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*Roger Brownsword*

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# LOST IN TRANSLATION: LEGALITY, REGULATORY MARGINS, AND TECHNOLOGICAL MANAGEMENT

Roger Brownsword<sup>†</sup>

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## I. INTRODUCTION

The concept of law is contested in many ways. Some jurists argue that law must be understood as an essentially moral enterprise. Others insist on a strict separation of the concepts of law and morals.<sup>1</sup> Some, rather narrowly, identify law with the operations of highly institutionalized legislative assemblies and courts—law, on this view, is hard and high. Others see law everywhere, in the codes and guidance that are associated with much less formal regulation and governance.<sup>2</sup> However, on one point, all protagonists are agreed: whatever our particular conceptual understanding of law, it is a normative phenomenon that we are trying to frame. As formal high law shades into regulation and governance, even into ethics and morals, it remains normative. The enterprise is still one, as Lon Fuller famously expressed it, of seeking to subject human conduct to the governance of rules.<sup>3</sup>

In a time of rapid technological change,<sup>4</sup> how well does our existing conceptual apparatus serve us? Arguably, foundational concepts such as human rights and human dignity represent precisely the intellectual anchoring points that we need to preserve if we are to maintain a critical distance between emergent technologies and what we judge to be their progressive (and regressive) applications and practices.<sup>5</sup> By contrast, some concepts that were crafted in an earlier time—for example, privacy<sup>6</sup> and

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1. See H.L.A. Hart, *Positivism and the Separation of Law and Morals*, 71 HARV. L. REV. 593 (1958); Lon L. Fuller, *Positivism and Fidelity to Law—A Reply to Professor Hart*, 71 HARV. L. REV. 630 (1958).

2. See, e.g., JAN KLABBERS ET AL., *THE CONSTITUTIONALIZATION OF INTERNATIONAL LAW* 11 (2009) (examining what a constitutional international legal order could look like); *THEORIZING THE GLOBAL LEGAL ORDER* (Andrew Halpin & Volker Roeben eds., 2009) (exploring a range of vexed issues concerning global law, legal pluralism, and the judicial role); see also Roger Brownsword, *Framers and Problematisers: Getting to Grips with Global Governance*, 1 TRANSNAT'L LEGAL THEORY 287 (2010) (elaborating on the idea of regulatory cosmopolitanism).

3. See LON L. FULLER, *THE MORALITY OF LAW* (1969).

4. See PIERRE BALDI, *THE SHATTERED SELF* (2002) (discussing how technological advancements which manipulate genomes are creating a new concept of what defines humans).

5. See, e.g., ROGER BROWNSWORD, *RIGHTS, REGULATION, AND THE TECHNOLOGICAL REVOLUTION* (2008) (discussing the challenge affecting regulation of fast developing technological and scientific advancement); Roger Brownsword, *What the World Needs Now: Techno-regulation, Human Rights and Human Dignity*, in 4 GLOBAL GOVERNANCE AND THE QUEST FOR JUSTICE: HUMAN RIGHTS 203 (Roger Brownsword ed., 2004) (explaining how the integration of modern technology into globalization creates challenges for the regulatory framework supposed to manage these developments).

6. See, e.g., GRAEME LAURIE, *GENETIC PRIVACY* (2002); DANIEL J. SOLOVE, *UNDERSTANDING PRIVACY* (2008); Roger Brownsword, *Consent in Data Protection Law*:

property<sup>7</sup>—seem to need to be re-crafted for our technological age. In this context, the question arises: do we need to rethink our concept of law (and, concomitantly, our valuation of legality and the rule of law) at a time when technology is set to bear in on our root assumption that law is a normative enterprise?

Regulatory theorists have taught us to think of the channeling function of law as having three phases: first, setting the rule or standard; second, monitoring compliance; and, third, correcting for non-compliance.<sup>8</sup> While there is more to the legal enterprise than channeling conduct, as a channeling instrument, law involves direction, detection, and correction. Clearly, technologies of various kinds are already being employed at all three phases of the legal enterprise.<sup>9</sup> However, some of the most debated technologies (particularly CCTV, DNA profiling, RFID implants, and so on) are employed to reinforce the rules and to encourage compliance. Such technological reinforcement amplifies the law's prudential signal (the thought is that, with the likelihood of detection being increased, it is not in one's interest to break the rule), and this might be a significant shift away from whatever moral signals the law otherwise gives. However, even with this drift from the moral, we are still dealing with a normative enterprise.

The sea change in the regulatory environment takes place when technologies are used to manage conduct in a way that assures a patterned outcome. When this happens the enterprise is no longer normative because the environment is controlled so that it is no longer possible to act in certain ways or so that we cannot act otherwise than we do. The signals shift from being prudential (this ought, or ought not, to be done because it is, or is not, in one's interest to do it) or moral (this ought, or ought not, to be done

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*Privacy, Fair Processing and Confidentiality*, in REINVENTING DATA PROTECTION? 83 (Serge Gutwirth et al. eds., 2009); Roger Brownsword, *Regulating Brain Imaging: Questions of Privacy and Informed Consent*, in I KNOW WHAT YOU ARE THINKING: BRAIN IMAGING AND MENTAL PRIVACY (Sarah J.L. Edwards et al. eds., forthcoming 2012); Helen Nissenbaum, *Privacy as Contextual Integrity*, 79 WASH. L. REV. 119 (2004).

7. See, e.g., JAMES BOYLE, SHAMANS, SOFTWARE, AND SPLEENS (1996) (discussing the problems with determining who owns what in the new technological age); F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004) (analyzing whether virtual objects constitute legal property).

8. See, e.g., BRONWEN MORGAN & KAREN YEUNG, AN INTRODUCTION TO LAW AND REGULATION 74–75 (2007).

9. See Danielle Keats Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249, 1258 (2008) (discussing the use of technology at the stage of rule making); see also, e.g., Isaac B. Rosenberg, *Involuntary Endogenous RFID Compliance Monitoring as a Condition of Federal Supervised Release—Chips Abov?*, 10 YALE J.L. & TECH. 331, 333 (2008) (discussing the use of technology at the stage of correction).

because it is, or is not, in line with respecting the *legitimate* interests both of oneself *and of others*) to indicating what is reasonably practicable or possible (or not reasonably practicable or impossible). For example, if the door will not open without the required biometric confirmation, there is no way in.

One of the concepts that seems to be lost in the translation from a traditional legal order to a technologically managed order is normativity—ought and ought not becomes can and cannot. In the latter kind of order, to the extent that the regulatory environment is managed in this way, agents are unable to act on their own judgments of what ought to be done, whether for the sake of self-interest or for the sake of the moral interests of oneself or others. As lawyers, clinging on to the idea of law as a normative enterprise, what should we make of such technological changes to the mechanisms of social ordering? What are the implications of regulating by design?<sup>10</sup>

Jurists might decline to engage with this new world. They might declare that their cognitive interest is limited to law understood as a normative phenomenon. That is, it is fine for others to take an interest in technological management but, as jurists, the question remains to identify the essential nature of the normative enterprise that is law. While it might be defensible to insist that the concept of law should be confined to normative forms of ordering, it surely is not sensible to limit the horizons of juristic inquiry in this way. If law (as a normative enterprise) assumes a shrinking significance in technologically managed regulatory environments, its conceptual relevance seems less obvious. Why should social scientists treat law as an important organizing concept when social order relies less on normative mechanisms? Moreover, if we think that the real interest in law lies less with its normative structure and form and more with its commitment to legality—due process and the like—then jurists need to work on the articulation of these commitments in non-normative regulatory environments.<sup>11</sup>

For jurists who are prepared to engage with the world of “techno-regulation”<sup>12</sup>—not the most attractive of terms, admittedly—the question is whether the increasing reliance on technological regulatory instruments is a cause for concern. Does it matter that there is an amplification of prudential signals; is there a challenge here to moral community? And, when both prudential and moral signals are overtaken by non-normative signals, what

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10. For an important engagement with this question, see Karen Yeung, *Towards an Understanding of Regulation by Design*, in *REGULATING TECHNOLOGIES* 79 (Roger Brownsword & Karen Yeung eds., 2008).

11. See Mireille Hildebrandt & Bert-Jaap Koops, *The Challenges of Ambient Law and Legal Protection in the Profiling Era*, 73 *MOD. L. REV.* 428 (2010).

12. Brownsword, *supra* note 5, at 203.

does this signify for the possibility of making and acting on one's own prudential and moral judgments? This leads us to consider: in a non-normative regulatory environment, who is exercising power? Who is in control? Who is accountable? Once we discern the trajectory of technological regulatory tools, we might be so concerned as to favor a highly precautionary approach and to think that the regulatory line must be held against any loss of prudential and moral self-determination. However, if we are prepared to concede that some examples of technological management are appropriate, we must consider what the criteria are for assessing whether such non-normative management is appropriate.

On my understanding, we should conceive of law as an essentially moral enterprise.<sup>13</sup> However, just as importantly, we need to frame our inquiries in a way that both brings in the larger regulatory environment and highlights the importance of regulatory legitimacy.<sup>14</sup> On my reading, although legality does not presuppose *foreground* normative signals (the norms can be in the background), it does presuppose an inclusive attempt to articulate the community's best interpretation of its moral commitments. Regulators have the responsibility to act as stewards for the conditions that make moral community possible (and morally meaningful) and to facilitate the participation of regulatees in setting the terms for the ordering of public life as well as in endorsing the particular regulatory registers and technologies to be employed for such ordering purposes. In other words, regulatory legitimacy is to be tested not only in relation to the purposes pursued by regulators (what they are trying to achieve) but also to the means that they use to implement their purposes (that is, how they regulate). And, what is more, reliance on techno-regulation needs to be open to review, not only in relation to a particular regulatory intervention, but also in the light of the overall balance of normative and non-normative instruments of social ordering.

The Article is in four principal Parts. The first Part sketches the idea of a regulatory environment, drawing out in particular the three key registers (or signals)—namely, moral, prudential, and practicable/possible—that regulators employ. Relative to these three registers, the Article will identify two significant movements associated with the use of technology as a regulatory instrument: first, the movement from the moral to the prudential;

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13. I mean this in a strong sense: moral reason is focal for practical reason and hence for both legal and regulatory reason. See DERYCK BEYLEVELD & ROGER BROWNSWORD, *LAW AS A MORAL JUDGMENT* (1986) (arguing that a legal idealist conceptual framework has superior theoretical credentials to that of legal positivism).

14. See BROWNSWORD, *supra* note 5, at 10.

and, second, the movement from the normative (whether moral or prudential) to the non-normative register.

The second Part considers the implications of technology being deployed in ways that amplify the prudential signals in the particular regulatory environment. Such amplification might have some impact on those regulatees who tend to reason prudentially; the self-interested reasons for compliance might now outweigh the self-interested reasons for non-compliance. However, there may be unintended side effects, such as the erosion of conditions for moral community. I suggest that developing the concept of a “regulatory margin”<sup>15</sup> would provide a critical doctrinal opening and a benchmark for review of changes to the complexion of the regulatory environment, in response to these side effects.

The third Part examines a technologically managed environment where the regulatory signals are no longer either prudential or moral. When the normative signals are no longer the primary register, this shift appears to reduce both prudential and moral self-determination. Once again, but now in order to maintain the conditions for moral community as well as to preserve space for prudential self-determination, I argue that we must develop the idea of a regulatory margin.

Finally, the fourth Part returns briefly to the question of legality. On any view of law (even hard-nosed legal positivism), intelligent regulation presupposes some engagement by regulators<sup>16</sup> with both the prudential preferences and the moral commitments of their regulatees. If we follow the Fullerian view that law itself is essentially a reciprocal enterprise, then such engagement is necessary in a definitional sense. Such engagement is precisely what needs to be carried across from the old to the new. This engagement

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15. Changes in the complexion of the regulatory environment can go unnoticed and unchallenged. The function of the “regulatory margin” is to raise the consciousness of both regulators and regulatees that such changes may be occurring, to give regulatees a way of compelling review of regulatory action by reference to such changes, and to provide a doctrinal space for a jurisprudence to develop that establishes which changes are acceptable and which are not.

