

ABORTION AND THE EXTREMISM OF BRIGHT LINE RULES

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ABSTRACT—Rather than eliding the workability or necessity of bright-line rules in certain domains, this Essay is a rallying cry for epistemic humility regarding what biological criteria can and cannot say. Policymakers sometimes lean on the biosciences to offer “objective” solutions to thorny moral and legal issues. But descriptive biological data cannot answer normative questions on their own. Cloaking the theoretical, normative scaffolding in biological criteria is a disingenuous but common phenomenon I refer to as the “bio-legal mismatch.”

In this Essay, I discuss various abortion-restrictive statutes and cases to elucidate the problems with the bio-legal mismatch. Specifically, I explore the rigid use of gestational age, definitions of medical emergency, fetal anomalies, fetal pain, and the perversion of informed consent. In each case, related policies advance biologically naive, black-and-white thinking to reinforce gender norms and dehumanize pregnant people and the complex reasons they terminate. After explaining how black-and-white thinking relies on cognitive distortions and triggers tribalism, I conclude with a nonexhaustive list of factors that legislators and judges should examine when developing policy based on biological criteria—such as in the highly contested context of abortion. The factors are geared at assessing whether the biological criteria are reliable and connected to legally and normatively relevant events, or whether they are being exploited to mask ideological extremism.

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INTRODUCTION

You probably spent at least some of your childhood gazing at a screen, distinguishing the “good guys” from the “bad guys.” Back then it was simple. The cartoon villains wore dark clothing, they were foxes or sinister old men, and would telegraph their malicious intent while steeping their fingers. These storied tropes played to our basic neurobiology, which evolved millions of years ago to sort people into two unambiguous groups—those who are with us, and those who are against us.¹ To our ancestors, this dichotomous thinking was crucial. Because we traveled in homogeneous

¹ Saul L. Miller et al., *Self-Protective Biases in Group Categorization: Threat Cues Shape the Psychological Boundary Between “Us” and “Them.”* 99 J. PERSONALITY & SOC. PSYCH. 62, 62 (2010).

clans, the priority was not to treat people fairly but to avoid having an ingroup member cheated or killed by an outsider.²

This crude sorting had evolutionary benefits. However, today when it is taken to extremes it becomes a maladaptive cognitive distortion known as “dichotomous thinking” (also referred to as “splitting” or “black-and-white” thinking). In modern times, we hopefully learn as we age that many aspects of life defy easy classification.³ People are messier than they first appear. Most of us are neither simplistic heroes nor villains, but rather some combination of the two with a large gray area in between.

Growing up typically involves acknowledging this ambiguity both when directed at people and their ideas. Unfortunately, not everyone develops the ability or desire to think in shades of gray.⁴ Many fail to appreciate moral nuance and live in a simplistic world where people and ideas are either *all good* or *all bad*.⁵ This immature “all or nothing” cognitive style helps conserve resources while providing a sense of predictability, agency, and comfort.

People who engage in dichotomous thinking reject ambiguity. The impacts of dichotomous thinking can be seen all around us. Black-and-white thinking makes us exaggerate group differences; increase stereotyping,⁶

² Susan T. Fiske & Steven L. Neuberg, *A Continuum of Impression Formation, from Category-Based to Individuating Processes: Influences of Information and Motivation on Attention and Interpretation*, 23 *ADVANCES IN EXPERIMENTAL SOC. PSYCH.* 1, 14 (1990); Jennifer G. Boldry et al., *Measuring the Measures: A Meta-Analytic Investigation of the Measures of Outgroup Homogeneity*, 10 *GRP. PROCESSES & INTERGROUP RELS.* 157, 157 (2007); see also Teneille R. Brown, *The Content of Our Character*, 126 *PENN. ST. L. REV.* 1, 6 (2021) (“[Spontaneously inferring traits] has enabled humans to cooperate in costly endeavors and to predict whether people would be good allies or cheats.”).

³ Stephen Bochner, *Defining Intolerance of Ambiguity*, 15 *PSYCH. REC.* 393, 393 (1965).

⁴ Arnoud Arntz & José ten Haaf, *Social Cognition in Borderline Personality Disorder: Evidence for Dichotomous Thinking but No Evidence for Less Complex Attributions*, 50 *BEHAV. RSCH. & THERAPY* 707, 707 (2012) (describing how some personality disorders and mental illnesses increase people’s dichotomous thinking).

⁵ *Id.* at 708.

⁶ Job P. H. Vossen et al., *Conceptualizing Morality Policy: A Dyadic Morality Frame Analysis of a Gendered Legislative Debate on Abortion*, 55 *POLICY SCIS.* 185, 190 (2022) (“Empirical research on framing suggests a great deal of heuristics and stereotypes people use resides in binary thinking.”).

tribalism,⁷ and intergroup conflict;⁸ and view the world as a zero-sum game.⁹ Further, its crude sorting facilitates the dehumanization of vulnerable groups, as I will explain.¹⁰ It also causes significant long-term social harm. Thankfully, if we are open-minded, we can update our initial classifications to imbue them with more nuance. But updating our initial impressions takes motivation¹¹ and effort.¹²

Interestingly, people on both the extreme left and right of the political spectrum are prone to dichotomous thinking.¹³ This is thought to result from the need to have quick and unambiguous answers, distorted information processing,¹⁴ overclaiming the accuracy of information,¹⁵ and pigeonholing

⁷ JEROEN M. VAN BAAR ET AL., INTOLERANCE OF UNCERTAINTY MODULATES BRAIN-TO-BRAIN SYNCHRONY DURING POLITICALLY POLARIZED PERCEPTION 1 (2021), <https://www.pnas.org/doi/epdf/10.1073/pnas.2022491118> [<https://perma.cc/6FEU-T6DN>] (“Uncertainty-intolerant individuals experienced greater brain-to-brain synchrony with politically like-minded peers and lower synchrony with political opponents . . .”).

⁸ HANNAH J. KRAMER ET AL., DICHOTOMOUS THINKING ABOUT SOCIAL GROUPS: LEARNING ABOUT ONE GROUP CAN ACTIVATE OPPOSITE BELIEFS ABOUT ANOTHER GROUP 1 (2021), <https://www.sciencedirect.com/science/article/pii/S0010028521000323> [<https://perma.cc/XV3Q-Z6E7>].

⁹ Atsushi Oshio, *Development and Validation of the Dichotomous Thinking Inventory*, 37 SOC. BEHAV. & PERSONALITY 729, 734–35 (2009) (discussing the relationship between dichotomous black-and-white cognitive style thinking and “profit-and-loss thinking” which refers to thinking of how to get access to benefits for oneself and avoid disadvantages).

¹⁰ Peter K. Jonason et al., *Seeing the World in Black or White: The Dark Triad Traits and Dichotomous Thinking*, 120 PERSONALITY & INDIVIDUAL DIFFERENCES 102, 102 (2018) (“A tendency to see the world in simplistic, black-and-white terms might be one that . . . facilitates the exploitative behavior . . . [S]eeing the world in ‘shades of grey’ may foster deliberation which may waste time in the expedient accrual of resources . . .”).

¹¹ See MARTEN SCHEFFER ET AL., BELIEF TRAPS: TACKLING THE INERTIA OF HARMFUL BELIEFS 1 (2022), <https://www.pnas.org/doi/epdf/10.1073/pnas.2203149119> [<https://perma.cc/FJ7A-UDK4>].

¹² Irmak Olcaysoy Okten & Gordon B. Moskowitz, *Easy to Make, Hard to Revise: Updating Spontaneous Trait Inferences in the Presence of Trait-Inconsistent Information*, 38 SOC. COGNITION 571 (2020).

¹³ Leor Zmigrod et al., *The Partisan Mind: Is Extreme Political Partisanship Related To Cognitive Inflexibility?*, 149 J. EXPERIMENTAL PSYCH. 407, 407 (2020); Leor Zmigrod, *The Role of Cognitive Rigidity in Political Ideologies: Theory, Evidence, and Future Directions*, 34 CURRENT OP. BEHAV. SCIS. 34, 34 (2020); Thomas H. Costello et al., *Clarifying the Structure and Nature of Left-Wing Authoritarianism*, 122 J. PERSONALITY & SOC. PSYCH. 135, 135 (2022) (evaluating left-wing authoritarianism).

¹⁴ CORY J. CLARK & BO M. WINEGARD, TRIBALISM IN WAR AND PEACE: THE NATURE AND EVOLUTION OF IDEOLOGICAL EPISTEMOLOGY AND ITS SIGNIFICANCE FOR MODERN SOCIAL SCIENCE 2 (2020), https://www.researchgate.net/publication/338754119_Tribalism_in_War_and_Peace_The_Nature_and_Evolution_of_Ideological_Epistemology_and_Its_Significance_for_Modern_Social_Science [<https://perma.cc/YY7Z-TG6Q>].

¹⁵ Carola Salvi et al., *Going Viral: How Fear, Socio-Cognitive Polarization and Problem-Solving Influence Fake News Detection and Proliferation During COVID-19 Pandemic*, FRONTIERS IN COMMUNICATION (Jan. 12, 2021), <https://www.frontiersin.org/articles/10.3389/fcomm.2020.562588/full> [<https://perma.cc/8J6P-J6QJ>] (explaining how people who were fearful and think in black-and-white ways were more likely to overclaim accuracy surrounding COVID misinformation).

the opposition's views. While right-wing authoritarianism is associated with different values and stereotypes¹⁶ than left-wing extremism,¹⁷ in both cases, the extremes present each other in simplistic, black-and-white ways that may trigger violence and oppression. However, in the United States, we are presently seeing much more oppression and extremism from the political right, especially as it pertains to discrimination against minority groups.

Nowhere is there more extreme, black-and-white thinking than in the political discourse surrounding abortion.¹⁸ The people who support abortion are cast universally as baby murderers and the people who oppose it are women murderers. While both can be true in individual instances, there is a broad swath of the population in the gray area in between.

