tractive.com> (last visited Jan. 6, 2017) (promoting GPS devices for pets).

further punishment.”³⁰⁹ Policymakers who favor easing the challenge of reentry should encourage vendors to improve EM technology, both to minimize the risk of false positives that may hinder the ability of wearers to be reliable employees, often through no fault of their own, and to create less obtrusive EM devices.

CONCLUSION

Founding myths are important but not always enduring. When first introduced, prisons were considered progressive—a “humane alternative” to the death penalty;³¹⁰ they were designed to foster reflection, introspection, and rehabilitation. Similarly, when EM was pioneered, it was considered an enlightened alternative to incarceration, even a way eventually to eliminate prisons and jails. Yet EM technology is not inherently rehabilitative, nor is it inherently cost saving or progressive.

The staggering failure of mass incarceration is a sobering reminder that, whatever the intention of a new penal policy or reform measure, it is crucial to look closely at the incentives it sets into motion and to guard against unchecked expansion of the criminal justice system and associated human and financial costs. The role of criminal justice EM will only continue to increase as this technology becomes cheaper and more reliable. The contours of its use, however, remain an open question. This Article’s sustained analysis of the origins and history of mass monitoring and its functions is a crucial first step toward clarifying conflicting rhetoric around EM, revealing existing doctrinal inconsistencies, and charting a path forward to ensure that EM plays a productive and carefully circumscribed role in alleviating rather than exacerbating the failings of the criminal justice system.

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309. *Electronic Ball and Chain (Day 25)*, *supra* note 83.

310. Sarah Scott, *Race/Ethnicity, Historical Labor Punishments, and the Evolution of Private Prisons*, in *COLOR BEHIND BARS: RACISM IN THE U.S. PRISON SYSTEM* 93, 100 (Scott Wm. Bowman ed., 2014) (“The dominant explanation for the birth of the modern prison is that it was embraced as a more humane alternative to the death penalty, corporal punishment and other sanctions.”).