16. The terms “regulators” and “regulatees” drip with ambiguity. However, for my purposes, “regulators” are those who put in place the signaling features of the regulatory environment and “regulatees” are those to whom such signals are directed. If we are thinking about a part of the regulatory environment that is dominated by law-like modes of regulation, then the lawmakers are the regulators and the law-subjects are the regulatees. However, this presupposes a rather hierarchical relationship between regulators and regulatees representing just one of several types of regulatory environment. In those environments that are the product of self-regulatory activities (as is the case, for example, with much of the regulation of the Internet), those who act in the capacity of “regulators” are also very obviously “regulatees”.



needs to be carried across in a way that enables communities to debate not only particular proposals for the use of techno-regulation but also the bigger picture of the kind of regulatory environment that is constructed. That is to say, there need to be debates not only about regulatory purpose and content but also about the complexion and character of the regulatory environment.

## II. THE NATURE OF THE REGULATORY ENVIRONMENT

This Part sketches the salient features of the “regulatory environment.” Regulatory environments can be articulated in many different forms; there is no standard pattern. However, this Part highlights the kinds of action-guiding signals that regulators may employ. It does so because, quite simply, the key questions in this Article concern the significance of the kinds of signals that are employed and, concomitantly, the changing complexion of our regulatory environments.

What are we to understand by the concept of “a regulatory environment?” Stated shortly, we should understand it as an action-guiding environment in which regulators direct the conduct of regulatees with a view to achieving a particular regulatory objective. In response to the regulatee’s question, “What should I do?”, the regulatory environment will signal that particular acts are permitted (even required) or prohibited, that they will be viewed positively, negatively, or neutrally, that they are incentivized or disincentivized, and so on. In technologically-managed regulatory environments, the signals are rather different, indicating whether the performance of a particular act is reasonably practicable or even a possible option.<sup>17</sup> In such a regulatory environment, instead of regulatees asking what they ought to do, their question is, “What can I do?”

Whilst some environments are regulated in a top-down fashion (with regulators clearly distinguishable from regulatees), others are more bottom-up (in the sense that they are self-regulatory). Whereas, in top-down regulatory environments, there is likely to be a significant formal legal presence; in bottom-up self-regulatory environments, this is less likely to be the case (here, as some would have it, it is “governance” that rules). Moreover, while some regulatory environments are reasonably stable and well formed, others are unstable, overlapping, conflicting, and so on.

If we employ this idea of a regulatory environment, then we frame our inquiries in a distinctive way. Crucially, we do not assume that the only regulatory signals are of a formal legal character and nor do we assume that

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17. *But see* Roger Brownsword & Han Somsen, *Law, Innovation and Technology: Before We Fast Forward—A Forum for Debate*, 1 LAW INNOVATION & TECH. 1, 4 (2009).

they are necessarily normative. Following Lawrence Lessig's seminal work on the range of regulatory modalities,<sup>18</sup> the first of these assumptions will not be contentious; but it is worth adding a few words in relation to the second of the assumptions. In traditional regulatory environments, both legal and social rules are designed to convey normative signals. Even market signals can speak to what ought (or ought not) to be done, not so much as a matter of respect for others but simply what ought (or ought not) to be done in one's own interest. For example, where a "green" tax is added to the price of larger cars or to fuel, we might reason that we ought to drive a smaller car because larger cars are expensive and put a strain on our personal finances. However, if the price of larger cars is increased beyond our means, our reasoning shifts from the normative mode to the non-normative mode of practicability—it is not so much that we ought not to buy a large car as a matter of self-interest but that we simply cannot (afford to) do so.

When the regulatory modality is that of architecture or code, we might well find that the signal is one of (non-normative) practicability or possibility. However, as with market signals, there might be elements of both normativity and non-normativity—witness, for example, Mireille Hildebrandt's important distinction between "regulative" (normative) and "constitutive" (non-normative) technological features.<sup>19</sup> So, for example, if a car is equipped with sensors that can detect alcohol in the driver, it might be designed to respond normatively (by advising that it is not safe for the driver to proceed) or non-normatively (by immobilizing the car).

To be sure, distinguishing between the way that regulators intend a signal to be understood and the way that (some or all) regulatees actually understand it could problematize this analysis. There might well be some interesting signaling failures. However, for present purposes we can keep things simple by assuming that, in general, regulatees interpret the signal in the way that regulators intended.

Formally, we can say that regulators might attempt to engage the practical reason of their regulatees by using one or more of the following three signaling registers:

- (1) the *moral* register: here regulators signal that some act,  $x$ , categorically ought or ought not to be done relative to standards of

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18. See LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 85–100 (1999); Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 507–14 (1999).

19. Mireille Hildebrandt, *Legal and Technological Normativity: More (and Less) Than Twin Sisters*, 12 TECHNE: RES. PHIL. & TECH., no. 3, 2008, at 169, available at [http://works.bepress.com/mireille\\_hildebrandt/13/](http://works.bepress.com/mireille_hildebrandt/13/).

right action (as in retributive articulations of the criminal law where the emphasis is on the moral nature of the offence); or

(2) the *prudential* register: here regulators signal that some act,  $x$ , ought or ought not to be done relative to the prudential interests of regulatees (as in deterrence-driven articulations of the criminal law where the emphasis is on the sanction that will be visited on offenders); or

(3) the register of *practicability* or *possibility*: here regulators signal that it is not reasonably practicable to do some act,  $x$ , or even that  $x$  simply cannot be done—in which case, regulatees reason, not that  $x$  ought not to be done, but that  $x$  cannot be done (either realistically or literally).

In an exclusively moral environment, the primary normative signal (in the sense of the reason for the norm) is always moral; but the secondary signal, depending upon the nature of the sanction, might be more prudential. In traditional criminal law environments, the signals are more complex. The primary normative signal to regulatees can be either moral (the particular act should not be done because this would be immoral, or the act would be harmful to others) or paternalistically prudential (the act should not be done because it is contrary to the interests of the regulatee). The secondary signal represented by the deterrent threat of punishment, however, is prudential.<sup>20</sup>

As the regulatory environment relies more on technological assistance and management, we can detect two key shifts of emphasis. First, there is a movement from the moral register to the prudential register. We see this, for example, where regulators rely on CCTV, DNA profiling, tracking and monitoring devices, and so on.<sup>21</sup> Here, the strength and significance of the

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20. Alan Norrie highlights three broad developments in recent British criminal law and justice, namely:

- (i) an increasing emphasis on notions of moral right and wrong and, concomitantly, on individual responsibility (“responsibilisation”); (ii) an increasing emphasis on dangerousness and, concomitantly, on the need for exceptional forms of punishment or control (“dangerousness”); and (iii) an increasing reliance on preventative orders and new forms of control (“regulation”). While the first of these developments is in line with the aspirations of moral community, it is the second and the third that such a community needs to monitor with care. In this light, see, in particular, Lucia Zedner, ‘Fixing the Future? The Pre-emptive Turn in Criminal Justice’ in McSherry, Norrie, and Bronitt (eds), *op cit*, 35.

Alan Norrie, *Citizenship, Authoritarianism and the Changing Shape of the Criminal Law*, in REGULATING DEVIANCE 13, 20 (Bernadette McSherry et al. eds., 2009).

21. See Mark A. Rothstein & Meghan K. Talbott, *The Expanding Use of DNA in Law Enforcement: What Role for Privacy?*, 34 J.L. MED. & ETHICS 153, 160–61 (2006).

moral signal fades as the prudential signal dominates. Second, there is a movement from the normative to the non-normative registers. For example, although some rules and regulations are displayed at international airports (about the rights of passengers if flights are delayed, about not leaving bags unattended, and the like) the regulatory environment is largely architectural and non-normative. The signal that greets passengers in the arrivals hall at the airport is that the only way to board the plane is by following the track that leads from check-in to the boarding gate and that, along the way, passes through security that involves ever more intrusive scanning of person and property.<sup>22</sup> In an environment in which technology and physical architecture regulate, moral and prudential signals drop out of sight to be replaced by signals and structures that—the shopping area apart—leave the passenger with little room for either moral or prudential maneuver. Thus the question for regulatees becomes not what ought to be done but only what can and cannot be done.

In what follows, the Article considers the significance of two critical movements in the character or complexion of the regulatory environment: first, when there is a shift from the moral to the prudential register; and then when there is a rise of non-normative techno-regulation.

### III. THE FIRST MOVEMENT: TECHNOLOGIES THAT AMPLIFY PRUDENTIAL SIGNALS

This Part sketches answers to the following two questions. First, should regulators be concerned that there is a movement in the regulatory environment from moral to prudential signals? Second, should they exercise restraint in resorting to new regulatory technologies that serve to amplify prudential signals?

In this context, a reasonable opening question for regulators would be to ask what impact the use of CCTV, DNA profiling, lie-detection technologies, and the like might have on individual decision-making. Is the increase in prudential noise interfering with the ability of agents to try to act morally? This, however, examines only a slice of life in a moral community and regulators would not act responsibly unless they also asked whether the amplification of prudential signals was damaging to moral community more generally.

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22. See Bert-Jaap Koops, *Technology and the Crime Society: Rethinking Legal Protection*, 1 LAW INNOVATION & TECH. 93 (2009) (discussing how technology facilitates greater criminalization via regulation and constant surveillance).

This Part then introduces the idea of a moral regulatory margin (and, concomitantly, of marginal considerations) that might focus minds on the maintenance of moral community. Finally, this Part offer a radical re-reading of the issues raised by the *Marper* case<sup>23</sup> (in which there was a human rights challenge to the legal provisions in England and Wales authorizing the taking and retention of DNA samples and profiles for criminal justice purposes) to underline the full extent of the responsibilities of regulators.

Two other points should be noted. First, moral philosophers must contend with hypothetical amorality who, having no interest in or inclination towards doing the right thing, are liable to spoil the party. However, for the purposes of our discussion, this Article side-steps amorality<sup>24</sup> and assumes a community with moral aspirations. To be sure, this is not to imply that amorality can be side-stepped in all contexts, particularly where the coherence of moral aspirations is challenged. However, to the extent that there are communities with such aspirations (as, of course, there are), amorality is irrelevant to the question of whether any tuning down of the moral regulatory signals is significant for such communities.

Secondly, this Article will assume that, within such a community, it is recognized that sovereign regulators have a responsibility, *inter alia*, to act as stewards for the conditions that make it possible to function as a moral community.

#### A. THE IMPACT OF TECHNOLOGICAL REGULATION ON INDIVIDUAL DECISION-MAKING

In this Part of the Article, the focal question is whether the use of regulatory technologies that amplify prudential signals comes at any cost to moral community. This Part proposes a possible litmus test to ascertain how such a change in the regulatory environment impacts the (morally aspirant) reasons and actions of individual agents.

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23. *See* R v. Chief Constable of S. Yorkshire Police (*ex parte* LS & Marper), [2004] UKHL 39 (appeal taken from Eng.), available at <http://www.publications.parliament.uk/pa/ld200304/ldjudgmt/jd040722/york-1.htm> (holding that it is lawful, in England and Wales, for the police to retain the DNA samples and profiles of persons who are arrested but who are *not* convicted of an offense); *see also* S & Marper v. United Kingdom (*Marper*), app. nos. 30562/04 & 30566/04, (2009) 48 E.H.R.R. 50 (Eur. Ct. H.R. Dec. 4, 2008), 2008 WL 5044408.

24. For such amorality, it is only one's own needs and preferences that matter; the only relevant interest is self-interest; the only signals that count are those that are prudential; and, for such agents, the fading of the moral register would be immaterial. For a community of amorality (if this is not a contradiction in terms), the amplification of prudential signals might be a cause of some concern, but not because it corrodes or challenges the possibility of *moral* community.