We see a great deal of extremist thinking in the state laws that are chiseling away at the already thin bases for safe and legal access to abortion. In addition to being medically naïve, many of these statutes reflect black-and-white thinking about pregnant people (mostly but not always women), their motivations, and subjective experiences. They also reflect black-and-white thinking about fetal and maternal biology. However, despite the fact that these laws impose binary categories on human life, human development is continuous and complex. The inherent friction that develops any time we convert a messy spectrum of biology into binary legal rules is what I call the "bio-legal mismatch." I will say more later about how this occurs and what can be done about it.

¹⁶ MEYSAM ALIZADEH ET AL., PSYCHOLOGY AND MORALITY OF POLITICAL EXTREMISTS: EVIDENCE FROM TWITTER LANGUAGE ANALYSIS OF ALT-RIGHT AND ANTIFA 6 (2019), <https://epjdatascience.springeropen.com/articles/10.1140/epjds/s13688-019-0193-9> [<https://perma.cc/GDV2-ZRM3>] (“[L]iberals endorse values of fairness/reciprocity . . . and avoidance of harm . . . more enthusiastically than conservatives, whereas conservatives endorse values of ingroup loyalty . . . obedience to authority . . . and enforcements of purity, divinity, and sanctity standards . . . more enthusiastically than liberals.”).

¹⁷ Danny Osborne et al., *The Psychological Causes and Societal Consequences of Authoritarianism*, 2 NATURE REVS. PSYCH. 220, 220 (2023).

¹⁸ This is likely due to the impact of religiosity and gender stereotypes on black-and-white thinking and abortion attitudes. See Maciej Sekerdej et al., *Uncertainty and Prejudice: The Role of Religiosity in Shaping Group Attitudes*, 48 EUR. J. SOC. PSYCH. 091, 091 (2018); JACLYN INEL HADFIELD ET AL., EXAMINING DIFFERENCES IN ATTITUDES TOWARD LEGAL ABORTION IN CASES OF ENDANGERED MENTAL HEALTH FOR PREGNANT WOMEN: INSIGHTS FROM A U.S. NATIONAL SURVEY 1 (2023), https://www.researchgate.net/publication/366860023_Examining_differences_in_attitudes_toward_legal_abortion_in_cases_of_endangered_mental_health_for_pregnant_women_Insights_from_a_US_national_survey. For a discussion of the role of extremism in acceptance of science generally, see John R. Kerr & Marc S. Wilson, *Right-Wing Authoritarianism and Social Dominance Orientation Predict Rejection of Science and Scientists*, 24 GRP. PROCESSES & INTERGROUP RELS. 550 (2021).

This Essay uses the jurisprudence of abortion to explore how legislators and judges adopt binary thinking to justify extremist ideological views.¹⁹ These views are made possible by failing to engage with the bio-legal mismatch, and by exploiting the ultimate binary of all—gender. While abortion provides a harrowing and trenchant example, I use it to make a larger point: the U.S. legal system itself normalizes and reinforces false dichotomies. Some legal verdicts, regulations, and legislation *must* be dichotomous. There cannot be two U.S. presidents or a plaintiff who was both punched and not punched. However, when we are dealing with complex, continuous variables, the law gains legitimacy and fairness when it avoids taking our rich analytical inputs and rendering them in black and white.

Judges and legislators too often presume the superiority and necessity of dichotomous thinking. The rhetoric of “bright-line rules” or “clear-cut standards” speaks to a sometimes-sensible desire to reduce ambiguity, to promote predictability and fairness.²⁰ However, when dealing with many complicated aspects of modern life, this rhetoric cloaks the ideological priors of its advocates and their epistemological extremism. In the case of abortion, and many other phenomena that rely on biological criteria, we benefit from acknowledging nuance in our legal rules, legislation, and rulemaking.

My point here is not to oversimplify or suggest a “grand theory” that places standards over rules or that exaggerates their differences.²¹ Ironically, that would be engaging with the very kind of dichotomous all-or-nothing thinking I seek to challenge. In this same vein, my purpose is also not to denigrate those on the far right, as extremism can occur on both political extremes. Rather, I seek to use the particular example of abortion extremism and our current political moment to make a broader point about the gap between biology and law and how false objectivity can further political and legal divides.

Given that human development is continuous but the law often requires categorical verdicts, there is a “bio-legal mismatch” between the spectrum

¹⁹ The late Justice Antonin Scalia was a vocal advocate for bright-line rules in many contexts. Given his conservative rhetoric and disdain for ambiguity, this is perhaps not surprising. See David Tarrien, *The Legacy of Justice Scalia: Liberal Lion? An Examination of Chevron Deference, Net Neutrality, and Possible Outcomes of a Supreme Court Decision on the Federal Communication Commission's Open Internet Order*, 17 TEX. TECH ADMIN. L.J. 233, 235 (2016); see also James G. Wilson, *Surveying the Forms of Doctrine on the Bright Line-Balancing Test Continuum*, 27 ARIZ. ST. L.J. 773, 776 (1995) (observing that the then-Supreme Court's ideological middle prefers balancing tests).

²⁰ *Morrison v. Olson*, 487 U.S. 654, 711–12 (1988) (Scalia, J., dissenting) (“The Court has, nonetheless, replaced the clear constitutional prescription that the executive power belongs to the President with a ‘balancing test.’ . . . This is not only not the government of laws that the Constitution established; it is not a government of laws at all.”).

²¹ For short survey of such theories, see Wilson, *supra* note 19, at 773–75.

of biology and the blunt, binary tools of the law. I rely on the highly-contested jurisprudence of abortion to explain this bio-legal mismatch—what it is and how it operates.

Sections I and II catalog how the bio-legal mismatch has shaped abortion jurisprudence. Specifically, Section I elucidates how recent abortion jurisprudence relies on black-and-white thinking about human biology and Section II explains how black-and-white thinking about gender and morality has fed extremist views and regulations regarding abortion. Taken together, dichotomous thinking about human biology and gender encourages morally unjustified, extremist, medically naïve, and dehumanizing policies.

Section III turns from abortion jurisprudence to law writ large, showing how dichotomous thinking is built into our legal fabric with the privileging of bright-line rules. Even though law schools extol the virtues of teaching students to think in shades of gray, when it comes to legal decisions, judges and attorneys often appeal to simplistic, dichotomous thinking. Binary outputs are assumed to be epistemologically superior, as they can provide finality, certainty, and administrative ease. Section IV shows how this aversion to ambiguity creates the bio-legal mismatch. When it comes to biological phenomena, I argue that we lose more than we gain when we attempt to take continuous variables and convert them into crude, binary concepts without sufficient normative justification.

Section V concludes with a series of principles and questions that judges, legislators, and agencies can use when drafting rules and policies that rely on complicated biological phenomena, such as ontogeny and abortion. It is my hope that this checklist can serve as a toolkit for policymakers, which will lead to legal frameworks that are more justified, intellectually nuanced, humble, and fair.

I. BLACK-AND-WHITE THINKING AROUND ABORTION

A. *Black-and-White Thinking Regarding the Viability Standard*

Abortion jurisprudence is riddled with the bio-legal mismatch. One of the most prominent examples comes from *Roe v. Wade*, when the Court tethered a woman's right to terminate—and the state's interest in restricting that right—to a new legal standard: the viability of the fetus. In *Roe*, the viability standard marks the point at which women have the right to abort without state interference—that is, pre-viability or before the fetus can

survive outside of the womb.²² In theory, viability could provide a normative justification for treating the fetus as a distinct legal person. However, its use has not been adequately defended by judges or legislators on normative grounds. Instead, it is presumed that the potential for the fetus to live outside of the womb does all of the work for us—and somehow magically answers the question of the correct way to balance the conflict between the pregnant person, the fetus, and the state. Because of its inability to carry the weight of this normative balancing, both pro-life and pro-choice advocates challenged the viability standard.

Then comes *Dobbs v. Jackson Women’s Health*.²³ In *Dobbs*, the Supreme Court reversed *Roe v. Wade* to hold that the U.S. Constitution does not recognize *any* right to abortion, pre- or post-viability.²⁴ In so doing, the justices believed they were returning the regulation of reproduction “to the people and their elected representatives” and establishing a clear federal standard.

Throughout the majority opinion in *Dobbs*, we see rhetorical devices that evince frustration with ambiguity and a desire for black-and-white rules regarding viability. For example, the majority expressed irritation with the “viability line,” which has “changed over the years” and is not “hard-and-fast.”²⁵ When *Roe* was decided in 1973, viability—the possibility that the fetus could survive outside of the womb—was roughly 28 weeks. Today, due to improvements in neo-natal medicine, viability is roughly 23 weeks. Instead of seeing the flexible standard as a feature, the majority saw it as a bug. To them, this was a sign that the viability standard, declared in *Roe* and affirmed in *Casey v. Planned Parenthood*, was unworkable and arbitrary.²⁶

The Court seemed flummoxed that a state today could have a compelling interest in protecting an “identical fetus” of 26 weeks that they did not have in 1973. However, the 26-week fetus of today is not identical to the 26-week fetus of 1973 in an important way: its likely ability to survive outside of the womb. If the ability of the fetus to survive outside of the womb is morally relevant vis-à-vis the competing rights of the pregnant person, the

²² *Roe v. Wade*, 410 U.S. 113, 163 (1973), *overruled by Dobbs v. Jackson Women’s Health Org.*, 142 S. Ct. 2228, 2268 (2022) (“With respect to the State’s important and legitimate interest in potential life, the ‘compelling’ point is at viability. This is so because the fetus then presumably has the capability of meaningful life outside the mother’s womb.”).

²³ *Dobbs v. Jackson Women’s Health Org.*, 142 S. Ct. 2228, 2228 (2022), *rev’d*, *Dobbs v. Jackson Women’s Health Org.*, 945 F.3d 265, 274 (5th Cir. 2019).

²⁴ *Id.* at 2243 (Breyer, Sotomayor, & Kagan JJ., dissenting.).

²⁵ *Id.* at 2269–70 (majority opinion).

²⁶ Chief Justice Roberts wrote separately to agree that the viability line should be “discarded” because it “never made any sense.” However, he argued not that the line was arbitrary, but that it gave woman too much time to choose. *Id.* at 2310 (Roberts, C.J., concurring).

fetus, and the state, then it is entirely workable to employ a standard that is keyed to changing technology and this inflection point.

