

# **THE GENDER PANOPTICON: AI, Gender, and Design Justice**

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## ABSTRACT

Using recent research from data scientists and technologists, this Article argues that we are at a contradictory moment in history regarding the intersection of gender and technology, particularly as it affects lesbian, gay, bisexual, transgender, and queer (LGBTQ+) communities. At the very same moment that we see the law embracing more and more visibility regarding gender identities and fluidity, we see an even greater reliance on surveillance technologies that are flatly incapable of working beyond the binary of male and female classifications. These technological limitations become even more fraught in today's age, when we face an unprecedented degree of surveillance—gender-related and otherwise—than we have ever seen in history. When a binary system of gender merges with the binary nature of code, the result fails to integrate LGBTQ+ communities, particularly nonbinary and transgender populations, erasing them from view.

Using insights from a wide range of studies on artificial intelligence (AI) technologies—including automated body scanners, facial recognition, and content filtering on social media—we argue in this Article that we need to grapple with the reality that the relationship between AI and gender is far more complicated than the law currently suggests. Technology companies, along with multiple courts, colleges, and workplaces, must realize that the binary presumptions of male and female identity are largely outdated for some and often fail to capture the contemporary complexity of LGBTQ+ identity formation. The question for legal scholars and legislatures is how technology can and should respond to this complexity. In the final Parts, we discuss some of the legal implications of these surveillance technologies, looking at both law and the design of technology, and turn to some normative possibilities to develop greater equality and gender self-determination.

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## INTRODUCTION

I would like any help I can get at the Orlando airport.

[A]gent Bramlet told me to get back in the machine as a man or it was going to be a problem.

I asked TSA agent Bramlet if he had any training in trans issues. He said “I know what I am doing[.]”

I fly all the time and this has never happened. I really thought the TSA was good about trans issues. I am so dumb.

American Airlines manager is telling me that “in the future ask for a private screening[.]”

I literally want to no lectures from American Airlines on how to travel while trans. I want the same privileges as cis people.

—Shadi Petosky (@shadipetosky)<sup>1</sup>

On September 21, 2015, Shadi Petosky, a television producer and writer, and transgender woman, missed her flight from Orlando to Minneapolis because of a harrowing encounter with the Orlando Transportation Security Administration (TSA). The agents had initially flagged her as female, but Petosky’s anatomy did not match the body scanner’s expectations for bodies classified as female. An agent then warned her to “get back in the machine as a man or it was going to be

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1. Dawn Ennis, *Her Tweets Tell One Trans Woman’s TSA Horror Story*, ADVOCATE (Sept. 22, 2015, 8:43 PM), [www.advocate.com/transgender/2015/9/22/one-trans-womans-tsa-horror-story](http://www.advocate.com/transgender/2015/9/22/one-trans-womans-tsa-horror-story) [<https://perma.cc/WCQ2-RYZE>] [hereinafter Ennis, *Her Tweets*]. See also Dawn Ennis, *Goodbye, ‘Anomaly,’—TSA’s New Word for Trans Bodies is ‘Alarm’*, ADVOCATE (Dec. 24, 2015, 2:37 PM), <https://www.advocate.com/transgender/2015/12/23/goodbye-anomaly-tsas-new-word-trans-bodies-alarm> [<https://perma.cc/54LL-ZHPR>] [hereinafter Ennis, *Goodbye ‘Anomaly’*].

a problem.”<sup>2</sup> Ultimately, she spent the next forty minutes in a private room, where agents searched her luggage, twice patted her down, and banned her from using her phone.<sup>3</sup>

A widely-circulated photograph of Petosky at the Orlando airport, tears streaming down her face, made national headlines, prompting the New York Times to investigate the experiences of #travelingwhiletrans.<sup>4</sup> Petosky’s experience with Orlando TSA is not unique; transgender travelers have detailed similar encounters in airports in Louisville, Seattle, Los Angeles, and New York, among other places.<sup>5</sup> According to the National Center for Transgender Equality, the scanning technologies do not provide for classifications other than male or female, leaving transgender travelers in a catch-22: Either they ask for a private screening and undergo a lengthy private search, or they opt for the scanners and risk facing the same humiliating treatment as Petosky *did*.<sup>6</sup>

But the TSA is not the only entity using outdated technology in a gender diverse world: Uber has evidenced similar troubling results. In 2018, due to concerns about individuals sharing accounts, Uber decided to introduce a new policy called the Real Time ID Check policy. The policy asks Uber drivers to occasionally take a selfie at various prompts. The technology then compares the resulting photo to the driver’s official identification documents, such as a driver’s license.<sup>7</sup> Soon after the pol-