To pursue such an inquiry, we might develop four ideal-typical agents as follows:

Type 1 agents who act only and always on *moral* reasons;

Type 2 agents who act only and always on *prudential* reasons;

Type 3 agents who act on a mix of *moral and prudential* reasons; and

Type 4 agents who are *erratic*, sometimes acting on moral reasons, sometimes on prudential reasons, and sometimes on mixed reasons.

If the prudential signal is amplified, how does this affect the way that individual agents reason and act? For example, if speed cameras are fixed to a section of highway, either monitoring the speed of vehicles at a particular point or their average speed over a longer distance, how does this affect motorists? On the face of it, the presence of cameras reinforces the rules of the road and signals to motorists that, if they do not observe the speed limits, they will be detected. But, how do motorists respond to this amplification of the prudential signal? Amongst criminologists, it is trite that, generally speaking, prudential calculation is more responsive to an increased likelihood of detection than to an increase in the penalties for the particular offense.<sup>25</sup> However, the responses of individuals are not uniform and, in the case of speed cameras, research suggests that (not surprisingly) the responses of motorists vary.<sup>26</sup> For whatever reason, some motorists always observe the speed limits, irrespective of whether they are driving through areas covered by speed cameras. Others slow down, sometimes to accelerate again as they exit the controlled area. Undoubtedly, still others exceed the speed limit, taking little or no notice of the presence of cameras.

For many researchers, the question will be simply whether the use of some particular regulatory technology (such as speed cameras or CCTV) “works”—namely, whether it is effective in assisting the regulators’ purposes. That is, how would the amplification of prudential signals impact such agents? For Type 1 agents, unless moral reason offers some optionality (as where various actions are morally permissible), prudential signals, whether amplified or not, are irrelevant. For such agents, prudential considerations only operate within the interstices of moral reason. For Type 2 agents (whose

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25. JOHANNES ANDENAE, PUNISHMENT AND DETERRENCE 960 (1974) (“Even the simplest kind of common sense indicates that the degree of risk of detection and conviction is of paramount importance to the preventive effects of the penal law. Very few people would violate the law if there were a policeman on every doorstep.”).

26. See Claire Corbett & Isabel Caramlau, *Gender Difference in Response to Speed Cameras: Typology Findings and Implications for Road Safety*, 4 CRIMINOLOGY & CRIM. JUST.: INT’L J. 411 (2006).

prudential mind-set will be treated as pathological in an aspirant moral community), the amplification of prudential signals will not change the general way that they reason but, in some cases, it might alter their conduct. For example, motorists who reason in this prudential way might slow down on a road when speed cameras are introduced, reasoning that the introduction of cameras tips the balance of self-interested considerations towards compliance. However, while this would be relevant to understanding the effectiveness of particular regulatory technologies, it would not speak to concerns about damage to moral community.

The remaining categories, Type 3 and Type 4 agents, are probably characteristic of many agents in an aspirant moral community. Here, there are highly relevant questions about the impact of the amplification of prudential signals. Does this change in the regulatory environment affect the way in which these agents reason, reducing the occasions when they reason morally? And, does it interfere with them acting on moral reasons? In principle, there could be some significant alterations in both the reasoning and the conduct of Type 3 and 4 agents. Finally, the potential presence of serious concern about such alterations requires an inquiry to establish their prevalence and their significance.

That said, some might think there is little risk in the amplification of prudential signals. After all, existing criminal justice regimes employ a mix of moral and prudential signals. The prudential signals are regularly tuned up or tuned down by changes in penalties, by targeting particular offences, and so on, and we detect no obvious change in moral community. Moreover, if the amplification of prudential signals does change the conduct of Type 2 agents so that they cause less harm to the morally protected interests of other agents, there is an element of moral gain without any offsetting loss—at least when assuming that Type 2 agents are incorrigible prudentialists.

In the cases of Type 3 and 4 agents, the moral trade-off is more complex. As with Type 2 agents, the amplification of prudential signals might lead to a reduction in the harm caused to the protected moral interests of others. However if a switch from moral to prudential reason also occurs in the thinking of these agents (even though their conduct is unaltered) this suggests some corrosion of moral community. That is, even though these agents might do what is generally thought to be the right thing, they now do so for prudential rather than moral reasons.

Without further inquiry, we cannot be confident about the impact of the amplification of prudential signals that comes with an increased reliance on some regulatory technologies. So long as such technologies operate at the fringes of a traditional criminal justice system, there is probably little, if any, overall cost to moral community. However, where the regulatory

environment features pervasive surveillance and monitoring technologies, aspirant moral communities should not be so complacent. In a panopticon environment, how likely is it that moral reason will survive, let alone flourish?

Recently, Beatrice von Silva-Tarouca Larsen<sup>27</sup> has suggested that the “general public [might have] not quite woken up to the potential dangers of CCTV.”<sup>28</sup> Her principal concern relates to the loss of anonymity (and privacy) in public places. However, putting her finger on precisely the point that is central to this paper, she says:

Another reason speaks against pervasive recording in public space as a strategy for crime prevention. Increasing the threat of punishment does not deprive punishment of its moral message, and highlighting the detection risk of offending does not have to dilute the deontological condemnation expressed in punishment. *Nevertheless, one should not rule out the possibility that an over-reliance on CCTV, with its emphasis on the instrumental appeal to desist from crime in order to avoid paying the cost, might entail a dilution of the moral reasons for desistence.* This could become a problem, for it is not possible to record and monitor people all the time. It is important that policy makers realise that CCTV can only ever be a small part of the solution for enforcing the criminal law, and that instrumental obedience is no substitute for moral endorsement of criminal prohibitions. Strengthening, communicating and convincing people of the normative reasons for desistence should always remain a priority.<sup>29</sup>

Accordingly, her recommendation is “that policy makers should opt for very selective implementation of public CCTV, within a narrow setting, targeted on particular crimes and a particular type of offender.”<sup>30</sup> While such implementation might render CCTV coverage more effective in preventing and detecting crime, this is not really the point. Rather, as Larsen concludes: “Above all, it is important to remember that surveillance can never be a substitute for frontline crime-prevention work in and with the community, for the normative legitimacy of criminal prohibitions *and the moral incentive to abstain from harming others.*”<sup>31</sup>

Clearly, to address the question of the significance of amplified prudential signals, we need to think beyond the impact on individual agents

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27. BEATRICE VON SILVA-TAROUCA LARSEN, *SETTING THE WATCH: PRIVACY AND THE ETHICS OF CCTV SURVEILLANCE* (2011).

28. *Id.* at 83.

29. *Id.* at 153–54 (emphasis added).

30. *Id.* at 186.

31. *Id.* (emphasis added).



who are already members of a morally aspirant community and to remind ourselves about the project of moral community.

#### B. MORAL COMMUNITY: THE PROJECT

This Section presents a thumbnail sketch of what constitutes the project of “moral community.” As a project, the emphasis is on process rather than product. It is about how the community organizes its moral deliberations. Moreover, because moral community is being treated as a generic concept, the qualifying condition is that regulators and regulatees are focused on trying to do the right thing, not that they subscribe to a particular school of substantive morality.

There is a distinction between the project of moral community in a generic sense and particular articulations of moral community. The organizing idea for the project is that the community and its members should endeavor to do the right thing relative to the legitimate interests of themselves and others. What counts as a *legitimate* interest, and who counts as an *other*, are deeply contested matters. The way in which these questions are answered will determine how a particular moral community is articulated. So, for example, if we treat the avoidance of pain and distress as the key *legitimate* interest of others, and if we treat *others* as those who are capable of experiencing pain and distress, then the community will articulate along negative utilitarian lines. If we treat an agent’s freedom and well being as the relevant *legitimate* interest of others, and if we treat *others* as those who are capable of acting in a purposive way, then the community will articulate along liberal rights-based lines. If we treat human dignity as the key *legitimate* interest, and if we treat all humans as relevant *others*, then the community will articulate as some version of dignitarianism, and so on.<sup>32</sup> These examples could be multiplied many times. However, the point is that these many different articulations are all examples of moral community in the generic sense; and they are all such examples because they start with a commitment to try to do the right thing relative to the legitimate interests of others.

In such an aspirant moral community, the regulatory environment should declare the community’s commitment to doing the right thing and it should express its understanding of the guiding principles. At some times and in some places, the process of articulating the community’s moral commitments might have been left to an elite group (of philosopher kings or wise men). In that scenario, the commitments so articulated might have been seen as a durable statement (in a world of little change) and the substantive principles

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32. See Roger Brownsword, *Bioethics Today, Bioethics Tomorrow: Stem Cell Research and the Dignitarian Alliance*, 17 NOTRE DAME J.L. ETHICS & PUB. POL’Y 15, 18–19 (2003).

articulated might have been viewed with epistemic certainty. However, the project of moral community as I view it for the twenty-first century is rather different: it is inclusive, constantly under review, and undertaken with a degree of uncertainty.

To start with *inclusiveness*, the project of moral community implies that all voices should be heard, with comprehensive public engagement. This means that, in principle, all members of the community should be able to participate in debates about how the regulatory environment should be articulated if it is to keep faith with the ideal of doing the right thing. On some matters, members of the community might be agreed; and, in all probability, the higher the level of generality at which governing principles are formulated, the easier it will be to agree that these are relevant principles for the guidance of agents who wish to do the right thing. However, there will be many matters that are disputed. Even if the most fundamental of principles are agreed upon, there might be disagreement about the scope and application of a principle in a particular case, about prioritizing competing principles, about where to draw the line between those who are relevant others and those who are not, and so on.<sup>33</sup> So far as is practicable, inclusive deliberations about such matters must occur. Once a decision has been made, a moral community must treat it as provisional and open to *review*.<sup>34</sup> That is, the fact that the balance of argument has favored a particular decision today does not secure it in perpetuity. A moral community must leave open the possibility of revisiting, reviewing, and renewing its decisions. Finally, unless the community claims moral omniscience—which, in the twenty-first century, is hardly a plausible position—it must regard its articulated principles with a degree of epistemic *uncertainty*. This does not have to unravel the project, but it does mean that the current articulation cannot be treated as being set in stone.

To the extent that the public life of such a community focuses on constructing an appropriate regulatory environment, it follows that we cannot assess the impact of an amplification of prudential signals simply by checking the way that regulatees reason and respond to such signals. For, as members of the community, regulatees have a role to play in debating the

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33. See Roger Brownsword, *Regulating the Life Sciences, Pluralism, and the Limits of Deliberative Democracy*, 22 SING. ACAD. L.J. 801, 803 (2010).

34. See *id.* at 829 (“[W]e cannot regulate in a way that is compatible with all views but a regulatory position needs to be taken; there will be an opportunity to revisit the issue; but, in the interim, we ask regulatees to respect the position that has been taken.”); Roger Brownsword & Jonathan J Earnshaw, *The Ethics of Screening for Abdominal Aortic Aneurysm in Men*, 36 J. MED. ETHICS 827 (2010) (emphasizing that the decision to introduce, or not to introduce, a publicly-funded screening program should be reviewable).

regulatory purposes and agreeing the public rules and standards. In other words, before we set aside any concerns about the amplification of prudential signals, we need to check not only whether there is an impact on regulatees at the point of compliance but also on their ability to participate as members of the political (and aspirant moral) community. However, to do this, members must have the capacity to engage in moral discourse and debate—which is to say, there must be no impairment of their moral development.

Taking stock, we can say that the project of moral community (whatever its particular articulation) presupposes that its members will participate in debating the community's best understanding of its moral commitments, in setting public standards that are compatible with those commitments, and in responding to those standards as regulatees who strive to do the right thing for the right reason.<sup>35</sup> Unless the amplification of prudential signals has no effect on any part of the project, regulators (as stewards for moral community) should proceed with care.