In the wake of *Dobbs*, many state legislatures implemented restrictive abortion laws. Several of these statutes likewise reveal frustration with the complexity of human biology and the progress of science. Rather than fully engage with this complexity, many such laws ignore biological nuance to advance particular moral and legal interests. In the next section, I will discuss a few of these state laws, and how they use bright-line rules to mask extremist views.

B. Black-and-White Thinking Regarding Gestational Age

Other markers of fetal development, such as gestational age, are also reduced to black-and-white dichotomies in many recent abortion regulations. For example, Texas and other states now ban abortion at six weeks after the last menstrual period (LMP).²⁷ This calculation is meant to capture the approximate gestational age of the fetus or pre-fetus. However, relying on the days since someone's last period as a hard-and-fast rule ignores significant individual variation in menstrual cycles. People who menstruate have very different follicular and luteal phases, and few have the standard 28-day cycle.²⁸ Some women ovulate at three weeks LMP, meaning that their egg cannot be fertilized until week three LMP. Two more weeks can pass before the fertilized egg implants and produces enough hormone to be detected in a urine test. For perimenopausal women and trans men with longer pre-ovulation windows, this means they may not be able to obtain a reliable, positive pregnancy test until week six LMP. Crucially, at the very moment their pregnancy is detected, they would have *already missed the window* for a legal abortion in Texas and many other states.²⁹

If physicians had a more reliable means of estimating individual gestational age or if legislators permitted greater flexibility in its assessment, gestational age might provide a useful heuristic for various laws. That is, it might provide a nonarbitrary means of imposing abortion restrictions if the correlated biological events are associated with morally and legally significant developments. However, very few states have linked their

²⁷ NARAL PRO-CHOICE AM., BANS ON ABORTION BY WEEK 2 (2022) <https://www.prochoiceamerica.org/wp-content/uploads/2022/01/WHODecides2022-BANS-BY-WEEK-Report-011722-1.pdf>. [<https://perma.cc/HBA7-WQ4W>].

²⁸ Laurence A. Cole et al., *The Normal Variabilities of the Menstrual Cycle*, 91 FERTILITY & STERILITY 522, 522 (2009).

²⁹ Michelle Rodrigues, *The Absurd Pregnancy Math Behind the 'Six-Week' Abortion Ban*, SCI. AM. (Sept. 4, 2021), www.scientificamerican.com/article/the-absurd-pregnancy-math-behind-the-six-week-abortion-ban/ [<https://perma.cc/7UXM-N6KF>].

gestational windows for accessing abortion to anything of moral or legal significance.³⁰

Instead, descriptive biology is being used to make unearned moral and legal claims. For example, sponsors of the bills banning abortion at six weeks pointed to the fact that a heartbeat can be detected at this point. However, there is insufficient secular basis for this being morally significant (conferring humanity or personhood) or providing a legally relevant basis for trumping the liberty interests of the pregnant person. For example, South Carolina's Fetal Heartbeat and Protection from Abortion Act fails to provide *any* justification as to why the presence of a heartbeat justifies its restrictions.³¹ The same is true for Ohio's restrictive bans that are keyed to the presence of a heartbeat.³² Apparently, we are supposed to "fill in the blanks" with the normative content from the presence of pulsating cells. Further, the idea of the heart beating at six weeks is a highly contested biological claim, as the cluster of pulsating cells present at six weeks LMP is not at all homologous to a human heart in function or complexity.

In addition to failing to account for individual differences, bright-line rules around gestational age ignore imprecision in its measurement. Two physicians may view the same ultrasound and come to legally significant, different opinions about how far along the pregnancy is. This does not mean gestational age should never be used, but it does caution for humility and nuance in its rigid classification.

C. *Black-and-White Thinking on Fetal Pain*

Another way black-and-white thinking manifests in abortion regulation is through restrictions based on the presence of "fetal pain." In 2010, Nebraska banned abortion at twenty weeks postfertilization based upon legislative findings that by "twenty weeks after fertilization there is substantial evidence that an unborn child has the physical structures necessary to experience pain."³³ This prompted similar fetal pain statutes in several other states.³⁴ Some suggest that the ability to experience pain is

³⁰ Casey Michelle Haining et al., *The Unethical Texas Heartbeat Law*, 42 *PRENATAL DIAGNOSIS* 535, 536 (2022).

³¹ S.C. CODE ANN. § 44-41-630 ("[N]o person shall perform or induce an abortion on a pregnant woman with the specific intent of causing or abetting an abortion if the unborn child's fetal heartbeat has been detected . . .").

³² OHIO REV. CODE ANN. § 2919.192 (West).

³³ NEB. REV. STAT. ANN. § 28-3,104 (West).

³⁴ Lindsay J. Calhoun, Comment, *The Painless Truth: Challenging Fetal Pain-Based Abortion Bans*, 87 *TUL. L. REV.* 141, 144-45 (2012).

morally relevant to abortion.³⁵ However, it is not obvious why fetal pain’s potential presence in any amount trumps the actual pain or suffering of the pregnant person, which could be more substantial. But even if proponents had adequately justified this biological criterion, it remains yet another normative argument cloaked by stretching the current state of biological evidence too far.

Neuroscience cannot answer normative questions for us. The capacity to feel pain is not a binary: it is not present or absent. It involves various sensory and perceptual brain structures that continue to grow well after birth.³⁶ We must be humble about what we can and cannot extrapolate from the existing neuroscience data. A meta-review of multiple studies revealed “the possibility of fetal pain in the third trimester of gestation;” however, the “evidence becomes weaker before this date, [and] we cannot exclude its increasing presence since the beginning of the second half of the gestation.”³⁷ But this observation is just about possible capacity based on nerve development and not about the subjective experience of pain which is idiosyncratic and may require higher-order consciousness.³⁸

The presence of brain structures necessary for the subjective experience of pain does not tell us which structures are sufficient. Further, there must be a secular argument for why avoiding fetal pain trumps maternal pain. And if fetal pain trumps maternal pain in the abortion context, does this operate in other maternal-fetal dyads? And if not, why not? We need to be clearer about what normative work the biological criteria are doing.

D. Black-and-White Thinking Regarding Adoption vs. Abortion

The abortion debate also tends to frame adoption as a black-and-white issue and an uncomplicated choice. For example, in the oral argument for *Dobbs*, Justice Amy Coney Barrett asked the respondents about the necessity of abortion, given “safe haven” laws and the availability of adoption. She noted:

[I]n all 50 states, you can terminate parental rights by relinquishing a child . . . and insofar as you and many of your amici focus on the ways in which forced parenting, forced motherhood, would hinder women’s

³⁵ See, e.g., Stuart WG Derbyshire & John C. Bockmann, *Reconsidering Fetal Pain*, 46 J. MED. ETHICS 3, 3 (2020).

³⁶ See T.V. Salomons & G.D. Iannetti, *Fetal Pain and Its Relevance to Abortion Policy*, 25 NATURE NEUROSCIENCE 1396, 1397 (2022).

³⁷ Carlo Valerio Bellieni & Giuseppe Buonocore, *Is Fetal Pain a Real Evidence?*, 25 J. MATERNAL-FETAL & NEONATAL MED. 1203, 1203 (2011).

³⁸ See Note, *The Science, Law, and Politics of Fetal Pain Legislation*, 115 HARV. L. REV. 2010, 2010–11 (2002).

access to the workplace and to equal opportunities, it's also focused on the consequences of parenting and the obligations of motherhood that flow from pregnancy. Why don't the safe haven laws take care of that problem?³⁹

This black-and-white framing is part of the common trope around abortion that pregnant people can simply choose to place their child for adoption if they do not want the “obligations of motherhood.” It's that simple. This framing fundamentally misunderstands the sometimes complex emotions at play in this decision. Adoption may be emotionally quite difficult, as women think about the counterfactual world where they were financially or emotionally supported to raise their child.⁴⁰

This framing also ignores the fact that women are usually choosing between parenting a child themselves and abortion—adoption is rarely considered a feasible choice.⁴¹ Researchers who study adoption and reproductive decision-making state “[p]olitical promotion of adoption as an alternative to abortion is likely not grounded in the reality of women's decision making.”⁴² Finally, framing the choice as dichotomous, as Justice Amy Coney Barrett did (if you do not want to be a mother, place your child for adoption) dismisses the significant medical risks of carrying a fetus to term. In the next section, I will explore how more of this black-and-white thinking leads to extremism in the neglect of pregnant people's health.

E. Black-and-White Thinking About Medical Emergencies

Abortion regulations often frame medical emergency exceptions as a black-and-white issue despite the fact that what constitutes an emergency is variable and complex. A handful of states provide an exception to their otherwise restrictive abortion ban if the pregnant person experiences a “medical emergency.”⁴³ However, this term is typically defined in medically naïve, absolutist ways. For example, Alabama provides an exception to their

³⁹ Oral Argument at 54:09, *Dobbs v. Jackson Women's Health Org.*, 142 S. Ct. 2228 (2022) (No. 19-1392), <https://www.oyez.org/cases/2021/19-1392> (Justice Amy Coney Barrett questioning Julie Rickelman).

⁴⁰ Nina Memarnia et al., *'It Felt Like It Was Night All the Time': Listening to the Experiences of Birth Mothers Whose Children Have Been Taken into Care or Adopted*, 39 *ADOPTION & FOSTERING* 303, 303–304 (2015); Liza Fuentes et al., *“Adoption is Just Not For Me”*: How Abortion Patients in Michigan and New Mexico Factor Adoption Into Their Pregnancy Outcome Decisions, in 5 *CONTRACEPTION: X* 1 (2023).

⁴¹ Gretchen Sisson et al., *Adoption Decision Making Among Women Seeking Abortion*, 27 *WOMEN'S HEALTH ISSUES* 136, 136–37 (2017).