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2. Katie Rogers, *T.S.A. Defends Treatment of Transgender Air Traveler*, N.Y. TIMES (Sept. 22, 2015), <https://www.nytimes.com/2015/09/23/us/shadi-petosky-tsa-transgender.html> [<https://perma.cc/HM84-2KLY>]. The Transportation Security Administration (TSA) relies on its agents to classify a person as male or female; they then press a button, and a blue icon lights up for men, a pink one for women. There is no other option. When a traveler’s anatomy does not match what the machine is programmed to expect based on that classification, it triggers what TSA calls an “alarm.” Ennis, *Goodbye ‘Anomaly’*, *supra* note 1.

3. Rogers, *supra* note 2.

4. *Id.*; JD Shadel, #TravelingWhileTrans: The Trauma of Returning to ‘Normal’, WASH. POST (June 16, 2021, 8:00 AM), <https://www.washingtonpost.com/travel/2021/06/16/trans-travel-tsa-lgbtq/> [<https://perma.cc/2K6N-5DVM>].

5. Ennis, *supra* note 1. In one incident, an individual was “forced to remove chest-binding undergarments and pull down his underwear to show a prosthetic device to TSA officers.” Deema B. Abini, *Traveling Transgender: How Airport Screening Procedures Threaten the Right to Informational Privacy*, 87 S. CAL. L. REV. POSTSCRIPT 120, 135 (2014). See also Sasha Costanza-Chock, *Design Justice, A.I., and Escape From the Matrix of Domination*, JoDS (July 16, 2018), <https://jods.mitpress.mit.edu/pub/costanza-chock/release/4> [<https://perma.cc/FGH2-8BAT>] (detailing issues with millimeter wave scanners as a nonbinary person).

6. Abini, *supra* note 5. Aiming to fix a clearly flawed and injurious screening process, the National Center for Transgender Equality filed suit against the TSA for expanding its scanning technology without seeking notice and commentary from the public. Rogers, *supra* note 2.

7. Jaden Urbi, *Some Transgender Drivers Are Being Kicked Off Uber’s App*, CNBC (Aug. 13, 2018, 9:21 AM), <https://www.cnbc.com/2018/08/08/transgender-uber-driver-suspended-tech-oversight-facial-recognition.html> [<https://perma.cc/6JMH-KG4T>].

icy was instituted, however, Uber faced multiple reports of transgender drivers being kicked off their application.<sup>8</sup> Apparently, the automated technology deemed that their photos did not match their identity documents and promptly flagged their cases. In one case, a driver named Janey Webb meticulously documented her appearance before and after her transition, yet the automated system expelled her from Uber's app.<sup>9</sup> Webb is certainly not alone: Others have reported similar experiences, including one driver indicating that she had to verify her identity over one hundred times in eighteen months.<sup>10</sup>

Similarly, a startup called giggle launched last year, promising to be a "girls only social network"<sup>11</sup> where "[girls] can safely form groups with other like-minded girls."<sup>12</sup> For the purposes of authentication, the site relied on "biometric gender verification software," which required a user to post a 3D selfie of themselves, drawing on a system that by its architecture excluded trans women and others because it relied on the notion that gender can be "verified" by scanning a person's facial structure.<sup>13</sup> The risk of exclusion even prompted giggle to explicitly warn on its site, "[d]ue to the gender-verification software that giggle uses, trans-girls [sic] will experience trouble with being verified."<sup>14</sup> While the site claimed to welcome trans girls,<sup>15</sup> it also noted "[p]eople who self ID as

8. *Id.*

9. *Id.*

10. *Id.*

11. Moya Lothian-McLean, *This Awful New App for 'Girls' Uses Dystopian Tech to Identify Gender and People Are Baffled*, INDY100 (Feb. 7, 2020, 4:58 PM), <https://www.indy100.com/news/gender-biometric-trans-inclusive-app-giggle-9323956> [<https://perma.cc/JTZ7-68F6>]. See also Rhiannon Williams, *Why Gender-Detection Software Is as Morally Dubious as It Is Dangerous*, MEDIUM (Aug. 5, 2020), <https://medium.com/the-recode/why-gender-detection-software-is-as-morally-dubious-as-it-is-dangerous-48f7bbbc3c0c> [<https://perma.cc/J5CU-K8UL>].