### C. THE MORAL MARGIN AND MARGINAL CONSIDERATIONS

If regulators are to act as stewards for moral community, they might interpret this responsibility in a weak or strong sense. In a weak sense, the responsibility is to ensure that the moral life of the community is not altogether extinguished; in a strong sense, the role of regulators is to ensure that there is, at worst, no reduction in the moral life of the community and, at best, some promotion of moral community. In the weak context, regulators would not be concerned that the amplification of prudential signals encroached on and reduced the space for moral reason, provided that there was (in the spirit of the Lockean proviso) still sufficient and plenty<sup>36</sup> of opportunity for the moral life. In contrast, in the strong context, such encroachment and reduction would be unacceptable. Whilst the former evokes a community that is trying to preserve something of its moral project, the latter fits with a community that sees itself on a trajectory toward the completion of its moral project. In the light of previous comments about the

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35. There are also questions for any aspirant moral community about its relationship with and responsibilities towards other communities. *See, e.g.*, NUFFIELD COUNCIL ON BIOETHICS, GENETICALLY MODIFIED CROPS: ETHICAL AND SOCIAL ISSUES 67 (1999); GOV'T OFFICE FOR SCI., FORESIGHT, THE FUTURE OF FOOD AND FARMING: FINAL PROJECT REPORT 9–10 (2011), *available at* [http://www.bis.gov.uk/assets/bispartners/fore\\_sight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf](http://www.bis.gov.uk/assets/bispartners/fore_sight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf).

36. This is an allusion to the famous proviso entered by John Locke in his *Second Treatise on Government*. JOHN LOCKE, SECOND TREATISE ON GOVERNMENT ch. V, § 27 (London: Dent, reprinted 1975) (1690). Stated shortly, Locke allows for the appropriation (and enclosure) of land by improvement provided that there is still “enough, and as good, left in common for others.” *Id.*

inclusiveness of moral community, the community as a whole should debate whether it defines itself as undertaking the weak or the strong version of the moral project. To this extent, it might be appropriate to characterize the community as being “communitarian” in the sense that its members identify with the kind of moral project that they have committed to undertake.

Whether the community’s aspiration is to retain some part of its moral life or to push forward towards a more complete moral life, there needs to be some kind of regulatory margin that serves as a benchmark for decisions involving the use of technologies that amplify prudential signals. On the weak interpretation of stewardship, the margin represents a minimal zone for moral life to be protected at all costs; on the strong interpretation, the margin will mark the present level of moral life. The function of this margin would be twofold: first, it would serve as *ex ante* guidance for regulators (the marginal question would be one that they should ask themselves). Second, it would serve as a focus for *ex post* review.

What might be the relevant marginal considerations? Despite having used locutions such as the “level of moral life,” and the “reduction” of moral community, these are not quantifiable matters. There is no moral barometer of this kind. To be sure, there might be some snapshots of the way in which the amplification of prudential signals impedes or interferes with the opportunities for moral action. But, in general, it is hard to conceive of the existence of reliable and regular quantitative measures that would be workable for either regulators or reviewers. Instead, regulators might be guided by two critical considerations. One consideration is whether there is any possibility that the amplification of prudential signals might interfere with regulatees’ development of moral reason and the capacity to participate in the life of the community as moral agents. No doubt, the foreground regulatory environment for children and young persons is that found in the family, at school, and in the neighborhood. We should not assume that the larger public regulatory environment aligns with these most proximate environments. Nevertheless, regulators need to be sensitive to the possibility that the amplification of prudential signals in the background environment might carry over to the foreground. A second consideration concerns the importance of the moral interest served by prudential amplification. For example, if amplified prudential signals serve to protect essential infrastructural conditions for the community or to prevent life-threatening harm, this might be seen overall as an acceptable measure—and, of course, it would be much easier to justify such measures where the weak interpretation of moral stewardship is invoked. Clearly, there is a considerable jurisprudence waiting to be developed here, but it will not get underway unless there is an appropriate doctrinal and institutional opening.

D. *MARPER* RE-INTERPRETED IN TERMS OF THE MORAL MARGIN

In this Part of the Article, I earth some of the foregoing argument and analysis in the leading European case on the compatibility of DNA databases with basic human rights, particularly with the right to privacy. While the case is a rich resource for legal and moral argument about the scope and weight of privacy (against the competing objectives of crime control), it does *not* speak at all to the concerns that this Article raises about the complexion of the regulatory environment. And, this is precisely the point: if we wish to raise such concerns, even in a court that has conspicuous moral aspirations, we do not have the doctrinal means to do so. Moreover, in the absence of a doctrine such as the regulatory margin, the real danger is not just that concerns about the complexion of the regulatory environment might be seen but not heard, but that they are not even seen at all.

There is a considerable distance between the kind of review a community might undertake relative to a regulatory margin of the kind just sketched and what happens in current reviewing practice. Or, at any rate, there is considerable distance in those kinds of practices where legal proceedings test the compatibility of regulatory technologies relative to fundamental human rights commitments. In the jurisprudence of the European Court of Human Rights, the leading case of this kind is *S v. United Kingdom*.<sup>37</sup> It is instructive to see how the Court presented the issue in *Marper* and how it might have done so if the question had concerned compatibility, not with human rights, but with the regulatory margin.

Stated shortly, the question in *Marper* was whether the legislation in England and Wales that permitted the taking and retaining of DNA samples from persons who were arrested, and the making and retaining of DNA profiles, was compatible with the right to private and family life that is protected by Article 8(1) of the European Convention on Human Rights.<sup>38</sup> The legislation authorized the taking of a sample from almost all persons who were arrested and, even more controversially, it permitted the retention of both samples and profiles regardless of whether the person who had been arrested was charged, brought to court, or convicted.<sup>39</sup> Very quickly, the collection of samples and profiles grew to become the largest per capita national DNA database. On the positive side, some headline-catching stories highlighted the relevance of DNA evidence in both exculpating innocent

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37. *Marper*, app. nos. 30562/04 & 30566/04, (2009) 48 E.H.R.R. 50 (Eur. Ct. H.R. Dec. 4, 2008), 2008 WL 5044408, at \*1169 (combining the applications of S, a British minor, and Michael Marper, a British national).

38. *Id.* at \*1187.

39. *Id.* at \*1176–80.

persons and leading the police to some serious offenders (often where the offence was old and the case was cold).<sup>40</sup> However, on the negative side, it could be objected that the database contained many samples and profiles from persons who had not actually been convicted of any criminal offense—such persons might have been arrested but they surely were to be treated as innocent.<sup>41</sup>

In the ensuing litigation the applicants complained that the authorizing legislation was not compatible with the Article 8(1) privacy right. The defense was that, even if the privacy right were engaged (which was not conceded), the regulatory objectives (with regard to deterring and detecting crime) were overriding public interest reasons within the meaning of Article 8(2) of the Convention.<sup>42</sup> In the domestic courts, the complainants received little encouragement.<sup>43</sup> For, while it was rather grudgingly accepted that the privacy right was engaged,<sup>44</sup> there was no hesitation in finding that the Article 8(2) reasons were compelling. By contrast, at Strasbourg, the Grand Chamber (the full court), found that privacy was not only clearly engaged, but that the extent of the infringement was disproportionate to the criminal justice objectives. Concluding, the court found that

the blanket and indiscriminate nature of the powers of retention of the fingerprints, cellular samples and DNA profiles of persons suspected but not convicted of offences, as applied in the case of the present applicants, fails to strike a fair balance between the competing public and private interests and that the respondent

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40. *See, e.g., id.* at \*1174 (“Lord Steyn noted that the value of retained fingerprints and samples taken from suspects was considerable. He gave the example of a case in 1999, in which DNA information from the perpetrator of a crime was matched with that of ‘T’ in a search of the national database.”); *see also* Andrew Norfolk, *Shoe Rapist Is Trapped by Sister’s DNA 20 Years After Serial Attacks*, *TIMES* (London), July 18, 2006, at 3.

41. *See, e.g.*, NUFFIELD COUNCIL ON BIOETHICS, *THE FORENSIC USE OF BIOINFORMATION: ETHICAL ISSUES* 18 (2007).

42. *Marper*, 2008 WL 5044408, at \*1193–96.

43. *R v. Chief Constable of S. Yorkshire Police (ex parte LS & Marper)*, [2004] UKHL 39 (appeal taken from Eng.), *available at* <http://www.publications.parliament.uk/pa/ld2003/04/ldjudgmt/jd040722/york-1.htm>.

44. On this point, Baroness Hale was alone in finding that privacy was clearly engaged:

It could be said that the samples are not “information” . . . . But the only reason that they are taken or kept is for the information which they contain. They are not kept for their intrinsic value as mouth swabs, hairs or whatever. They are kept because they contain the individual’s unique genetic code within them. They are kept as information about that person and nothing else. Fingerprints and profiles are undoubtedly information. The same privacy principles should apply to all three.

*Id.* at [70].

State has overstepped any acceptable margin of appreciation in this regard. Accordingly, the retention at issue constitutes a disproportionate interference with the applicants' right to respect for private life and cannot be regarded as necessary in a democratic society.<sup>45</sup>

To arrive at this judgment, the court was significantly influenced by the fact that the U.K. was an outlier relative to the position taken by other Contracting States. Thus,

most of the contracting states allow these materials [i.e., DNA samples] to be taken in criminal proceedings only from individuals suspected of having committed offences of a certain minimum gravity. In the great majority of the contracting states with functioning DNA databases, samples and DNA profiles derived from those samples are required to be removed or destroyed either immediately or within a certain limited time after acquittal or discharge.<sup>46</sup>

Whereas, then, the domestic courts judged that the legal powers were not disproportionate given the weak (as they saw it) engagement of privacy and the strong claims of criminal justice, the Grand Chamber judged that the legal powers were disproportionate given the clear engagement of privacy and the much less sweeping powers adopted by other members of the Strasbourg human rights club.<sup>47</sup>

Whichever view we find convincing, imagine that the complaint had been framed differently. Imagine a complaint that the use of DNA evidence (in conjunction with a raft of other modern technologies) amplified prudential signals at the cost of moral community. However, given that the Convention does not invite or recognise such a strategic complaint, how could the point be put to the legal test? Seemingly, the success of such a claim would require a (moral) regulatory margin relative to which the objection could be assessed. That is, if other Contracting States limited the use of DNA profiling to the most serious criminal offenses, they may appear respectful of privacy. But, arguably, they also would be more sensitive to the need to maintain a moral margin that protects moral signals from being overwhelmed by prudential

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45. *Marper*, 2008 WL 5044408, at \*1202.

46. *Id.* at \*1199.

47. *See id.*; *see also* Wood v. Comm'r of Police, [2009] EWCA (Civ) 414, [2009] All E.R. 4 [951] (Eng.) (holding that on the particular facts, the police action in taking and retaining photographs of the entirely innocent complainant was a disproportionate infringement of his Article 8(1) privacy rights). Looking at the bigger picture, Lord Collins remarked that it was "plain that the last word has yet to be said on the implications for civil liberties of the taking and retention of images in the modern surveillance society." *Id.* at [100].

ones.<sup>48</sup> Such a reframing would transform the terms of the complaint from an unreasonable infringement on privacy to an encroachment on the moral margin. The outcome of the case would be the same but the reasoning would be quite different.

There is, of course, a great deal more one could say about the issues raised by *Marper*, not to mention the more general issues raised by personal genetic profiling. On the one hand, moral communities with commitments to human rights will be heartened by the increased concern for privacy now being shown by the U.K. coalition government as well as by the domestic courts.<sup>49</sup> On the other hand, modern technologies (from social networking platforms to brain imaging) constantly push back the boundary at which our expectation of privacy seems reasonable.<sup>50</sup> However, while these are precisely the kinds of issues that need to be addressed and debated in communities that have moral aspirations, the principal questions in this Article relate to the changing complexion of the regulatory environment, and particularly to the significance of those changes for the employment of moral and prudential (normative) reason.