⁴² *Id.*

⁴³ See, e.g., Texas Woman's Right to Know Act, TEX. HEALTH & SAFETY CODE § 171.0124 (“A physician may perform an abortion without obtaining informed consent under this subchapter in a medical emergency.”).

abortion ban if a condition “necessitate[s] the immediate abortion of her pregnancy to avert her death or for which a delay will create serious risk of substantial and irreversible impairment of a major bodily function.”⁴⁴ Aside from the key fact that physicians are *ethically required to do more than prevent death*,⁴⁵ these statutes make it seem as if medical emergencies operate like a light switch and are either present or absent. However, medical emergencies during pregnancy are not so simple; there are many “major bodily functions” that are at serious risk of substantial impairment. When they are threatened, this can occur slowly, then all at once.

For example, patients often come to the emergency room with premature rupture of membranes (the amniotic sac). At first, their condition might not meet the rigid statutory definition of a “medical emergency” under the state’s abortion laws. However, the condition can quickly and predictably deteriorate,⁴⁶ so “aggressive” management is clinically indicated to prevent catastrophic and fatal hemorrhaging.⁴⁷ Similar life-threatening situations occur when the fetus attaches to a scar from a previous Caesarean section, or when it develops outside of the uterus.⁴⁸ Together, these conditions are not uncommon and can be fatal. They can develop over time, sometimes in nonlinear ways.

The statutes’ reductive conceptions of medical emergency have dire consequences for pregnant people. While there are no increased health risks from abortion, patients who are legally prevented from terminating may be admitted to the intensive care unit or forced to have an unplanned hysterectomy.⁴⁹ For example, watchful waiting after the discovery of preterm premature rupture of membranes increases the risk of developing a serious infection four-fold and more than doubles the potential for life-threatening

⁴⁴ ALA. CODE § 26-22-2 (2022).

⁴⁵ The medical ethics principle of beneficence and nonmaleficence requires that physicians prevent net harms while also promoting the patient’s overall well-being. See Lynn A. Jansen, *Medical Beneficence, Nonmaleficence, and Patients’ Well-Being*, 33 J. CLINICAL ETHICS. 23, 23–24 (2022).

⁴⁶ Brian M. Mercer, *Preterm Premature Rupture of the Membranes*, 101 AM. COLL. OBSTETRICIANS & GYNECOLOGISTS 178 (2003) (discussing the frequency and severity of neonatal complications after preterm premature rupture of membranes which vary based on gestational age and can be fatal if not managed aggressively).

⁴⁷ Robert W. Naef III et al., *Premature Rupture of Membranes at 34 to 37 Weeks’ Gestation: Aggressive Versus Conservative Management*, 178 AM. J. OBSTETRICS & GYNECOLOGY 126 (1998).

⁴⁸ Laure Noël & Basky Thilaganathan, *Caesarean Scar Pregnancy: Diagnosis, Natural History and Treatment*, 34 CURRENT OP. OBSTETRICS & GYNECOLOGY 279 (2022); see also James K. Robinson et al., *A Novel Surgical Treatment for Cesarean Scar Pregnancy: Laparoscopically Assisted Operative Hysteroscopy*, 92 FERTILITY & STERILITY 1497.e13 (2009).

⁴⁹ See, e.g., Kavitha Surana, *Doctors Warned Her Pregnancy Could Kill Her. Then Tennessee Outlawed Abortion.*, PROPUBLICA (Mar. 14, 2023, 5:00 AM), <https://www.propublica.org/article/tennessee-abortion-ban-doctors-ectopic-pregnancy> [https://perma.cc/34FL-EWUH].

hemorrhaging.⁵⁰ Defining medical emergencies in biologically naïve, black-and-white terms ignores these foreseeable, potentially fatal,⁵¹ yet sometimes gradual health risks.

In addition to defining emergency as if it is either objectively present or absent, the statutes also arbitrarily distinguish mental and physical health. In a handful of states, (e.g., Texas, Georgia, Nebraska, West Virginia) termination based on a medical emergency requires that the health emergency be triggered by the pregnancy itself and cannot include mental health crises.⁵² Any mental health condition—such as suicidality—would not justify the emergency exception. This provides yet another layer of dichotomous thinking—dividing so-called physical from mental symptoms. This embodies the common but debunked theory of substance dualism, which treats the mental and physical as biologically and functionally distinct.⁵³ Prohibiting mental health crises as a “medical emergency” is particularly egregious given that they account for *more deaths during pregnancy* or the year following it than any other health condition.⁵⁴

Finally, in addition to the medically and biologically naïve definitions, whether a situation constitutes a medical emergency depends on both clinical evidence *and* the patient’s personal goals of care. It is patients who decide whether and when their life is worth saving. Not physicians. Not the state. This is reflected in the federal Patient Self-Determination Act (PSDA) of 1991, which “focused national attention on the right of patients to be involved in decision-making and on the use of written advance directives.”⁵⁵

⁵⁰ Ariel Sklar et al., *Maternal Morbidity After Preterm Premature Rupture of Membranes at <24 Weeks’ Gestation*, 226 AM. J. OBSTETRICS & GYNECOLOGY 558.e1 (2022).

⁵¹ See David S. Cohen et al., *The New Abortion Battleground*, 123 COLUM. L. REV. 1, 72–73 (2023) (“[P]hysicians have delayed medically necessary abortion care even though the patient’s life is on the line. Waiting too long to treat a patient can cause hemorrhage, loss of a uterus and future fertility, or death.”).

⁵² Lindsey Tanner, *Mental Crises Excluded From Some State Abortion Exemptions*, ASSOCIATED PRESS (Nov. 17, 2022, 8:26 AM), <https://apnews.com/article/abortion-science-health-government-and-politics-arizona-fc2114ecfce72eeca65e21fb970ca62f> [<https://perma.cc/2KWR-U6YV>].

⁵³ See Teneille R. Brown, *Demystifying Mindreading for the Law*, WIS. L. REV. FORWARD 1, 8 (2022) (“Substance dualism has been refuted by neuroscientists, but it continues to find sanctuary in various legal doctrines.”); Matthias Forstmann & Pascal Burgmer, *A Free Will Needs a Free Mind: Belief in Substance Dualism and Reductive Physicalism Differentially Predict Belief in Free Will and Determinism*, 63 CONSCIOUSNESS & COGNITION 280, 281 (2018).

⁵⁴ Susanna Trost et al., *Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017–2019*, CTR. FOR DISEASE CONTROL, <https://www.cdc.gov/reproductivehealth/maternal-mortality/docs/pdf/Pregnancy-Related-Deaths-Data-MMRCs-2017-2019-H.pdf> [<https://perma.cc/KRW9-MAAA>].

⁵⁵ Joan M. Teno et al., *Changes in Advance Care Planning in Nursing Homes Before and After the Patient Self-Determination Act: Report of a 10-State Survey*, 45 J. AM. GERIATRICS SOC. 939 (1997).

In addition to needing to respect patient autonomy, there are religious “free exercise” implications as well.⁵⁶

Because of the deeply personal nature of decisions about end-of-life, the multiplicity of ways the body can suddenly crash, and the Supreme Court’s recognition that these decisions are constitutionally protected⁵⁷, a medical emergency *cannot be defined by statute*. Thus, tying access to abortion to a dichotomous standard that does not map onto continuous clinical presentations ignores the well-being of pregnant people while putting physicians in an unfair ethical and legal bind.

F. *Black-and-White Thinking on Fetal Anomalies*

Abortion regulations have also tended to categorize fetal anomalies in a black-and-white fashion. For example, a recent version of Utah’s abortion ban permitted termination after 18 weeks if, “with reasonable medical certainty,” two physicians agree that the fetus has severe brain abnormality that is “uniformly diagnosable” and “uniformly lethal.”⁵⁸ However, “uniformly diagnosable” is medically naïve. Many fetal disorders are too complex in their presentation to be “uniformly diagnosed,” and instead require good faith estimates based on the available evidence and their predicted genetic expression.⁵⁹ While anencephaly has a one-year mortality rate of almost 100%,⁶⁰ other diagnoses that trigger the fetal anomaly exception have far greater prognostic variation. For example, “10% of babies born alive with Trisomy 13 or Trisomy 18 can survive to ten years old.”⁶¹ Other diagnoses, such as lymphoma, may likewise resist “reasonably medically certain” diagnoses *or* prognoses.

⁵⁶ See Dov Fox, *Medical Disobedience*, 136 HARV. L. REV. 1030, 1107 (2023) (“The Rabbinical Assembly holds that Judaism commands that abortion be available when needed to preserve a woman’s health.”).

⁵⁷ Kathy L. Cerminara, *Cruzan’s Legacy in Autonomy*, 73 SMU L. REV. 27, 27 (2020) (arguing that *Cruzan v. Director, Missouri Department of Health* made personal autonomy in a medical setting a constitutionally protected interest).

⁵⁸ H.B. 467, 65th Leg., Gen. Sess. (Utah 2023). Utah has since revised its language in light of Representative Ray Ward’s advocacy that the previous language was too absolute. Rep. Ward is also a physician. The revised Utah Criminal Code now states “a fetal abnormality that in the physicians’ reasonable medical judgment is incompatible with life.” UTAH CODE ANN. § 76-7-302 (West 2023).

⁵⁹ See Daniella Rivera, *‘It Was Hastily Passed’: Medical, Legal Experts Raise Concerns About Utah’s Abortion Trigger Law*, KSL INVESTIGATES (June 24, 2022, 8:49 PM), <https://ksltv.com/497130/it-was-hastily-passed-medical-legal-experts-raise-concerns-about-utahs-abortion-trigger-law/> [<https://perma.cc/6F5E-NVR8>].

⁶⁰ Greer Donley, *Parental Autonomy over Prenatal End-of-Life Decisions*, 105 MINN. L. REV. 175, 184 (2020).

⁶¹ *Id.*

The focus on mortality also rigidly restricts parents' decision-making. When parents make the often-traumatic decision to terminate based on a fetal anomaly, they are often motivated to do so by a desire to reduce inevitable fetal suffering. It is often not possible to be *certain* that the condition is fatal in the very near term.⁶²

II. AVERSION TO MORAL AMBIGUITY LEADS TO THE ASSUMPTION OF MONOLITHIC AND SELFISH REASONS FOR ABORTION

In addition to resting on medically naïve assumptions about human biology, abortion regulations also demonstrate black-and-white thinking about moral judgments and gender. Abortion policy has been called “the clash of absolutes” because both sides claim to have morality on their side.⁶³ This means rejecting moral ambiguity, demonizing the opposition, and making each side see the other's motives as evil.⁶⁴ Pro-life advocates in particular often cast abortion advocates as baby killers and compare their beliefs to those held by Nazis in the Holocaust.⁶⁵ This section explains the many negative side effects of this sort of thinking and how it has shaped abortion regulations by assuming that women choose abortion for monolithic and selfish reasons.