12. Williams, *Why Gender-Detection Software Is as Morally Dubious as It Is Dangerous*, *supra* note 11.

13. *Id.*

14. Zoe Schiffer, *This Girls-Only App Uses AI to Screen a User's Gender—What Could Go Wrong?*, VERGE (Feb. 7, 2020, 3:23 PM), <https://www.theverge.com/2020/2/7/21128236/gender-app-giggle-women-ai-screen-trans-social> [<https://perma.cc/3F8W-K2XS>].

15. As Rhiannon Williams pointed out back in early 2020, the site explained that "Trans-girls [sic] are 100% welcome on giggle," explaining that:

[The] "gender verification" onboarding process is a gatekeeper to stop men from getting on the platform, not girls or those who identity [sic] as girls. If you are at all concerned with the possibility of being misgendered, you are welcome to contact giggle HQ for manual onboarding. Giggle both fully supports and recognises gender identity and will never discriminate.

Williams, *supra* note 11. Yet as Williams points out in a more detailed treatment of giggle's multiple statements on the issue, subjecting trans girls to an additional layer of "verification" is hardly an empowering experience:

Even before all of this, it didn't seem to occur to [the founder] that if trans women have to undergo the indignity of a digital misgendering and

women are unable to become users of the Giggle app,” unless they “have transitioned to the point of facial feminisation surgery.”<sup>16</sup>

And then there are the social media platforms: In August of 2019, a group of lesbian, gay, bisexual, transgender, and queer (LGBTQ+)-identified YouTube creators filed suit against YouTube for allegedly discriminating against their posted content.<sup>17</sup> The suit alleged, based on years of anecdotal and empirical evidence, that YouTube uses content filtering technologies that target channels that have words like “gay,” “transgender,” or “bisexual” in the title.<sup>18</sup> Channels that contain these labels are often suppressed or demonetized, suggesting that LGBTQ+ content is actively being subjected to greater surveillance.<sup>19</sup> The problem is not limited to YouTube; indeed, LGBTQ+ individuals have reported similar experiences on Facebook, Twitter, and other mainstream social media channels, leading some scholars to question whether content filters have become another systematic tool for censorship.

These reports are neither isolated nor anecdotal; in fact, evidence collected by technology scholars suggests that the problem is both widespread and pervasive. As these examples suggest, we face a contradiction regarding the intersection of gender, law, and technology.<sup>20</sup> Technology, we were told, was supposed to make our lives better, promising greater efficiency, productivity, expression, and connection among communities. And yet at the very same moment that we see society embracing more and more diversity regarding gender identity and LGBTQ+ culture, we also see an even greater reliance on private technologies, especially artificial intelligence (AI), that are flatly incapable of operating beyond the binary of male and female classifications.

While the prior examples involve widely divergent technologies and identities, consider the one thing that they all have in common: Each technology involves a kind of automated misrecognition. In the TSA example, the body scanners misrecognize individuals whose bodies do not conform to gendered expectations regarding travelers’ bodies;

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get in touch with the company themselves, they are being given a sub-par (and potentially very painful) experience accessing Giggle compared to cis women—and that is not indicative of a “safe and secure platform for girls,” nor a “[recognition of] gender identity.”

*Id.*

16. *Id.*; see also Urbi, *supra* note 7.

17. Julia Alexander, *LGBTQ YouTubers Are Suing YouTube Over Alleged Discrimination*, VERGE (Aug. 14, 2019, 9:16 AM), [theverge.com/2019/8/14/20805283/lgbtq-youtuber-lawsuit-discrimination-alleged-video-recommendations-demonetization](https://www.theverge.com/2019/8/14/20805283/lgbtq-youtuber-lawsuit-discrimination-alleged-video-recommendations-demonetization) [https://perma.cc/46TE-A649].

18. *Id.*

19. *Id.*

20. See, e.g., Adrienne Shaw & Katherine Sender, *Queer Technologies: Affordances, Affect, Ambivalence*, 33 CRITICAL STUD. MEDIA COMM’N 1 (2016) (discussing technology and its intersections with lesbian, gay, bisexual, transgender, and queer (LGBTQ+) communities).

in the Uber and giggle examples, facial recognition technologies do the same thing. And in the YouTube example, filters draw on hashtags and labels to censor—and remove—entire categories of content that is misrecognized as sexually explicit. Each form of misrecognition operates as a barrier to an individual exercising certain rights—to travel, to hold an occupation, to expect privacy, or to speak and express oneself freely. Taken in total, these forms of misrecognition can also amount to forms of erasure, removing the potential for individuals to even claim those rights altogether.