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48. This might chime in with the court's sentiment in *Marper* that those who are in the vanguard of using technological instruments to prevent and detect crime bear a special responsibility. The *Marper* Court said:

The Court observes that the protection afforded by art.8 of the Convention would be unacceptably weakened if the use of modern scientific techniques in the criminal-justice system were allowed at any cost and without carefully balancing the potential benefits of the extensive use of such techniques against important private-life interests. In the Court's view, the strong consensus existing among the contracting states in this respect is of considerable importance and narrows the margin of appreciation left to the respondent State in the assessment of the permissible limits of the interference with private life in this sphere. The Court considers that any state claiming a pioneer role in the development of new technologies bears special responsibility for striking the right balance in this regard.

*Marper*, 2008 WL 5044408, at \*1199–1200.

49. For the coalition government's new approach to DNA profiling, see the Protection of Freedoms Bill, 2010–12, H.C. Bill [189] (Gr. Brit.); and for a marked tilt towards privacy in the courts, see *Wood*, [2009] EWCA (Civ) 414, at [12] (concerning the taking and retention of photographs for forensic purposes).

50. See, e.g., Bert-Jaap Koops & Ronald Leenes, 'Code' and the Slow Erosion of Privacy, 12 MICH. TELECOMM. & TECH. L. REV. 115, 118–19 (2005).



#### IV. THE SECOND MOVEMENT: WHEN NORMATIVE SIGNALS FADE

This Part turns to the second shift in the complexion of the regulatory environment. This is the change that occurs when regulators rely on non-normative strategies, so that regulatees are presented, not with rules and regulations, with oughts and ought nots, but with the brute fact that some things can be done and others cannot. Whether we view such a regulatory environment from a moral or a prudential perspective, this is a very different place to be. Whether we reason morally or prudentially, the impact of non-normative regulation is that we lose some degree of choice and, with that, some degree of control.

When regulators rely on technological instruments, they can go beyond the amplification of prudential signals to design in a desired pattern of conduct or to design out conduct that is not desired. Sometimes, the technology will not replace normative signals and the regulatory environment, although employing technologies, will still speak to the moral and prudential interests of regulatees. However, at other times the technology might go a step further and replace any normative signals with an entirely non-normative register. The impact of non-normative regulation is that regulatees lose some degree of control and choice, specifically in relation to their prudential and moral reasoning and action.

Such techno-regulatory strategies might focus on products, places, or persons.<sup>51</sup> For instance, regulators might specify certain safety, privacy-enhancing, or copyright-protecting features to be designed into products. Or they might specify certain architectural features to improve safety (as in the layout of roads) or to facilitate transparency (think about the Bundestag building in Berlin) or adversarial political debate (think about the layout of the House of Commons at Westminster). With regard to persons in some future world, regulators might specify that only those human embryos with acceptable genetic profiles should be implanted for reproductive purposes.

These various possibilities for regulation through technology prompt a number of initial questions. For example, does it matter whether the locus for techno-regulatory interventions is in products, in places, or in persons? Are some locations more suitable than others if the technology is to be customized for individual use? Non-normative regulation can lie anywhere on the spectrum between what is not reasonably practicable and what is impossible. Does it make any difference whether the technology operates at

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51. See Roger Brownsword, *Code, Control, and Choice: Why East Is East and West Is West*, 25 *LEGAL STUD.* 1, 12 (2005).

the not reasonably practicable or the impossible end of the spectrum? In normative regulatory settings, the focus of the intervention can be at the point of standard setting or monitoring and detection or correction. Does this carry over to non-normative settings? If so, does it matter at which point or points regulators rely upon the technology?

If the variables in the non-normative forms of regulation are significant, that significance stems from the particular way that those variables impact prudential and moral action. Accordingly, we can start by reviewing the significance of various types of non-normative regulatory interventions with regard to prudential reason and the pursuit of self-interest. Then we can return to the implications of those interventions for the project of building moral community.

#### A. PRUDENTIAL INTERESTS AS A STARTING POINT

To reason prudentially is to make a judgment about one's own interests. Sometimes those judgments will prioritize short-term costs and benefits. At other times, we will act more strategically, taking the longer view (and, as some would have it, acting on an enlightened understanding of where our interest lies). When others make judgments as to what is in our best interests, they try to simulate the prudential judgment that we would make. However, this is not only an imperfect process, but it also deprives us of making our own prudential judgments. Where our powers of prudential reasoning have not yet developed or where they have waned, there might be no alternative other than to have others make prudential judgments on our behalf. However, this is merely a second best; and, in most communities, members will want to make their own prudential judgments because they believe that if anyone is to judge what is in their best interest, it should be themselves. At all events, for the purposes of this part of the discussion, we will presuppose that regulatees value making their own prudential judgments and that they do not normally welcome such judgments being made for them by others.

Where the regulatory environment employs non-normative technologies, it is less clear that regulation is a three-phase process of direction, detection, and correction.<sup>52</sup> For, in such an environment, there is no phase of normative standard-setting, no need to monitor for compliance with a normative signal, and no need to correct for failure to comply with a normative signal. All three phases are collapsed. Nevertheless, as we shall see, there can and should be a preliminary phase in which normative discourse survives to determine which regulatory purposes should be pursued and how they

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52. This so-called "cybernetic" approach is pervasive in the regulatory literature. *See, e.g.,* MORGAN & YEUNG, *supra* note 8, at 3, 73, 103.

should be pursued. Worryingly, the survival of normative discourse might be restricted to a regulatory elite. However, in any community that has democratic commitments, the survival of the discourse needs to be community-wide, encompassing and enfranchising both regulators and regulatees.

We can assess the impact of non-normative technologies on prudential reason in four steps: first, by considering how such technologies might operate where an agent self-regulates (and prudentially elects a certain level of technological regulation); second, by reviewing the imposition of non-normative regulatory environments in products and places; third, by thinking about the significance of in-person technological management; and, finally, by revisiting the idea of a regulatory margin.

1. *The Impact of Non-normative Technologies on Self-Regulation*

As consumers, we constantly express our prudential preferences. As consumer products become more technologically sophisticated, we have the opportunity to express our prudential preferences relative to ever more features of product design. This Section considers the significance of consumers selecting products that incorporate elements of non-normative management of the user's conduct.

Where products are mass-produced and where their technological features are cheap and cheerful, this might not be what, other things being equal, the particular user would choose; individual tastes and preferences vary enormously. In principle, however, we can imagine that products might be designed in ways that allowed for some tailoring to user preferences. Indeed, at the more expensive end of the product market, we would expect an increase in customization opportunities, such that products become more aligned with the preferences of their users. The more this happens, the greater the options available to users and the greater scope there is for fine-grained prudential choice.

Now, the product features in question might be expressly presented as being of a regulatory nature. That is to say, once incorporated, these features operate in a way that constrains the options available to the user and, on occasion, they might impede the user's particular occurrent prudential preference. Imagine then that a class of products (motor cars, for example) is marketed with the following three design options each reflecting a different level of technological control over the user's self-interested decision-making:

Level 0 (that is, no) technological assistance or constraint: the user is on his or her own in driving the car.

Level 1 technological assistance or constraint: this is what Mireille Hildebrandt terms a “regulative” technology;<sup>53</sup> it is an amber light alert: it is a motor car fitted with sensors that detect the presence of alcohol or drugs and that cautions against driving under the influence; it is the fridge that warns about food coming up to its eat-by date; it is the energy-smart home that advises the occupier about the levels of fuel consumption; it is the digital voting assistant that advises the user about the voting option that is consistent with the user’s standard preferences; and so on. The technological signal is normative.

Level 2 technological assistance or constraint: this is what Mireille Hildebrandt terms a “constitutive” technology.<sup>54</sup> It is red light control: it is the car that is immobilized when its sensors detect the presence of drink or drugs; it is the fridge that destroys the food that has passed its eat-by date; it is the energy-smart home that shuts down the power; it is the gastric band technology that makes it impossible to eat more than a certain amount; and so on. The technological signal is non-normative.

For the individual who elects level 0, there is no technological impingement on prudential reason and action. With level 1 features, the technology simply advises the user, just as a friend might ask, “Do you really think that doing this is in your interest?” The technology is a partner in prudential decision-making, and the user remains in control in the sense that the advice can be ignored. The option that might give some pause is level 2. This is where the technology takes on a non-normative character. For the individual who elects level 2, the power of prudential decision is transferred to the technology. However, the election itself is a strategic prudential decision. For example, an individual might be prone to acting on short-term considerations which lead to actions he subsequently regrets. To minimize this risk, the individual elects level 2 technological features.<sup>55</sup> While this does involve a transfer of control, the transfer is selected and accepted because the

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53. Hildebrandt, *supra* note 19, at 172.

54. *Id.*

55. For discussion of how different conceptions of autonomy are implicated in these technological designs, see Roger Brownsword, *Autonomy, Delegation, and Responsibility: Agents in Autonomic Computing Environments*, in *THE PHILOSOPHY OF LAW MEETS THE PHILOSOPHY OF TECHNOLOGY: AUTONOMIC COMPUTING AND TRANSFORMATIONS OF HUMAN AGENCY* 64 (Mireille Hildebrandt & Antoinette Rouvroy eds., 2011).

individual makes a background prudential judgment that, all things considered, this is the way to advance his self-interest. Moreover, provided that the decision is reversible (either by replacing the product or, in some sophisticated designs, by virtue of an override feature), there is no loss of prudential independence.

Perhaps we should not be too sanguine about consumer choices being enhanced by products that offer a range of options of the kind just outlined. After all, consumer preferences can be manipulated and, in markets that use sophisticated profiling and advertising technologies, individuals might have less control over their prudential judgments than they assume. Still, in principle, prudential self-regulatory election of non-normative technological management is much less problematic than the imposition of such management systems by others.

## 2. *The Effect of Non-normative Regulation Imposed by Others*

Putting self-regulation to one side, there is the quite different scenario in which non-normative technological features are imposed on regulatees. Here, the question becomes whether such imposition has a cost to the prudential independence that is valued by the community. Prima facie, loss occurs because individuals are no longer making their own self-regulating prudential decisions. However, provided that there is an opportunity to apply prudential reason in public debates in which individuals vote their (collective) preferences, then we are not losing prudential independence from public life—even though the outcome of such debates might be regulatory environments that are non-normative. Arguably, in other words, the loss is not as serious as it first appears.

As we have said, in the marketplace, mass-produced goods might not be designed as one would choose. If this means that the better-off have a better chance of realizing their preferences, there is an obvious concern about the fairness and equity of access to various technological options. But the concern is not about the loss of prudential reason from the life of the community. In the same way, if one market player is in a position to impose a technological restriction on the other (as with DRM technologies and Monsanto's supposed terminator gene in seeds), there is an imbalance of contractual power, with producers using the technology to advance their commercial self-interest against the preferences of purchasers. These facts of market life might give rise to some concern. However, the concern is not about the loss of opportunities for prudential reason so much as the legitimacy of this kind of transactional power play.

Away from the market, what should we make of public impositions of non-normative technologies? For example, what should we make of the non-

normative regulatory environments that are characteristic of many aspects of public transport systems? Suppose officials proposed that, instead of conventional driver-controlled motorcars, there should be a fully technologically-managed road transport system. Even with the best deliberative, democratic, and participatory processes, there is no guarantee that the outcome will align with each participant's judgment of his own personal prudential interest. Once the new transport system is in operation, there is some loss of opportunity for prudential action—drivers will no longer ponder the best route for getting from A to B. However, there has been no loss of prudential reason in the *debates* about the adoption of the system. Indeed, there might be further prudential arguments about possible modifications to the system, or even its abandonment and the restoration of the old system.