A. Moral Dyads Reinforce Black-and-White Thinking

When it comes to moral harm, we tend to think in dichotomous dyads of actors and victims.⁶⁶ The intuition is so powerful that when someone acts in a way that we think is immoral, we will go to great lengths to locate a victim to complete the dyad.⁶⁷ People will even attribute feelings to robots

⁶² *Id.* at 186.

⁶³ Vossen et al., *supra* note 6, at 186.

⁶⁴ *Id.*; Clark & Winegard, *supra* note 14, at 16.

⁶⁵ Megan Fernandes, ‘You’re a Murderer’: Rochester State Rep. Screams at Abortion Rights Protesters on Video, FOSTER’S DAILY DEMOCRAT (May 6, 2022, 8:59 AM), <https://www.fosters.com/story/news/2022/05/05/nh-representative-susan-delemus-screams-murderers-abortion-rights-activists-video/9661689002/> [<https://perma.cc/TUR7-2V56>]; see also Blake Ellis & Melanie Hicken, *These Male Politicians Are Pushing for Women Who Receive Abortions to Be Punished with Prison Time*, CNN (Sept. 21, 2022, 12:33 AM), <https://www.cnn.com/2022/09/20/politics/abortion-bans-murder-charges-invs/index.html> [<https://perma.cc/TT9Y-BD7M>] (describing abortion “abolitionists” as “particularly uncompromising in how they act on their beliefs,” who compare abortion to the Holocaust and use inflammatory terms such as “slaughter” and “murder”).

⁶⁶ Kurt Gray et al., *The Moral Dyad: A Fundamental Template Unifying Moral Judgment*, 23 PSYCH. INQUIRY 206, 206 (2012).

⁶⁷ *Id.* at 210.

and inanimate objects when they are perceived to be harmed by an immoral agent.⁶⁸

This has obvious implications for abortion, as this dyad is activated in much of the anti-abortion rhetoric. The pregnant person is cast as the immoral agent who is violating prescriptive gender norms to terminate a vulnerable life—the clear victim.⁶⁹ Once someone is labeled an agent, there is no motivation to see things from their unique perspective or to see how in another situation they might also be a victim. For example, research explores how even admired moral agents, such as veterans, will be viewed as having less capacity to experience emotion once they are seen as more agentic.⁷⁰ We need to fight against this intuitive but overly simplistic dichotomy. Importantly, the moral dyad does not allow for individuated assessments of the agent *or* patient.

B. Dehumanization to Reduce Moral Ambiguity

One way we sort people into crude buckets is through dehumanization. Dehumanized targets are presumed to behave stereotypically and predictably, like lower-order animals, monsters, or robots.⁷¹ They are not allowed to experience the full range of complicated, individual emotions and thoughts as the rest of us.⁷² They are monolithic and mindless. Their suffering does not count. Their situational circumstances do not matter.

The stereotypes that feed dehumanization are socially constructed to maintain power hierarchies.⁷³ Once dehumanized through unfair stereotypes, members of the group experience stigma⁷⁴ and blame, which then creates a feedback loop to justify further discrimination.⁷⁵ Some of the strongest documented forms of dehumanization stem from one's race, gender, or

⁶⁸ Adrian F. Ward et al., *The Harm-Made Mind: Observing Victimization Augments Attribution of Minds to Vegetative Patients, Robots, and the Dead*, 24 PSYCH. SCI. 1437, 1437 (2013).

⁶⁹ Vossen et al., *supra* note 6, at 197.

⁷⁰ Steven Shepherd et al., *Military Veterans are Morally Typecast as Agentic but Unfeeling: Implications for Veteran Employment*, 153 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 75, 85 (2019).

⁷¹ Nick Haslam & Steve Loughnan, *Dehumanization and Infrahumanization*, 65 ANN. REV. PSYCH. 399, 403 (2013).

⁷² Teneille R. Brown, *Stereotypes, Sexism, and Superhuman Faculty*, 16 FIU L. REV. 83, 85 (2021).

⁷³ John T. Jost & Mahzarin R. Banaji, *The Role of Stereotyping in System-Justification and the Production of False Consciousness*, 33 BRIT. J. SOC. PSYCH. 1, 8 (1994); Rachel A. Connor & Susan T. Fiske, *Warmth and Competence: A Feminist Look at Power and Negotiation*, in 1 APA HANDBOOK PSYCH. WOMEN: HIST., THEORY, & BATTLEFIELDS 321, 321 (C.B. Travis et al. eds., 2018).

⁷⁴ *Id.*

⁷⁵ Brown, *supra* note 72, at 84–85; see also Mengyao Li et al., *Toward a Comprehensive Taxonomy of Dehumanization: Integrating Two Senses of Humanness, Mind Perception Theory, and Stereotype Content Model*, 21 TPM 285, 288–89 (2014).

disability status.⁷⁶ It is therefore foreseeable, if depressing, that abortion-restrictive laws replicate common forms of dehumanization against women, people of color, those with disabilities,⁷⁷ and those at the intersections of these identities.⁷⁸

This is precisely what we see in the political rhetoric surrounding abortion. Women who terminate are labeled as selfish, heartless, disgusting, dirty, sinful, and promiscuous.⁷⁹ Their personal choices, reasons, and values are irrelevant.⁸⁰ Much of the legislation described in the above sections rejects nuanced assessments of these individuals' situations, feelings, or desires.

A revealing example of this is in the denial of pregnant people's ability to have individuated mental states and the role these mental states should play in legal decisions. Take for example the idea that states must "draw a line" somewhere in the pregnancy to prohibit abortion, to avoid infanticide at nine months gestation. Even early abortion rights supporters, such as Justice Blackmun's clerk who helped to pen his *Roe v. Wade* opinion assumed that there had to be an inflection point in fetal development, after which abortion could be prohibited.⁸¹ Otherwise, without some biological

⁷⁶ Haslam & Loughnan, *supra* note 71, at 407 (discussing how race and ethnicity are a major target for dehumanization); see also Licia Carlson, *Intellectual Disability, Dehumanization, and the Fate of "the Human,"* J. PHIL. DISABILITY 1, 1 ("There is a long history of excluding people with intellectual disabilities (ID) from the category of 'the human.'").

⁷⁷ Robyn M. Powell, *Disability Reproductive Justice*, 170 U. PA. L. REV. 1851, 1869–72 (2022).

⁷⁸ See Melissa Murray, *Race-ing Roe: Reproductive Justice, Racial Justice, and the Battle for Roe v. Wade*, 134 HARV. L. REV. 2025, 2046 (2021); Khiara M. Bridges, *Foreword: Race in the Roberts Court*, 136 HARV. L. REV. 23, 58–59 (2022).

⁷⁹ Alison J. Patev et al., *Hostile Sexism and Right-Wing Authoritarianism as Mediators of the Relationship Between Sexual Disgust and Abortion Stigmatizing Attitudes*, 151 PERSONALITY & INDIVIDUAL DIFFERENCES 1, 2 (2019), <https://www.sciencedirect.com/science/article/abs/pii/S019188691930460X> [<https://perma.cc/62CU-CT9Z>] ("[D]isgust is a reaction to social role violations . . . that lead to restrictive abortion policies These attitudes might reinforce ideas that women who violate gendered scripts by seeking abortion are going against the authority of men."); Anuradha Kumar et al., *Conceptualising Abortion Stigma*, 11 CULTURE, HEALTH & SEXUALITY 625, 629 (2009) ("Various labels such as promiscuous, sinful, selfish, dirty, irresponsible, heartless or murderous are applied to women who abort in different contexts.").

⁸⁰ Eleanor Klibanoff & Jinitzail Hernández, *"I Love My Babies. But That Doesn't Mean It's Easy": One Mother's Struggle to Survive in Pro-Life Texas*, TEX. TRIB. (Mar. 9, 2023, 5:00 AM), <https://www.texastribune.org/2023/03/09/east-texas-women-pregnancy-health/> [<https://perma.cc/3M85-4THD>] (describing how one woman felt the dueling pressures of poverty and stigma around abortion).

⁸¹ See More Perfect, *Part 1: The Viability Line*, WNYC STUDIOS, at 13:55 (June 8, 2023), <https://www.wnycstudios.org/podcasts/radiolabmoreperfect/episodes/part-1-viability-line> [<https://perma.cc/6R96-UREV>] (George Frampton, former clerk to U.S. Supreme Court Justice Harry Blackmun, noted, "[W]e can't let a woman decide at eight and a half months to end a pregnancy and terminate the potential life of her fetus child. That's a little too much to contemplate. You're going to have to find a compromise in the middle someplace." Frampton is credited with first suggesting Blackmun adopt the viability standard in *Roe v. Wade*.)

line-drawing, they thought there would be an inevitable slippery slope to legalizing murder.

Of course, there is no such inevitable slippery slope unless you deny the critical role of mental states, which routinely factor into criminal law.⁸² Prosecutors must distinguish between charging someone with first-degree murder or something much less culpable, such as reckless manslaughter.⁸³ This decision is based on which mental states they think they can prove beyond a reasonable doubt. Juries then must decide whether to convict defendants based on whether they believe their stated justifications (such as self-defense) for what they did.⁸⁴ The idea that courts are ill-equipped to distinguish between terminating based on a profound fetal anomaly discovered at twenty-seven weeks gestation and intentional homicide reveals how little they are thinking about pregnant people's personal justifications or mental states.