For example, a prominent technology article recently posed the question, “Is AI Male?”<sup>21</sup> The article pointed out that while many bots and AI agents are cast as female (think of Siri and Alexa), gender bias pervades our systems of AI. The same is true of racial bias, where researchers have extensively documented issues with data collection and categorization in AI, suggesting a wide range of disparate impacts faced by communities of color, both inside and outside of the criminal justice system.<sup>22</sup> Scholars have also documented how the intersection of these two categories—race and gender—can often produce wildly inaccurate results in AI-driven technologies.<sup>23</sup> Yet surprisingly, few legal scholars have focused on how automated technology facilitates and enforces the standardization of gender identity, the censorship of LGBTQ+ content, or, in particular, how the law might address the problem.

The categorization and mapping of gender by automated, private technologies is often overlooked, even though it poses grave implications for LGBTQ+ civil rights, particularly regarding identity, privacy, and speech.<sup>24</sup> The core argument of this Article is that due to a combination of structural, legal, and technical reasons, AI often fails to recognize

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21. Rudina Seseri, *Is AI Male?*, TECHONOMY (Jan. 16, 2020, 12:21 PM), [https://techonomy.com/2020/01/is-ai-male/?utm\\_source=hs\\_email&utm\\_medium=email&utm\\_content=82085304&\\_hsenc=p2ANqtz-8yKoizj50bIzm5HeEjeUQqAv2XVfh9uA9OHKxTz9e5r4N2Z1Vvu9ApWQS77Gz1H3j0V8RZ2pFGhWcInn64-fUocOE30g&\\_hsmi=82113735](https://techonomy.com/2020/01/is-ai-male/?utm_source=hs_email&utm_medium=email&utm_content=82085304&_hsenc=p2ANqtz-8yKoizj50bIzm5HeEjeUQqAv2XVfh9uA9OHKxTz9e5r4N2Z1Vvu9ApWQS77Gz1H3j0V8RZ2pFGhWcInn64-fUocOE30g&_hsmi=82113735) [https://perma.cc/2G7D-TCB4].

22. See generally SARAH MYERS WEST, MEREDITH WHITTAKER & KATE CRAWFORD, AI NOW INST., *DISCRIMINATING SYSTEMS: GENDER, RACE, AND POWER IN AI 15* (2019), <https://ainowinstitute.org/discriminatingystems.pdf> [https://perma.cc/8SA6-3NRG]; SAFIYA UMOJA NOBLE, *ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM* (2018).

23. See generally Joy Buolamwini & Timnit Gebru, *Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification*, 81 PROC. MACH. LEARNING RSCH. 1 (2018). Deborah Hellman has also published an excellent paper on the intersections between AI, gender, and equal protection. See Deborah Hellman, *Sex, Causation, and Algorithms: How Equal Protection Prohibits Compounding Prior Injustice*, 98 WASH. U. L. REV. 481 (2020).

24. See Lars Z. Mackenzie, *The Afterlife of Data: Identity, Surveillance, and Capitalism in Trans Credit Reporting*, 4 TRANSGENDER STUD. Q. 45, 46 (2017) (discussing how private companies' treatment of gender categories affects transgender consumers).

entire populations on the basis of their gender identity, perpetuating a bias that affects members of the LGBTQ+ community, particularly transgender and nonbinary populations. When a binary system of gender merges with the binary nature of code, the result necessarily excludes transgender and nonbinary populations, ultimately erasing them from view.<sup>25</sup> This erasure causes more than invisibility: It causes certain populations to be systematically denied the rights and services afforded to everyone else. And it reinscribes and relegitimizes binary gender categories in a world that, every day, demonstrates how thoroughly outdated these categories are for some.

In this Article, to analyze this state of affairs, we draw on Jeremy Bentham's famous concept of the panopticon, which refers to a prison design that facilitates constant surveillance by placing guards in a central tower, thereby creating a sense of "conscious and permanent visibility that assures the automatic functioning of power."<sup>26</sup> Each prison cell creates an illusion of solitariness but ensures that the prisoner senses that they are being watched at the same time.<sup>27</sup> The primary purpose of the panopticon is to compel individuals to internalize the overseeing gaze of authority figures, and to eventually discipline their behavior to conform with their perceived expectations of authorities, irrespective of whether they are actually present and watching at the time. Because of the illusion of constant surveillance, individuals begin to internalize the feeling of being observed, and eventually change their behavior as a result.