However, again, we should not be too sanguine about this. In practice, how often do public debates occur about the adoption of managed environments—rather, how often are there simply incremental changes that just seem to happen? And, even if there are public debates, how often are they framed in terms of a shift from a normative to a non-normative regulatory environment? The current enthusiasm for creating regulatory environments incorporating defaults that “nudge”<sup>56</sup> regulatees towards a particular action indicates how well-intentioned, paternalistic thinking can reshape the regulatory environment. Of course, the beauty of the nudge is that it is analogous to a level 1 technological constraint. The signal is normative, as the regulatee is still in control with the option of opting out. And it seems to be possible to assuage the concerns of those who are worried about the loss of individual autonomy. However, assuming that the purpose of the nudge is legitimate and generally beneficial, there are two aspects of the strategy that invite careful scrutiny. One aspect is whether there has been a public debate about the introduction of the nudge. Have the relevant regulatees signed up for this level 1 steer over level 0 (or possibly level 2)? The other scrutiny-inviting aspect is for the relative ease with which the nudge could become something stronger—so to speak for push to become shove. The nudge will only be effective so long as it produces the pattern of behavior that is desired by the regulators. In some cases, this might require only the gentlest of nudges. However, once the nudge becomes stronger, it starts to approach the boundary that divides normative signals from non-normative signals. The latter, it should be recalled, start at a point at which the regulatee reasons that it is not reasonably practicable to do

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56. See RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 6 (2008).

anything other than to go with the flow. Once this happens, even if regulatees have signed up for level 1 nudging, they are unwittingly (and without their endorsement) operating in a level 2, non-normative, regulatory environment.

For a community that values prudential reason and the possibility of acting on one's own prudential judgments, the public imposition of non-normative regulatory environments needs to be preceded by an inclusive public debate that flags to participants the replacement of normative with non-normative signals. Moreover, such communities must take care that what starts out as a level 1 technological regulation does not morph into a level 2 regulation without the community having the opportunity to express its preferences on the matter.

### 3. *Technology Embedded in the Body*

Non-normative regulatory technologies that are embedded in persons, rather than in their surrounding environments, raise an interesting problem regarding prudential independence. While there appears to be no loss of the community's aggregate capacity for prudential reason, individuals who are coded for a particular kind of prudence do not seem to enjoy the independence that is integral to valuing prudential decision-making.

Suppose that an individual suffers from depression. He has two options: he can either take a course of drugs or work out regularly at the local fitness club. Whichever option he takes, the biochemistry is identical: serotonin levels are raised and the depression lifts. It is a simple choice, but which option, prudentially, is preferred? Some (perhaps many)<sup>57</sup> will prefer the latter because they are suspicious of drugs for mental health, or they think that their recovery will be more authentic if unaided by drugs, or the like. Others elect to take the drugs. So far as the prudential life of the community is concerned, there seems to be nothing exceptional about any of this. Whichever option is taken, it is the result of the individual's prudential preference, their own independent judgment as to what is in their self-interest.

Suppose that the individual takes the drugs, recovers from depression, but now finds that staying on the drugs enhances their mood. Clearly, there are many questions about the ethics of drugs being used for enhancement

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57. See ACAD. OF MED. SCI. (UK), BRAIN SCIENCE, ADDICTION, AND DRUGS 28, 54 (2008).

rather than for therapy,<sup>58</sup> but none of this raises concerns about the prudential life of the community. Similarly, whatever doubts we might have about young clubbers choosing to be RFID chipped in order to get fast-track entry or bar service, it cannot be because we sense the loss of prudential reason. Their prudential judgments might be different than our own, but that is quite another matter. Unless the in-person technology is irreversible, it seems that the shape of self-regulatory use of such regulatory technology is much the same as it is with products and places.

In some cases, the initial decision to use an in-person regulatory technology is more suspect than in other cases. For example, we might debate whether an offender's election to be chipped or tagged (for parole or early release or to avoid a custodial disposition) is in any relevant sense "unfree" or forced. Is this really an unforced choice (in the sense required by an appeal to the offender's "election")? Or we might argue about the morality of such measures.<sup>59</sup> However, there is no loss of prudential community here. Similarly, we might debate the merits of tagging children or elderly people for their own health and safety. To the extent that paternalistic reasoning—taking no account of the capacity of these persons for making their own prudential decisions—backs such technological interventions, there is a problem. Although, it should be said that this is a problem that is by no means limited to, or driven by, regulatory technologies. So long as our question is about the preservation of prudential self-determination, the imposition of regulatory technology embedded in the body has not yet hit a nerve.

What would hit such a nerve? Imagine, in the way that Bruce Ackerman once did,<sup>60</sup> that there are master geneticists who can code persons in a way that they have particular talents and, concomitantly, associated preferences. No doubt, for each of us, the way in which we perceive our self-interest, as well as our tendency towards short-term or longer-run calculation, owes something to our genetic inheritance. However, our perceptions have not been designed into us in the self-conscious way that would happen if we employed the services of the master geneticist.<sup>61</sup> So long as this coding is a self-elected, somatic fix, it fits the self-regulatory pattern. However, where

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58. See, e.g., JOHN HARRIS, ENHANCING EVOLUTION 7 (2007); MICHAEL SANDEL, THE CASE AGAINST PERFECTION (2007); Roger Brownsword, *Regulating Human Enhancement: Things Can Only Get Better?*, 1 LAW INNOVATION & TECH. 125 (2009).

59. See, e.g., Jeroen van den Hoven, *Nanotechnology and Privacy: Instructive Case of RFID*, in NANOETHICS 253 (Fritz Allhoff et al. eds., 2007); Rosenberg, *supra* note 9.

60. BRUCE A. ACKERMAN, SOCIAL JUSTICE IN THE LIBERAL STATE 114–21 (1980).

61. *Id.* at 121–23 (describing parental election of genetic traits in their offspring).



others (the State, our parents, or others) specify the coding for us, this raises a host of *moral* concerns. For liberals, it violates the person's right to an open future,<sup>62</sup> and for dignitarians, it wrongly treats persons as commodities.<sup>63</sup>

But, does it also impinge upon prudential community? In a sense, there is no loss of the community's aggregate capacity for prudential reason, but the individuals who are coded for a particular kind of prudence do not enjoy the independence that is integral when valuing prudential decision-making. Put bluntly, when a person judges that  $x$  is in her self-interest, she wants that to be her judgment and not a judgment that has been designed into her by others. When her interests are at issue, she wants to be speaking and deciding for herself.

If there is anything exceptional about *imposed* in-person regulatory technologies, it is that they might not be transparent or reversible. In both respects, there seems to be a significant diminution in prudential community.

#### 4. *A Regulatory Margin?*

We have said already that there needs to be a regulatory margin to facilitate deliberation about, and review of, changes to the complexion of the regulatory environment. Previously, the function of the margin was to provide an opening for considering the amplification of prudential signals (at the expense of moral signals). Now, the margin considers the turning down of such prudential signals in favor of non-normative signals.

Just as before, the marginal responsibilities of regulators might be weak or strong. A regulator's responsibility might be simply to preserve some room for prudential calculation (which one would expect to be relatively undemanding). Or it might be to hold the line and possibly even to promote prudential calculation. For example, this might be a community now facing techno-regulation that has only recently shaken off a culture of paternalism.

Whether weak or strong, a prudential regulatory margin would highlight various considerations. First, provided that individuals self-consciously adopt regulatory technologies because they reason prudentially that this kind of management advances their self-interest, and provided that these decisions are reversible, there seems to be little cause for concerns related to the prudential margin. Second, when public bodies impose non-normative

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62. See, e.g., Dena S. Davis, *Genetic Dilemmas and the Child's Right to an Open Future*, 28 RUTGERS L.J. 549, 562–67 (1997) (arguing that a reflexive application of autonomy values will set limits to parents' reproductive autonomy).

63. DERYCK BEYLEVELD & ROGER BROWNSWORD, HUMAN DIGNITY IN BIOETHICS AND BIOLAW 29–47 (2001) (mapping the new dignitarian ethic that holds, *inter alia*, that it is wrong to commercialize or to commodify the human body).

regulatory technologies, an opportunity must exist for prudential and inclusive deliberation before such measures are adopted. The fact that the character of the regulatory environment will change should be highlighted for discussion. If the decision is irreversible, regulators must take a great deal of care before proceeding and ensure that imposed technological management is in line with general prudential preferences.<sup>64</sup>

Finally, any attempt to design-out a person's capacity for prudential reason, or to design-in a particular kind of prudential pathway for a person, should be prohibited.

#### B. THE IMPACT OF THE SHIFT TO NON-NORMATIVE SIGNALS ON MORAL COMMUNITY

If the amplification of prudential signals can be a problem for moral community, then we might expect a shift from normative to non-normative regulatory signals to accentuate problems regarding actors' agency. As with our discussion of the impact of non-normative management on prudential reason, we can start with self-regulatory choices and then turn to the imposition of techno-regulation.

##### 1. *Non-normative Management, Self-Regulation, and Moral Community*

This Section discusses three possible concerns that the introduction of non-normative technologies may have on the aspirations of moral community in the particular context of self-regulation.

Let us suppose that we are dealing with an aspirant moral agent—a person who wants to do the right thing relative to the legitimate interests of others. When this person is offered a choice of product design, such as a car, he will be thinking about how the technological management secures his own safety but also about how this safeguards the legitimate interests of others. So, for example, while a purely prudential car-buyer might elect level 1

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64. Compare this point to Danielle Keats Citron's argument where she recommended that

[a]gencies should explore ways to allow the public to participate in the building of automated decision systems . . . .

In the same vein, agencies could establish information technology review boards that would provide opportunities for stakeholders and the public at large to comment on a system's design and testing. Although finding the ideal makeup and duties of such boards would require some experimentation, they would secure opportunities for interested groups to comment on the construction of automated systems that would have an enormous impact on their communities once operational.

Danielle Keats Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249, 1312 (2008).

technology that reminds the driver about his or her own safety, a moral car-buyer might elect similar technology that expresses the caution in moral rather than prudential terms, reminding the driver about the safety of other road-users. Indeed, being aware of their own shortcomings, moral agents might choose something stronger than an advisory message, including level 2 technology.

Thus, for moral reasons, the agent has elected technological non-normative management that guarantees that the legitimate interests of other road-users will be respected. Although this seems to align with the aspirations of moral community, this election raises three concerns, respectively: the authenticity of the agent's moral performance, the possibility of expressing human dignity, and the constraints on dealing with moral emergencies.

First, as the motorist proceeds, with the level 2 technological management ensuring that there is no harm to other road-users, one might say that this is an inauthentic moral performance because it is the on-board technology, not the agent, that does all the work. Clearly, this latter point has to be conceded. However, moral reason lies at the root of the technology that has been selected and, arguably, this is good enough.

Second, when the car is in motion and observing the interests of other road-users, the driver cannot proceed otherwise (assuming no facility for overriding the technological controls). There is no possibility that the driver can express his human dignity by choosing not to do the wrong thing. The driver of a car with level 2 technological management never confronts the choice between doing the right thing or the wrong thing. Again, though, the driver is where he is only because the earlier design choice was made. If that choice was made freely, then that seems to be the moment at which he expressed his human dignity. As such, while level 2 technological management may preclude the particular-occurrent expression of human dignity, there is the possibility that humans continue to express their dignity in the prior choice of such technological control.

Thirdly, en route from A to B, the smart car might encounter an emergency in which, without the technological controls, the driver would have deviated to assist another (as in the stock example of a motorist who exceeds the speed limit in order to get a pregnant woman to hospital).<sup>65</sup> No doubt, the really smart car will have an override that allows the moral agent to do the right thing in such an emergency. Failing this, when the moral

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65. For discussion of such a case, see Karen Yeung, *Can We Employ Design-Based Regulation While Avoiding Brave New World*, 3 LAW INNOVATION & TECH. 1, 6 (2011).

agent elects level 2 technological management, he must calculate the potential moral cost of subjecting his conduct to the governance of the technology. Still, this does not necessarily signify a loss of moral community.