This dehumanization is facilitated by treating people who terminate pregnancies as “the other.” In reality, abortion is a “common procedure that roughly one in five women will experience before age 45.”⁸⁵ The numbers are likely even higher than this, as potentially half of all abortions go unreported. Based on these high numbers, the people who have had abortions are not fundamentally different from us—they *are* us. But the dichotomous “us vs. them” thinking exacerbates stigma and dehumanization. Importantly, it rests on yet another pernicious form of dichotomous sorting: sexism.⁸⁶

C. Ambivalent Sexism to Reduce Moral Ambiguity

Abortion policy is derived from and reinforces sexist gender binaries and norms.⁸⁷ While some people still hold overtly hostile views toward women, it is now common for both men and women to express more ambivalent forms of sexism. Ambivalent sexism predicts that women will be treated *benevolently* when they embrace their traditional roles as wives and mothers but will be treated with *hostility* if they reject these roles and

⁸² See generally Rebecca Dresser, *Culpability and Other Minds*, 2 S. CAL. INTERDISC. L.J. 41 (1993) (discussing how mental states factor into culpability assessments in criminal cases).

⁸³ See Stephen F. Smith, *Proportional Mens Rea*, 46 AM. CRIM. L. REV. 127, 150 (2009) (discussing the role of mental states in prosecutorial discretion).

⁸⁴ Richard Singer, *The Resurgence of Mens Rea: II—Honest but Unreasonable Mistake of Fact in Self Defense*, 28 B.C.L. REV. 459 (1987).

⁸⁵ Patev et al., *supra* note 79, at 1.

⁸⁶ Alina Salmen & Kristof Dhont, *Hostile and Benevolent Sexism: The Differential Roles of Human Supremacy Beliefs, Women's Connection to Nature, and the Dehumanization of Women*, 24 GRP. PROCESSES & INTERGROUP RELS. 1053, 1056 (2021) (noting that when women's “reproductive and sexual functions are emphasized” this often leads to their dehumanization through ambivalent sexism).

⁸⁷ Vossen et al., *supra* note 6, at 190.

compete for resources with men.⁸⁸ This creates a tightrope (sometimes referred to as the Madonna/whore dichotomy),⁸⁹ where women must stick to the maternal script to be revered.⁹⁰ As the following abortion jurisprudence shows, putting women on pedestals as mothers or Madonnas can have pernicious effects as it reduces their autonomy and reinforces the gender binary.

Importantly, the best predictor of whether someone is pro-life is whether they have traditional and sexist ideas about women's "proper role" in society. Benevolent sexism in particular is tightly correlated with being pro-life and restricting access to abortion.⁹¹ In one study, opinions on abortion were "fully mediated by attitudes toward motherhood" and not by concerns over fetal life or health.⁹² Thus, the strongest explanation for being pro-choice is not rooted in rejecting the moral value of a fetus. Rather, it stems from rejecting the subordination of women.⁹³ As will be illustrated below, benevolent sexism and dehumanization together lead to black-and-white, reductive thinking about the reasons women terminate their pregnancies.

1. Informed Consent Laws Presume the Decision is Selfish and Cavalier

Many states have singled out abortion for paternalistic and condescending "informed consent" laws. These laws use the ethical and legal language of informed consent but mislead and strong-arm patients in ways that are completely antithetical to it. The premise of these laws is that the

⁸⁸ Amanda D. Greubel, *Benevolent Sexism in the Targeted Regulation of Abortion Providers (TRAP): A Case Study of Texas House Bill 2*, 85 *SEX ROLES* 650, 651 (2021).

⁸⁹ Rotem Kahalon et al., *The Madonna-Whore Dichotomy is Associated with Patriarchy Endorsement: Evidence from Israel, the United States, and Germany*, 43 *PSYCH. WOMEN Q.* 348, 348 (2019).

⁹⁰ Peter Glick & Susan T. Fiske, *Ambivalent Sexism*, 33 *ADVANCES EXPERIMENTAL SOC. PSYCH.* 115, 126, 153 (2001).

⁹¹ Yanshu Huang et al., *Benevolent Sexism, Attitudes Toward Motherhood, and Reproductive Rights: A Multi-Study Longitudinal Examination of Abortion Attitudes*, 42 *PERSONALITY & SOC. PSYCH. BULL.* 970, 979 (2016).

⁹² *Id.* at 978.

⁹³ Cara C. MacInnis et al., *Does "Humanization" of the Preborn Explain Why Conservatives (vs. Liberals) Oppose Abortion?*, 59 *PERSONALITY & INDIVIDUAL DIFFERENCES* 77, 77 (2014); Danny Osborne et al., *Abortion Attitudes: An Overview of Demographic and Ideological Differences*, 43 *ADVANCES POL. PSYCH.* 29 (2022); Brian P. Tilley, *When Trauma Isn't Traumatic Enough: Authoritarianism, Sex, and Religion Influence Agreement with Alabama's HB 314 Restrictions on Traumatic Abortion*, *SOC. SCI. J.* 1, 1 (2021).

decision to terminate a pregnancy is the same for all women—cavalier⁹⁴ and selfish.⁹⁵

For example, in South Dakota, physicians are required to inform their patients “that abortion will terminate the life of a whole, separate, unique living human being.”⁹⁶ Other states require physicians to provide medically inaccurate claims, such as abortion being linked to breast cancer and infertility.⁹⁷ In a review of twenty-nine states’ informed consent laws, 45% of the statements about first-trimester fetal development were “medically inaccurate.”⁹⁸ Once again, thin or inaccurate biological evidence is used as a substitute for deep moral and legal reasoning.

Other laws require pregnant people to spend time looking at an ultrasound of the fetus, while the fetal development is described in detail. Physicians often must ensure that the pregnant person has read *every line* or watched every second of a video, which perverts true informed consent into a forced, patronizing lecture.⁹⁹ It is, of course, important to ensure that patients make fully informed medical decisions. However, these processes do not allow for the possibility that the pregnant person *already possesses the mandated information and has fully considered the implications of her decision*.¹⁰⁰ Behind these laws is an irrebuttable presumption that the pregnant person’s decision is rash and ill-considered. This is not how informed consent is practiced in *any* other area of medicine.

2. *Prescribing the Method of Terminating Assumes the Decision is Selfish and Cavalier*

In addition to perverting informed consent, naïve assumptions about why women terminate impact the range of clinical options available to patients. This often occurs through statutes that prohibit particular methods of termination without allowing physicians to consider relevant clinical

⁹⁴ For instance, the Supreme Court in *Casey* reasoned that it was appropriate for the state to enact a 24-hour waiting period, as this is “aimed at ensuring a decision that is mature and informed, even when in so doing the State expresses a preference for childbirth over abortion.” *Planned Parenthood of Se. Pa. v. Casey*, 505 U.S. 833, 883, *overruled by Dobbs v. Jackson Women’s Health Org.*, 142 S. Ct. 2228 (2022). The implication being that the decision to terminate a pregnancy is often immature and uninformed. *Id.*

⁹⁵ Greubel, *supra* note 88; Kumar et al., *supra* note 79, at 629.

⁹⁶ S.D. CODIFIED LAWS § 34-23A-10.1(1)(b) (2021).

⁹⁷ See Nadia N. Sawicki, *The Abortion Informed Consent Debate: More Light, Less Heat*, 21 CORNELL J.L. & PUB. POL’Y 1, 6 (2011).

⁹⁸ Cynthia Daniels et al., *Informed or Misinformed Consent? Abortion Policy in the United States*, 41 J. HEALTH POL. POL’Y & L. 181, 193 (2016).

⁹⁹ Teneille R. Brown, *Crisis at the Pregnancy Center: Regulating Pseudo-Clinics and Reclaiming Informed Consent*, 30 YALE J.L. & FEMINISM 221, 256 (2018).

¹⁰⁰ David S. Cohen et al., *Abortion at the Crossroads: Reproductive Rights and Justice on the Precipice of Roe’s Demise*, 14 DREXEL L. REV. 787, 790 (2022).

factors. For example, Congress passed the so-called “partial birth abortion ban” of 2003 to prohibit abortion procedures used in later stages of pregnancy, which included a procedure called dilation and evacuation, or “D&E.”¹⁰¹ In *Gonzales v. Carhart* (referred to as “*Carhart II*”) the Supreme Court upheld the ban as constitutional, despite not containing any exception to save the pregnant woman’s life.¹⁰² This statute seemed to ignore the fact that the overwhelming majority (92.7%) of abortions occur in the first trimester,¹⁰³ and abortion in the third trimester usually only occurs because the fetus has developed a defect that is incompatible with life.

The *Carhart II* Court elevated benevolent sexism in upholding the ban on this methodology. The opinion reiterated that “[r]espect for human life finds an ultimate expression in the bond of love the mother has for her child.”¹⁰⁴ Notably, it does not find the ultimate expression of respect for human life in recognizing the mother as an autonomous agent.

The *Carhart II* opinion also engages the moral dyad through extremely graphic descriptions of what happens to the fetus. The banned D&E methodology is depicted as “grip[ping] a fetal part with the forceps and pull[ing] it back through the cervix and vagina. . . . The friction causes the fetus to tear apart.”¹⁰⁵ The fetus is the clear victim. Pregnant women are then cast unequivocally as the agents of this violence, with no mention of how the ban might harm them.

Congressional findings stated that the ban was justified to draw “a bright line that clearly distinguishes abortion and infanticide.”¹⁰⁶ To draw this bright line, the drafters perpetuated a flawed assumption that abortion and miscarriage can be meaningfully distinguished. Obstetricians may need to perform certain procedures to expel a wanted pregnancy *or* to induce an abortion. From the outside, the two procedures may look identical.¹⁰⁷

To reiterate, this black-and-white framing from *Carhart II* misses that a) the D&E methodology is extremely rare, b) it is almost always performed when the intended parents discover that the fetus has a serious fetal defect

¹⁰¹ *Gonzales v. Carhart*, 550 U.S. 124, 132–34 (2007).

¹⁰² *Id.* at 168.

¹⁰³ Katherine Kortsmitt et al., *Abortion Surveillance—United States, 2019*, CENTERS FOR DISEASE CONTROL & PREVENTION: MORBIDITY AND MORTALITY WEEKLY REPORT 1 (2021) (reporting that in 2019 “nearly all [abortions in the U.S.] (92.7%) were performed at ≤13 weeks’ gestation.”).