The panoptic design was further developed by the French philosopher Michel Foucault and applied to many different types of disciplinary surveillance, including rehabilitation and education. While Bentham was originally focused on the architectural design of a prison, later work has focused on the infrastructures of surveillance and its intersection with education, consumption, and capitalism. Indeed, the panopticon has become one of the most powerful metaphors in addressing the rise of security concerns over our private lives, including the rise of big data, the reach of federal surveillance, and the prison industrial complex. The panopticon has also served as a foundation for current surveillance theory, offering us a conceptual framework that, in the eyes of many scholars, continues to resonate.<sup>28</sup>

25. For an excellent technical discussion of how binary gender operates to exclude populations in natural language processing models, see Yang Trista Cao & Hal Daumé III, *Toward Gender-Inclusive Coreference Resolution*, 58 PROC. ANN. MEETING ASS'N FOR COMPUTATIONAL LINGUISTICS 4568 (2020).

26. OSCAR H. GANDY, JR., *THE PANOPTIC SORT: A POLITICAL ECONOMY OF PERSONAL INFORMATION* 9 (1993). See also MICHEL FOUCAULT, *DISCIPLINE AND PUNISH: THE BIRTH OF THE PRISON 200–01* (Alan Sheridan trans., 1977); JEREMY BENTHAM, *THE PANOPTICON WRITINGS* (Verso 1995).

27. FOUCAULT, *supra* note 26, at 201–02.

28. Maša Galič, Tjerk Timan & Bert-Jaap Koops, *Bentham, Deleuze and Beyond: An Overview of Surveillance Theories From the Panopticon to Participation*, 30 PHIL. &

While the panoptic metaphor has been crucial to understanding surveillance in real space, we argue that it is also useful when applied to the intersection between AI, gender, and sexuality. We argue that these technologies replicate and automate gender standardization, panopticism, and surveillance, raising significant concerns about the protection of identity and equality in such contexts. As Toby Beauchamp has explained, “surveillance is a central practice through which the category of transgender is produced, regulated, and contested.”<sup>29</sup> Just as Bentham’s panoptic prison convinces prisoners that they may be observed at any moment, so too does modern technology convince individuals that they—their sexuality, and their gender identity and expression—may be constantly surveilled. With the advent of AI-powered surveillance technologies like biometric surveillance and content filters, the traditional distinction between private self and public identity readily collapses, leaving open a minefield of possibilities for invasive data collection and observance. While this Article centers transgender and nonbinary populations, we would argue that the evidence also suggests similar phenomena are directed toward the broader LGBTQ+ community as well.

As a result, AI has produced a largely invisible crisis regarding the intersection of gender, technology, and its application to the LGBTQ+ community.<sup>30</sup> While this alone should be cause for concern, the concern is even more grave when construed in light of the current political moment, when anti-transgender bills are being introduced across the country. At one point, the Trump Administration proposed to redefine sex as “a biological, immutable condition determined by genitalia at birth.”<sup>31</sup> While such proposals are horrifying unto themselves, it is also important to recognize that they *also* unwittingly introduce institutionalized forms of gender surveillance as a consequence.<sup>32</sup> And they continue

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TECH. 9, 10 (2017).

29. TOBY BEAUCHAMP, GOING STEALTH: TRANSGENDER POLITICS AND U.S. SURVEILLANCE PRACTICES 2 (2019) (drawing similarly on Foucault in studying the intersection between surveillance and gender).

30. It is important to note, however, that the fraught relationship between technology and gender is not new. See, for example, the excellent work by Mar Hicks documenting how gender bias contributed to England’s decline in computer-related innovation, MAR HICKS, PROGRAMMED INEQUALITY: HOW BRITAIN DISCARDED WOMEN TECHNOLOGISTS AND LOST ITS EDGE IN COMPUTING (2017), and Mar Hicks, *Hacking the Cis-tem: Transgender Citizens and the Early Digital State*, IEEE ANNALS HIST. COMPUTING, Jan.–Mar. 2019, at 20, 20 (noting how newly computerized systems explicitly attempted to “program trans people out of the system”).

31. See Erica L. Green, Katie Benner & Robert Pear, ‘Transgender’ Could Be Defined Out of Existence Under Trump Administration, N.Y. TIMES (Oct. 21, 2018), <https://www.nytimes.com/2018/10/21/us/politics/transgender-trump-administration-sex-definition.html> [<https://perma.cc/T977-DBHW>].