What if, though, the product was not a car with a specific range of managed compliance? What if, instead, the question concerned the self-administration of a broad sweep moral drug, operating either by tuning up the moral (normative) signals or by repressing the prudential will to defect? Intuitively, we might find this problematic. Recall Mustapha Mond's conversation with the Savage in Aldous Huxley's *Brave New World*,<sup>66</sup> where Mond points out that, in place of all the effort associated with hard moral training, anyone can be moral by swallowing a small amount of soma. As Mond puts it, "Anybody can be virtuous now. You can carry at least half your morality about in a bottle. Christianity without tears—that's what soma is."<sup>67</sup> If the drug simply serves to amplify the moral signals, it might be seen as problematic, but not because of any non-normative characteristics. If the drug functions by repressing any harmful desires, the agent finds it easy to respect others—and, aside from its broad sweep, this seems to be akin to the car with level 2 technological management. For the individual agent who elects to take this shortcut to moral performance, there might be some costs (such as the loss of authenticity<sup>68</sup> or dignity). However, unless the project of moral community requires that moral action be unaided—or, perhaps, unless it becomes so easy for agents to do the right thing that they lose the sense that they face a choice between right and wrong—there is no real problem.

## 2. *Democratic Imposed Regulation*

We turn now to consider the effects of techno-regulation where it has been imposed under democratic conditions—that is to say, where the imposition has resulted from a full and inclusive public debate involving regulatees. Moreover, for present purposes, let us suppose that there is general agreement that the moral interests to be protected are important, that techno-regulation will be effective in protecting these interests and that, all things considered, the adoption of a managed environment is the right regulatory strategy. Once this non-normative regulatory environment is in place, regulatees lose the opportunity to do wrong by violating the protected interests of others—which, of course, is precisely the point of making this particular regulatory move. However, it also means that regulatees cannot

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66. ALDOUS HUXLEY, *BRAVE NEW WORLD* 244 (HarperPerennial 1989) (1932).

67. *Id.*

68. Authenticity is by no means a straightforward idea. *See, e.g.*, NEIL LEVY, *NEUROETHICS* 74–81, 88–94 (2007).

demonstrate in such an environment that they do the right thing for the right reason. How serious a price is this to pay? How serious is it for moral community that agents, in techno-regulated environments, think only about what is practicable or possible rather than what morally is required?

Earlier in the paper, we identified four ideal-typical agents as follows:

Type 1 agents who act only and always on *moral* reasons;

Type 2 agents who act only and always on *prudential* reasons;

Type 3 agents who act on a mix of *moral and prudential* reasons; and

Type 4 agents who are *erratic*, sometimes acting on moral reasons, sometimes on prudential reasons, and sometimes on mixed reasons.

How does the techno-regulated environment, so designed for moral reasons, impact on each of these agents? While Type 1 agents can remind themselves that they do what they do for moral reasons, they cannot openly demonstrate that this is the case—which a moral community might or might not judge to be problematic. For Type 2 agents (who are pathological in a moral community), there is no loss. These agents, who always act on prudential reasons, are steered by the technological management system towards a moral course of action. To be sure, they lose the opportunity to do the right thing for the right reason; but, if they are never going to do the right thing anyway, this seems to be no loss—and, of course, there is an offsetting moral gain.

What about Type 3 and Type 4 agents? Some of these all-too-human agents will be quite badly conflicted, experiencing weakness of the will as prudential gains trump moral arguments, as well as exhibiting a tendency to rationalize self-serving acts as actually being in line with moral requirements. In short, for such agents, the prudential parts of their practical reason can often defeat their moral aspirations. If a managed regulatory environment prevents this from happening—that is, keeping regulatees on the right moral tracks—this seems to be a positive for moral community. The fact that agents cannot get off once they are set on the right track does not seem too serious a price to pay. Granted, there is no possibility of demonstrating that one is freely doing the right thing for the right reason, but provided that the right reasons were present when the management system was initiated, this seems good enough. Moreover, for some of these Type 3 and Type 4 agents, the problem was always that, when presented with the opportunity, they did not do the right thing.

Having said this, there might be a dual concern that, where techno-regulation is widely employed, Type 3 and Type 4 agents (1) rarely encounter situations where their moral resolve is put to the test and (2) begin to lose a sense of responsibility for their acts. If the former means that the capacity of

these agents for moral reflection and judgment is impaired, this becomes a serious matter for moral community. For, as we saw in our earlier discussion concerning the amplification of prudential signals in Part III, *supra*, moral communities need to keep debating their commitments. In such a community, it is fine to be a passive techno-managed regulatee, but active moral citizenship is also required. As for the latter, David Smith has remarked: “If people are denied any autonomy, then they perceive that the moral responsibility lies entirely with the system, and they no longer retain any obligations themselves.”<sup>69</sup> The extent of any such “demoralizing” effects would need to be carefully monitored, for they are clearly corrosive of moral community.

### 3. *In-Person Moral Coding*

We said earlier that the coding of persons for prudential preferences could be problematic both for prudential and moral community. Imagine, now, the coding of persons for moral action. In an aspirant moral community, this gives rise to a clutch of concerns, three of which we can highlight.

First, there is the question of whether the coding is an act of self-regulation. If it is, then what is the difference between this and taking a daily dose of soma or whatever that keeps the agent on the moral tracks? Provided that the coding is reversible, then the cases might be comparable, and it is for each agent to make a choice about whether, all things considered, this kind of fix is the best way to lead a moral life. If, however, the coding is imposed, we might want to distinguish between coding before or at birth (which might be seen in a negative or a positive light) and the enforced coding of mature agents who have perhaps shown themselves to be otherwise incapable of respecting the moral interests of others. We might also want to differentiate between coding that amplifies moral signals (or strengthens moral resolve) and that which simply suppresses harmful or dangerous instincts. Whereas, in the former case, we seem to be designing for the moral life, in the latter it seems to be an exercise in risk management. Clearly, there is much devil in the details of such fixes.

Second, as we saw in Part III, *supra*, a moral community will be greatly concerned that technologies are not employed in ways that interfere with the development of a capacity for moral reason and an agent’s appreciation of

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69. David J. Smith, *Changing Situations and Changing People*, in *ETHICAL AND SOCIAL PERSPECTIVES ON SITUATIONAL CRIME PREVENTION* 147, 170 (Andrew von Hirsch et al. eds., 2000).

morality as a normative code. Famously, in its report *Beyond Therapy*,<sup>70</sup> the President's Council on Bioethics expressed just this concern in relation to the administration of methylphenidate (Ritalin) and amphetamine (Adderall) to children whose conduct is outside the range of acceptability. Thus:

Behavior-modifying agents circumvent that process [i.e., the process of self-control and progressive moral education], and act directly on the brain to affect the child's behavior without the intervening learning process. If what matters is only the child's outward behavior, then this is simply a more effective and efficient means of achieving the desired result. But because moral education is typically more about the shaping of the agent's character than about the outward act, the process of learning to behave appropriately matters most of all. If the development of character depends on effort to choose and act appropriately, often in the face of resisting desires and impulses, then the more direct pharmacological approach bypasses a crucial element . . . . By treating the restlessness of youth as a medical, rather than a moral, challenge, those resorting to behavior-modifying drugs might not only deprive [the] child of an essential part of this education. They might also encourage him to change his self-understanding as governed largely by chemical impulses and not by moral decisions grounded in some sense of what is right and appropriate.<sup>71</sup>

Accordingly, if we rely on biotechnological or neurotechnological interventions to respond to (or manage) our social problems, there is a danger that, as the President's Council puts it, "we may weaken our sense of responsibility and agency."<sup>72</sup>

Third, once one makes a coding intervention, is that intervention capable of responding to changes in the community's interpretation of their moral commitments and the way in which fundamental principles should be applied? If the coding simply represses anti-social instincts, or if it strengthens the signal to do the right thing, it might continue to be functional even as the substance of morality changes. However, so long as the moral project is understood as an ongoing one, the community will want to take a hard look at in-person measures lest they should inappropriately freeze morals.

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70. PRESIDENT'S COUNCIL ON BIOETHICS, *BEYOND THERAPY: BIOTECHNOLOGY AND THE PURSUIT OF HAPPINESS* (2003), available at [http://bioethics.georgetown.edu/pcbe/reports/beyondtherapy/beyond\\_therapy\\_final\\_webcorrected.pdf](http://bioethics.georgetown.edu/pcbe/reports/beyondtherapy/beyond_therapy_final_webcorrected.pdf).

71. *Id.* at 91–92.

72. *Id.* at 92.

#### 4. *The Moral Margin*

In Sections III.C and III.D, *supra*, we sketched the idea of a moral margin in the context of the amplification of prudential signals. This sketch continues to apply where the questions for moral community arise not from the amplification of prudential signals but from non-normative regulatory approaches. So, it would continue to be important to determine whether the community's vision of its project implies a weak or a strong stewardship responsibility for regulators. Also, it would continue to be essential to prevent technological interference with the development of the capacity for moral reason and an appreciation of the normative character of morality. The added protection of important moral interests would continue to be material.

Let me offer a few comments on a couple of questions that have previously seemed difficult to resolve.<sup>73</sup> The first is whether, when a technoregulatory intervention precludes certain kinds of harmful acts, it matters if those acts are intentional or unintentional. The second is whether it matters that harmful acts are prevented by disabling an aggressor or by designing in protection for the victim.

The first puzzle arises where products (such as surgical instruments)<sup>74</sup> or complexes of products (such as transport systems) are designed for safety. Primarily, the purpose of such safety measures will be to safeguard users or passengers—for example, by phasing out trains with slam door carriages<sup>75</sup> or by making it impossible for trains to pass through signals on red. Given that such measures are designed to make routine activities (such as the journey to work) less risky, it is reasonable to assume that most interested parties judge them to be in their prudential interests. And, if public engagement has indeed shown this to be the case, then all is well and good. However, the effect of these measures is not only to replace prudential norms with non-normative design but also to impact on the opportunity to display a moral performance. For example, commuters opening railway train doors might want to show that they do so with due regard for the safety of fellow passengers and persons standing on station platforms. Likewise, train drivers might want to show that they exercise due care by stopping at red signals. Once the train is designed for safety, these displays of due care and concern for others cannot

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73. See Roger Brownsword, *So What Does the World Need Now? Reflections on Regulating Technologies*, in *REGULATING TECHNOLOGIES*, *supra* note 10, at 24; Yeung, *supra* note 65.

74. See Yeung, *supra* note 65; Karen Yeung & Mary Dixon-Woods, *Design-Based Regulation and Patient Safety: A Regulatory Studies Perspective*, 71 *SOC. SCI. & MED.* 540 (2010).

75. See Jonathan Wolff, *Five Types of Risky Situations*, 2 *LAW INNOVATION & TECH.* 151 (2010).



be made in this way. Assuming that the community values such displays of moral virtue, do regulators have a short answer to these “objections”?

One thought is that regulators might be able to say that, where their primary purpose is the safety of passengers, they do not have to answer for any secondary effects—that they are shielded by a doctrine akin to that of double effect. Surely, though, this will not do. Otherwise, this would involve accepting that, because Robert Moses’s bridges were built with safety in mind, there is no need for regulators to answer for their secondary (and racially discriminatory) effects.<sup>76</sup> This is quite contrary to one of the main points in this Article, namely that regulators need to be much more sensitive to the impact of relying on architecture, product design, and the like as features of the regulatory repertoire.