¹⁰⁴ *Carhart*, 550 U.S. at 159.

¹⁰⁵ *Id.* at 135.

¹⁰⁶ *Id.* at 158.

¹⁰⁷ See Eishin Nakamura et al., *Survey on Spontaneous Miscarriage and Induced Abortion Surgery Safety at Less than 12 Weeks of Gestation in Japan*, 47 J. OBSTETRICS & GYNAECOLOGY RSCH. 4158, 4158 (2021) (concluding that D&C is still widely used for miscarriage and induced abortion surgery in Japan).

that is incompatible with life¹⁰⁸, and c) banning it may impose risks to pregnant people. Given these inconvenient truths, requiring pregnant people to go through exhausting and risky labor to expel a dead or dying fetus in the third trimester is dehumanizing and extremist.¹⁰⁹

3. *Assuming Monolithic and Selfish Reasons for Abortion*

Despite the assumptions baked into these regulations, the majority of women who terminate do so for a suite of complex, personal reasons. However, the most common are because they want to protect their financial well-being, want to pursue work or educational goals, have inadequate housing, are concerned about their physical or mental health¹¹⁰, or want to focus on their existing children.¹¹¹ None of these reasons can be reasonably described as selfish or cavalier.

Women who are denied a wanted abortion are significantly more likely to enter poverty and suffer multiple years of economic hardship than demographically matched women who receive an abortion.¹¹² This presents yet another unwinnable bind for poor women because they are condemned either way. If they choose to terminate because they cannot afford another child, they are selfish. If they cannot financially support their children, they are irresponsible. Selfish or irresponsible—these are the choices in a sexist and neoliberal society with inadequate safety nets.

III. THE LEGAL PREFERENCE FOR BINARIES

We have seen in the foregoing just how black-and-white thinking pervades abortion jurisprudence and furthers extremist policies. But it infiltrates many other areas of the law as well. Judges and legislatures often take complex human behaviors and messy evidence that exists on a spectrum

¹⁰⁸ Gary A. Burgoine et al., *Comparison of Perinatal Grief after Dilation and Evacuation or Labor Induction in Second Trimester Terminations for Fetal Anomalies*, 192 AM. J. OBSTETRICS & GYNECOLOGY 1928, 1929 (2005) (describing why “many practitioners do not routinely offer patients the option of labor induction because of concern regarding the emotional impact of labor and delivery on women who are already grieving the diagnosis of a fetal anomaly in a desired pregnancy” and therefore suggest D&E for these women).

¹⁰⁹ A bill in the last session of the Utah legislature attempted to require women to go through labor if they terminate due to a medical emergency or fetal defect, “unless the induction of labor poses an unacceptably higher risk to the mother.” See Emily Andersen Stern, *Abortion Clinic Ban Will ‘Put Abortion Out of the Reach for as Many Utahns as Possible,’ Lawmaker Warns*, SALT LAKE TRIB. (Feb. 18, 2023, 10:53 AM), <https://www.sltrib.com/news/politics/2023/02/16/abortion-clinic-ban-will-put/> [<https://perma.cc/3GKL-CZ8G>].

¹¹⁰ M. Antonia Biggs et al., *Understanding Why Women Seek Abortions in the US*, 13 BMC WOMEN’S HEALTH, Article 29, 1–2 (2013).

¹¹¹ *Id.* at 30.

¹¹² Diana Green Foster et al., *Socioeconomic Outcomes of Women Who Receive and Women Who Are Denied Wanted Abortions in the United States*, 108 AM J. PUB. HEALTH 407, 407 (2018).

and convert this noise into discrete legal categories. Sometimes this is necessary. Sometimes it is not.¹¹³ Examples of using biological criteria for legal decisions abound: deciding whether a criminal defendant acted voluntarily, whether they intended the outcome, whether someone is competent to stand trial or execute a will,¹¹⁴ whether someone is disabled under the Americans with Disabilities Act, whether cancer was caused by the polluters' chemicals, and even whether someone is legally dead or alive.¹¹⁵

The answers here do not lend themselves to dichotomous outputs because these variables exist on a messy spectrum. Biology gives us "processes," not "events."¹¹⁶ We are uncomfortable with the idea that people are partially compliant, partially free to choose otherwise, or even partially dead.¹¹⁷ However, when "calling it," as the umpire of the law often must, we need to ask ourselves whether a binary outcome is critical and fair or whether it is simply tidy and comforting. This will likely depend on the purpose for which it is offered and the cost of getting the legal decision wrong.

We cannot answer the threshold question about the costs and benefits of bright-line rules without embarking on a survey of systemic values. If we prioritize consistency, formalism, and finality, bright-line rules are preferable. If individualized justice and flexibility are key, this tilts the scales in favor of continuous variables rather than categorical rules.

Throughout American legal history, scholars have argued that the heavens would fall if we recognized that psychological and biological phenomena are subjective and varied. Of course, this is precisely what we do when we calculate personal injury damages or assess a defendant's *mens rea*. And there are examples of noncategorical thinking in many other

¹¹³ For an interesting analysis of the costs and benefits of bright-line rules versus flexible standards, see Donald A. Dripps, *The Fourth Amendment and the Fallacy of Composition: Determinacy Versus Legitimacy in A Regime of Bright-Line Rules*, 74 MISS. L.J. 341 (2004).

¹¹⁴ See James G. Dalferes, *Undue Influence, Interdiction and Other New Means to Annul Wills & Donations in Louisiana*, 40 L.A. BAR J. 170, 174 (1992) ("In effect, undue influence recognizes that there exists a gray area rather than a bright line separating general capacity from general incapacity.").

¹¹⁵ UNIFORM DETERMINATION OF DEATH ACT § 1 (NAT'L CONF. OF COMM'RS ON UNIF. STATE L. 1980); Thaddeus Mason Pope, *Brain Death Forsaken: Growing Conflict and New Legal Challenges*, 37 J. LEGAL MED. 265, 318–19 (2017) (discussing the standard for legal death in New Jersey).

¹¹⁶ Ronald M. Green, *Toward a Copernican Revolution in Our Thinking About Life's Beginning and Life's End*, 66 SOUNDINGS 152, 166 (1983).

¹¹⁷ Given the use of extracorporeal oxygenation or mechanical ventilation, the modern definition of death is not so clear. See Sam D Shemie, *Clarifying the Paradigm for the Ethics of Donation and Transplantation: Was "Dead" Really so Clear Before Organ Donation?*, 2 PHIL. ETHICS & HUMAN. MED., Article 28, at 1 (2007); A. L. Dalle Ave et al., *Ethical Issues in the Use of Extracorporeal Membrane Oxygenation in Controlled Donation After Circulatory Determination of Death*, 16 AM. J. TRANSPLANTATION 2293 (2016); David M. Greer et al., *Determination of Brain Death/Death by Neurologic Criteria: The World Brain Death Project*, 324 JAMA 1078 (2020).

doctrinal areas—patents, unconscionability in contracts,¹¹⁸ whether police had probable cause to obtain a warrant,¹¹⁹ and comparative negligence¹²⁰—where courts have adopted sliding scale, nonbinary outputs. Employing nonbinary decisions and outputs might be more feasible than we permit ourselves to believe.

IV. THE PAYOFF: DEFINING THE “BIO-LEGAL MISMATCH”

When we convert continuous variables of human biology into legally relevant binaries, we ignore the nuance of the biological world. Even worse, we risk exploiting biological criteria as an ideological smokescreen. In my research on law, medical ethics, and biosciences, I see this phenomenon often. I refer to this as the “bio-legal mismatch.”

The bio-legal mismatch occurs when judges or legislators use descriptive biological criteria as a stand-in for justifying their laws on normative grounds. This often occurs by collapsing a spectrum of biological criteria into binary, monochromatic legal outputs without recognizing what is lost in this conversion. The bio-legal mismatch is enabled by regulators, legislators, and judges who assume that the biosciences can offer objectivity and answer normative questions for us.¹²¹ But this is not something scientific data alone can do.

When diving into an area that defies bright-line assessments, legislators and judges should ask themselves *ab initio* whether these are waters in which they belong. The complexity and lack of workability may serve as powerful indicators that these are unsuitable topics for civil rulemaking—and almost certainly should not be employed to impose criminal penalties.

When we ignore the bio-legal mismatch, we undermine the fairness and legitimacy of the law by obfuscating moral justifications with objective biological criteria. Perhaps there are pulsating fetal cells at six weeks LMP. But what does this tell us that is morally significant, vis-à-vis the relationship between the pregnant person and the state? How does the presence of something such as a human heartbeat answer normative questions for us? The answer is, on its own, it cannot.

¹¹⁸ Jeffrey M. Salas, *Unequal Bargaining Power: Navigating Arbitration Clauses*, 87 WIS. LAW. 30, 34 (2014) (discussing the evolving rules determining unconscionability).

¹¹⁹ Wayne R. LaFare et al., CRIMINAL PROCEDURE § 2.9(g) (4th ed. 2022).

¹²⁰ Henry Woods, *Trial of a Personal Injury Case in a Comparative Negligence Jurisdiction*, 21 AM. JURIS. 715 (1974) (explaining that the basis for liability under comparative negligence is a sliding scale in relation to the plaintiff’s own percentage of fault).

¹²¹ See Ryan P. Kelly, *The Use of Population Genetics in Endangered Species Act Listing Decisions*, 37 ECOLOGY L.Q. 1107, 1109 (2010); Green, *supra* note 116, at 166 (discussing how death is not a fixed biological state and compare its definition with that of abortion).

V. AN ANTIDOTE TO THE BIO-LEGAL MISMATCH

In this final section, I will provide some concrete principles meant to guide best practices for legislators and regulators when drafting statutes and rules tied to biological phenomena. Answers to these questions will hopefully assist policymakers and advocates in determining whether the biological criteria are being appropriately used or whether they are masking ideological priors. Additionally, these questions reveal the various problems with the bio-legal mismatch and the reductive, dichotomous thinking on which it often rests.

A. Principle #1: Descriptive Biology Cannot Answer Normative Questions

One key feature of the bio-legal mismatch is to highlight the modest contribution of biological data when drafting legal rules. Biology offers circumstantial evidence. For example, it can place someone's genetic material at a crime scene. It helps us explore the health impacts of toxic pollutants. It can tell us roughly when the nerve cells or fingernails begin to grow, and when there is little or no electrical activity in the brainstem—if and only if we use precise definitional terms.¹²² But these biological event horizons cannot tell us that *any of this matters for the law*, or, if it matters, *why*. Scientific descriptions cannot answer normative questions. When we assume that they can without doing the analytical work, we end up cynically exploiting science in the service of ideology.

B. Principle #2: Binaries are Less Justifiable When Denying People Life or Freedom

The certainty needed in any legal decision (whether empirical, evaluative, normative, adjudicative, or legislative)¹²³ depends on the cost of getting it wrong. When making individual inferences that could restrict someone's liberty or freedom, bright-line rules with low burdens of proof should be highly suspect as potentially unjust. Bright-line rules might be

¹²² However, such definitions may be misleading as in the case of “heartbeats.” See Dabney P. Evans & Subasri Narasimhan, *A Narrative Analysis of Anti-Abortion Testimony and Legislative Debate Related to Georgia’s Fetal “Heartbeat” Abortion Ban*, 28 *SEXUAL & REPROD. HEALTH MATTERS* 215, 218 (2020) (noting that terms such as “God” and “religion” were used sparingly to defend the heartbeat legislation, and instead the supporters attempted to rely on objective biology, despite there not being widespread agreement that the pulsating cells that appear at six weeks gestation represent a heartbeat); Kaitlin Sullivan, *‘Heartbeat bills’: Is There a Fetal Heartbeat at Six Weeks of Pregnancy?*, NBC NEWS (May 3, 2022, 4:39 PM), <https://www.nbcnews.com/health/womens-health/heartbeat-bills-called-fetal-heartbeat-six-weeks-pregnancy-rcna24435> [<https://perma.cc/YUD2-YMUK>] (stating that it is “medically inaccurate” to say that the fetus has a heartbeat at six weeks).

¹²³ See William D. Araiza, *Deference to Congressional Fact-Finding in Rights-Enforcing and Rights-Limiting Legislation*, 88 *N.Y.U. L. REV.* 878, 894–95 (2013).

more justified when developing population-level proxies or deciding where to invest resources. Even then, we should be cautious. As the moral and legal significance of our decision increases and as we move from evaluating the group to condemning the individual, we need more certainty, biological and epistemological, in the confidence of our individual judgments.

Take, for example, the Eighth Amendment jurisprudence surrounding competence to be executed. At one point, the Supreme Court advocated for a more categorical approach to when states could execute people who were either too young¹²⁴ or too “mentally retarded”¹²⁵ to deserve the ultimate punishment of death. Recently, however, the Court has retreated from this dichotomous thinking and engaged with aspects of the bio-legal mismatch. For example, a Florida statute that categorically labeled someone competent to be executed if his IQ score was more than 70 was found to violate the Eighth Amendment because it was too dichotomous and narrow.¹²⁶ This is a step in the right direction. Intelligence or competence are socially and biologically mediated and defy black-and-white classification. The examples from the Eighth Amendment underscore how advocates can perpetuate problems associated with the bio-legal mismatch, even when they seek progressive goals; this is not exclusively a problem with the conservative right.

Biological evidence might be more permissible when governments are granting entitlements to groups of people rather than stripping individuals of their rights.¹²⁷ This idea became quite relevant during the early days of the COVID-19 pandemic, when policymakers attempted to use age to allocate scarce resources. Some of us argued that there was a permissible asymmetry between the illegal and discriminatory use of age to *deny* people care, and the use of age to grant people *access* to scarce resources such as COVID-19 vaccines.¹²⁸ This distinction is not ironclad. However, it might provide a basis for increasing the burden of proof when denying discrete groups of people rights and liberties.

¹²⁴ *Roper v. Simmons*, 543 U.S. 551, 551 (2005) (offenders under the age of 18 could not be executed).

¹²⁵ *Atkins v. Virginia*, 536 U.S. 304, 317 (2002).

¹²⁶ *See Hall v. Florida*, 572 U.S. 701, 704 (2014).

¹²⁷ *See* Teneille R. Brown, Leslie P. Francis, & James Tabery, *Should We Discriminate Among Discriminations?*, 14 ST. LOUIS U.J. HEALTH L. & POL’Y 359, 388 (2021).

¹²⁸ *Id.*; *see also* Teneille R. Brown, Leslie P. Francis, & James Tabery, *When is Age Choosing Ageist Discrimination?*, 51 HASTINGS CTR. REP. 13, 15 (2021).

C. Providing a Toolkit to Steer Intellectually Honest and Epistemically Humble Use of Biological Criteria

Based on these principles, I now provide a basic toolkit for policymakers to use when drafting laws that incorporate biological criteria. The list of questions and their nuanced application could be further explored in future research. I encourage my colleagues in law and the biosciences to suggest additions or revisions or to engage deeply with individual questions. The questions are meant to focus the inquiry on the principles articulated above and to stimulate critical thinking around the bio-legal mismatch.

Ultimately, while they could be employed in various ways, I hope these questions discourage black-and-white thinking and epistemological extremism in legal decision-making. Their aim is also to steer drafters toward being explicit about the normative reasons a specific biological criterion is used. To the extent possible, this should be substantiated by reliable, consensus data from experts in the subfield and not by overextending findings from one or two fringe, and un-replicated scientific papers.

Here are illustrative questions that can help guide this inquiry:

Is the biological phenomenon being used to construct an input (legal rule) or output (verdict)?

If it is being used to construct an *input*, what role is the biological criteria serving?

Are the drafters explicitly acknowledging what the moral significance of the biological event or criteria is? If not, why not? Is it a smokescreen?

Is the moral significance of the biological criteria an appropriate legal hook, based on other legal commitments (such as due process or free exercise)?

Is there widespread agreement amongst experts about either the ability to measure the biological criterion or the function it is connected to? (E.g., at present, there is widespread disagreement about the development of subjective perceptions of fetal pain, or the ability of functional neuroimaging methods to prove deception.)

Are individual, un-replicated findings being extended and stretched too thin?

Are biological advances happening so quickly in this area that the drafters will need to build in methods to serially update the legislation or rule so it does not quickly become antiquated?

Is the legislation relying on biology to dehumanize groups in any way? (e.g., is a biological construct being used to assume that the member of a group lacks individualized mental states or feelings?)

Are the biological criteria being essentialized to stereotype and subordinate a vulnerable group (such as using mandatory genetic criteria to deny people disability accommodations, or using racially biased inclusion criteria for denying people monoclonal COVID-19 antibodies)?

If the biological criteria are being used to inform an *output*, can the output be assessed continuously?

What are the full range of costs to justice and individual rights (for all involved, not just the designated “victim”) if the output is made binary?

If the remedy is linked with time or money, can we use a sliding scale tied to time or money damages, rather than either/or binary?

What would be the costs to legal efficiency if we employed a nonbinary outcome? Would these costs justify maintaining the binary in light of the potential benefits to civil rights and justice, identified above?

The list above is meant to be a flexible toolkit to guide best practices when legislators, judges, and agencies are confronted with biological evidence. The point is not to tell parties which normative goals to pursue, but instead to be transparent about the tradeoffs. When legal decision-makers fail to engage with these kinds of questions, reviewing judges should be allowed to infer that biology is being exploited for ideological ends.

Perhaps courts or legislators could even adopt some of these principles in various forms of appellate review. Statutes that employ biological criteria could be reviewed under a heightened form of scrutiny, either intermediate or strict. Alternatively, biological criteria could be subject to a legislative form of Federal Rule of Evidence 702, which is an evidentiary rule that requires that expert testimony in trials be based on a reliable scientific methodology and be relevant to the task at hand.¹²⁹ There are many creative legal tools that could be developed to provide an antidote to the bio-legal mismatch.

We see the bio-legal mismatch in the most polarizing and controversial policy issues of our day, such as those related to the regulation of fetal development, gender-affirming treatment¹³⁰, sexuality, and even legal

¹²⁹ *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 591–92 (1993).

¹³⁰ For a very recent example of how dichotomous thinking may be used to dehumanize, one can view Michael Knowles’ comments at the CPAC convention, where he states that “there can be no middle way in dealing with transgenderism . . . if it is false [that men can transition], which it is, then it is false for everybody. Transgenderism must be eradicated from public life entirely.” See Peter Wade & Patrick Reis, *CPAC Speaker Calls for Eradication of ‘Transgenderism’—and Somehow Claims He’s Not Calling for Elimination of Transgender People*, ROLLING STONE (March 6, 2023), <https://www.rollingstone.com/politics/politics-news/cpac-speaker-transgender-people-eradicated-1234690924/> [<https://perma.cc/4BRT-QMGF>].

definitions of life and death. Responding to the bio-legal mismatch and encouraging more nuance will be crucial in our polarized society. It may even promote less tribal “us vs. them” thinking.

Ambiguous phenomena make some people uncomfortable. This can lead people to double down and “display stronger political biases in their assessments of information.”¹³¹ It can also be used to establish the superiority of our tribe by triggering “ideological cognition and unfair assessments of information.”¹³² But as much as we might want to discourage tribalism, we cannot remove this ambiguity by arbitrarily creating bright-line legal rules.

CONCLUSION

In some cases, dichotomous thinking is preferable. It can improve the simplicity, workability, finality, and clarity of legal conclusions. Indeed, much of what judges do is draw principled lines in the sand.¹³³ However, when we gloss over the nuance of human biology, we undermine the legitimacy of the law and risk dehumanizing groups by painting complex phenomena in black and white. This Essay does not elide the messiness of line-drawing or its necessity in particular legal areas. Rather, it is a rallying cry for acknowledging epistemic humility around what biology can and cannot say.

¹³¹ Clark & Winegard, *supra* note 14, at 4.

¹³² *Id.* at 5.

¹³³ For a helpful discussion on the merits or demerits of black-and-white thinking in the law, see Orin Kerr, *Line-Drawing*, 70 J. LEGAL EDUC. 162, 162–70 (2020).