The other thought is that there is no real loss of moral community when such safety features are introduced because, insofar as the intervention targets acts that are harmful to others, its focus is on unintentional rather than intentionally harmful acts. If the technology only prevented non-negligent unintentionally harmful acts, there might be something in this thought. However, technology also blocks negligent acts as well as intentionally harmful acts. Now, as we have indicated already, in a moral community, it is important not only to eschew intentionally violating the protected interests of others but also to respect such interests by taking reasonable care not to cause harm to others. To be sure, a dog might know the difference between being kicked intentionally and unintentionally. But a smart dog will also distinguish between an owner that takes reasonable care not to kick it and one that takes no such care. At all events, for the sake of argument, let us assume that it is conceded that regulators do not have to answer for any impingement on unintentional acts (even negligent acts). Here, the crucial point is that regulators must not interfere with opportunities for intentional wrongdoing. On the face of it, such a norm is strange because under it regulators, whatever other good they may do by using non-normative controls, must not deprive those agents who might intentionally harm others of the opportunity to do so. The deprivation of opportunity to harm others, in turn deprives agents of the opportunity to demonstrate that they are freely doing the right thing. Hence, train drivers must not be prevented from passing through signals when they are on red, lest this prevents the driver from showing that he does the right thing by stopping on red. This, as previously noted, seems a strange view. Indeed, it is tempting to

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76. On value-sensitive design, see Noëmi Manders-Huits & Jeroen van den Hoven, *The Need for Value-Sensitive Design of Communication Infrastructures*, in *EVALUATING NEW TECHNOLOGIES* 51, 54 (Paul Sollie & Marcus Düwell eds., 2009).

say that no moral community could reasonably attach such importance to preserving the opportunity to do wrong in order to demonstrate that one does right. Having said that, a moral community might perfectly reasonably attach importance to the existence of some such opportunities and the question then would be whether train drivers or their passengers need this particular opportunity more than they need the design-in safety features—a question for the regulatory margin.

A second puzzle arises from the possibility that regulators might be able to prevent A from causing harm to the protected moral interests of B either by disabling A or by shielding B. Let us suppose that the strategies are equally effective. Nevertheless, if one strategy is, for moral reasons, better than the other, this might be an issue for review within the terms of the regulatory margin. Is there any moral reason to prefer one strategy to the other? Initially, this seemed to be a distinction without any morally significant difference.<sup>77</sup> However, on second thoughts, it might be preferable to shield B rather than to disable A, because this would at least leave open the possibility for A to attempt to deviate and to be aware that such deviation was contrary to the regulatory code.<sup>78</sup> If we place the puzzle in the larger context of the preservation or promotion of moral community, it is surely desirable to retain the relevant moral signals in the interaction between A and B. One way of achieving this might be by coding A so that moral signals are amplified to the point that A is disabled from harming B. Alternatively, there might be scope for traditional moral reasoning with A, knowing that, even if the reasoning fails to restrain A, B cannot be harmed. This leaves the matter unresolved. However, in the absence of a particular context and without knowing the range of the design options, it is difficult to take this any further. All that we can say is that this would be a question to be addressed within the terms of the regulatory margin.

Taking stock, this Part of the Article has reviewed the implications of the adoption of non-normative regulatory strategies. In particular, this Part has focused on the implications for the prudential life of a community where, put simply, agents value the opportunity to make their own decisions about what is in their own best interests. And the discussion has revisited those communities that have moral aspirations to assess the implications of non-

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77. See Roger Brownsword, *Neither East nor West; Is Mid-West Best?*, 3 SCRIPTED 15 (2006).

78. See Brownsword, *supra* note 73, at 42–43 (“[A] community of rights might reason that there is a significant difference between design-out and design-in because, in the former case, agents are only dimly aware (if at all) that they are doing right rather than wrong, while in the latter case agents will be aware they are deviating.”).

normative management for their project. For simple prudentialists and for moralists alike, there is much to ponder where the regulatory environment assumes a non-normative complexion. And, for lawyers, there is an overwhelming question to answer. Quite simply, what happens to law when the regulatory environment is dominated by technologies that steer regulatees via non-normative signals? It is to this lawyers' question that this Article now turns.

## V. SUSTAINING LEGALITY

This final Part returns to where this Article started, with questions that relate to the ideals of legality and the rule of law. Put starkly, where non-normative instruments dominate the regulatory environment, we seem to be subject to the rule of technology rather than the rule of law. If we value the rule of law, we need to be able to rescue and recycle it even in non-normative regulatory environments. My argument is that we can do this provided that we anchor ourselves to a conceptual understanding of law and legality that captures those aspects of moral community that we are most anxious to preserve.

How much of law survives in regulatory environments that have transitioned to techno-management? To be sure, there might still be some laws in the background, but all the foreground work is done by techno-regulation. If the regulatory environment retains some normative signals, they are so weak as to be irrelevant. This, however, is not the real issue. What really matters is whether the processes that lead to the particular techno-regulatory features are compatible with the ideal of legality.

When Lon Fuller proposed that his eight desiderata (or principles) of legal ordering should be understood as the "inner morality of law," his legal positivist critics saw this as a fundamental error.<sup>79</sup> H.L.A. Hart, for example, ridiculed the idea that the promulgation of clear prospective rules and their congruent administration could be characterized as moral requirements because, quite simply, they were compatible with the pursuit of evil purposes.<sup>80</sup> At most, the legal positivists argued, the Fullerian principles were

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79. FULLER, *supra* note 3, at 42–43.

80. H.L.A. Hart, *Review of The Morality of Law by Lon L. Fuller*, 78 HARV. L. REV. 1281 (1965) ("He takes me seriously to task for having said that respect for the principles of legality is unfortunately 'compatible with very great iniquity'; but I cannot find any cogent argument in support of his claim that these principles are not neutral as between good and evil substantive aims. Indeed, his chief argument to this effect appears to me to be patently fallacious.").

guidelines for *effective* ordering of social life.<sup>81</sup> Understandably, Fuller was puzzled by such criticism. In response, he might have said that the desiderata were moral requirements *independently* of the underlying morality of the regulatory purposes (just as contract lawyers might argue that good faith and fair dealing are moral requirements even though the transaction might be unconscionable or illegal or contrary to public morals, and the like). Or, Fuller might have said that compliance with the procedural principles was necessary although not sufficient for fully moral performance. Or, he might have stuck with his first instinct that the critics' line of argument was "so bizarre, and even perverse, as not to deserve an answer."<sup>82</sup> However, Fuller did not rely on such short retorts. Instead, he went right back to what he took to be his own starting point and, as it now seemed, the somewhat different starting point of the legal positivists.<sup>83</sup>

For both sides, it was agreed that law, in a pre-theoretical sense, refers to the enterprise of subjecting human conduct to the governance of rules. However, Fuller traces his differences with his critics to two key assumptions made by the legal positivists, namely:

The *first* of these is a belief that the existence or non-existence of law is, from a moral point of view, a matter of indifference. The *second* is an assumption . . . that law should be viewed not as the product of an interplay of purposive orientations between the citizen and his government but as a one-way projection of authority, originating with government and imposing itself upon the citizen.<sup>84</sup>

The second of these assumptions is elaborated in a contrast that Fuller draws between a legal form of order and simple managerial direction. He sketches the distinction between the two forms of order in the following terms:

The directives issued in a managerial context are applied by the subordinate in order to serve a purpose set by his superior. The law-abiding citizen, on the other hand, does not apply legal rules to serve specific ends set by the lawgiver, but rather follows them in the conduct of his own affairs, the interests he is presumed to serve in following legal rules being those of society generally. The directives of a managerial system regulate primarily the relations between the subordinate and his superior and only collaterally the relations of the subordinate with third persons. The rules of the legal system, on the other hand, normally serve the primary

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81. *Id.*

82. FULLER, *supra* note 3, at 201.

83. *Id.* at 190–91.

84. *Id.* at 204.

purpose of setting the citizen's relations with other citizens and only in a collateral manner his relations with the seat of authority from which the rules proceed. (Though we sometimes think of the criminal law as defining the citizen's duties towards his government, its primary function is to provide a sound and stable framework for the interactions of citizens with one another.)<sup>85</sup>

As Fuller concedes, these remarks need “much expansion and qualification.”<sup>86</sup> He tries to give more substance to them by characterizing the relationship, in a legal order, between government and citizens in terms of “reciprocity” and “intendment.”<sup>87</sup> Perhaps, Fuller's most evocative observation is that “the functioning of a legal system depends upon a cooperative effort—an effective and responsible interaction—between lawgiver and subject.”<sup>88</sup>

No doubt, these seminal Fullerian ideas are open to many interpretations. However, for our purposes, it is the association of legal ordering with a two-way reciprocal process that is most fruitful. For, in the larger context of the regulatory environment, it implies that the legal approach—an approach to be valued—is one that embeds participation, transparency, due process, and the like. Hence, if we take our lead from Fuller, we will surely reason that, as the translation is made from a normative to a non-normative regulatory environment, we certainly need to hold on to the idea that what we value is a reciprocal enterprise, not just a case of management by some regulatory elite.

Accordingly, while various kinds of self-regulation that adopt measures of technological control might be fine, even empowering, the imposed public ordering of the community needs to respect the values of legality. This means that a comprehensively transparent and democratic relationship between regulators and regulatees must exist.

How far should that relationship extend? If we try to tease out an answer to this question by pouring over Fuller's text, we will surely think that regulators should engage with the prudential preferences of their regulatees. However, we might be less sure about how far Fuller sees legal order as a community's best expression of its moral commitments. Let me cut through this by saying that, for those who take (as I do) a morally-driven view of law, then it is not just the prudential preferences of regulatees that matter. There is more to law than assisting regulatees to know where they stand so that they can maximize their self-interested preferences. A moral community is an

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85. *Id.* at 207–08.

86. *Id.* at 208.

87. *Id.* at 209.

88. *Id.* at 219.

interpretive community and the regulatory environment at any one time should reflect the community's best understanding of its moral project. It is critical for such an aspirant moral community that there be no technological interference with the moral development of agents; that technological interventions should be reviewable and reversible; and that there be, at minimum, a clear and protected margin for moral action.

It follows that one of the challenges for legal forms of ordering in the twenty-first century is to construct regulatory environments that enable moral community to flourish, even though the normativity of the foreground signals might have given way to techno-regulation. Provided that the character and content of the regulatory environment flows from a reciprocal engagement with regulatees, and provided that the background discourse continues to be informed by prudential and moral reason, the things that we value about law will not have been lost. As Fuller rightly says, whether or not we have a regulatory environment of this kind is far from being a matter of moral indifference.<sup>89</sup> To this we might add: if we are indifferent to the kinds of questions raised in this Article, the regulatory environment that we have will be, at best, no more than we deserve.

## VI. CONCLUSION

In this Article, there are three “take home messages.” The first is that to appreciate the potential impact of emerging technologies on our regulatory environments and on our cultural and social lives, we need to understand the significance of the regulatory registers. With this understanding, we can identify two key movements: the amplification of prudential signals with the use of that register and the shift away from normative signals as technological management takes over. The second is that, in the transition from legal normativity to techno-regulation, we do not have to lose the spirit of legality. Even though normative signals might fade from the foreground, we can (and should) ensure that the relationship between regulators and regulatees is reciprocal. Regulatory environments might become techno-managed but they should not be backed by managerialism. The third is that the relationship between regulators and regulatees can only become fully reciprocal if the complexion of the regulatory environment becomes a matter for public debate and review. Responsible and responsive regulators necessarily engage with their regulatees in setting policies that are in line with general preferences as well as being compatible with the community's moral commitments. However, this is not sufficient. Regulatees also need to be

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89. *Id.* at 181–82.

engaged in determining the instrumental complexion of the regulatory environment or to what extent it relies on normative and non-normative signals. Thus the idea of a regulatory margin creates some opening for this kind of engagement. If we are not sensitive to the importance of these features of the regulatory environment, technological management will be adopted where it seems to be effective and the drift away from normativity will simply happen. Recognizing the need to debate these important questions will give us the chance to exert some collective control over our legal, moral, and prudential futures.