32. See Christoph Hanssmann, *Trump’s Anti-Trans Memo Opens Door to Escalating State Surveillance*, TRUTHOUT (Oct. 27, 2018), <https://truthout.org/articles/trumps-anti-trans-memo-opens-door-to-escalating-state-surveillance> [<https://perma.cc/T977-DBHW>].

to surface even after President Biden actively embraced protections for transgender and nonbinary individuals on his first day in office, signing an Executive Order that plainly expressed support for LGBT equality in the wake of a landmark U.S. Supreme Court decision.<sup>33</sup> Yet at the state level a recent spate of anti-transgender bills—twenty five in all, as of May 2021—have proposed banning transgender women and girls from participating in women’s sports (misgendering them as “biological males”) unless they also submit to a physical examination or provide medical evidence regarding hormone therapy or surgery beforehand.<sup>34</sup> Proposals have even surfaced to the federal level, where another bill has been introduced that purports to define sex as “based solely on a person’s reproductive biology and genetics at birth.”<sup>35</sup> The sheer numerosity and force of these bills has led Chase Strangio, Deputy Director for Transgender Justice at the ACLU, to observe they represent “the most extensive attack on trans youth and people I’ve ever seen.”<sup>36</sup>

These tensions undoubtedly inform the way that technology, particular social media, is used to interact with the LGBTQ+ community. Like most minority groups, transgender and nonbinary individuals have a complicated, even paradoxical, relationship to technology. On one level, the marriage of technology and futurism has empowered many to imagine a world beyond gender and identity in literature, law, and policy.<sup>37</sup> But in reality, studying the relationship between gender and technology reveals two dialectical insights: first, that the deployment of gender classifications in AI systems imposes disparate impacts on transgender and nonbinary populations, and second, that the deployment of these systems reveals the artificiality of gender categorization itself, particularly for certain populations. As we show, instead of enabling a world of countless possibilities for self-expression and empowerment, AI reinforces a world of finite, imposed categorization that we should all be cautious about adopting.<sup>38</sup>

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cc/HW7P-FK5M].

33. *Bostock v. Clayton Cnty.*, 140 S. Ct. 1731 (2020); Exec. Order No. 13,988, 86 Fed. Reg. 7,023 (Jan. 20., 2021).

34. See, e.g., Gillian R. Brassil, *How Some States Are Moving to Restrict Transgender Women in Sports*, N.Y. TIMES (Apr. 12, 2021), <https://www.nytimes.com/2021/03/11/sports/transgender-athletes-bills.html> [<https://perma.cc/3QNF-K2NJ>] (discussing Republican Governor Tate Reeves’s statements from Mississippi while signing the bill).

35. *Id.*, referring to the Protection of Women and Girls Sports Act of 2021, introduced by Representative Greg Steube of Florida. A similar bill was also introduced in the U.S. Senate. *Id.*

36. *Id.*

37. There is excellent work linking trans identities to futurism. See, for example, the collection of articles edited by micha cárdenas & Jian Neo Chen, *Trans Futures*, 6 TRANSGENDER STUD. Q. 467–687 (2019).

38. See Os Keyes, *Counting the Countless: Why Data Science Is a Profound Threat for Queer People*, REAL LIFE (Apr. 8, 2019), <https://reallifemag.com/>

For this reason, we propose that studying the way that AI interacts with gender identity and classification is central to understanding the broader relationship between technology and gender altogether. While we all face similar kinds of surveillance regarding gender and sexuality, this Article argues that its effects are felt, more intensely, by those in the LGBTQ+ community, particularly transgender and nonbinary individuals, particularly people of color, who are often either invisibilized or targeted by AI and who also continue to have less access to robust forms of legal recognition and protection.

This Article has five Parts. In the first three Parts, drawing on current research, we explore three different types of technologies, each powered by related degrees of AI. We argue that these technologies collectively create a data-related double bind, where the invisibility of data regarding transgender and nonbinary individuals fuels machine learning outcomes that at best erase these populations and at worst subject them to even greater surveillance and discrimination.<sup>39</sup>

In the first Part, we explore biometric screening and automated gender detection services, arguing that these technologies are both over-inclusive and underinclusive in classifying individuals based on gender identity. In the second Part, turning to body scanners and other forms of securitized screening, we note how gender classification affects the privacy and security of transgender and nonbinary individuals, resulting in surveillance that inhibits their ability to travel. In the third Part, turning to social media, we focus on how filtering technologies affect not just the categorization of gender but also the production of content, affecting the LGBTQ+ community's freedom of expression.

Further, as we argue in the fourth Part, these systems produce a kind of gender panopticism that is both similar and different, both qualitatively and quantitatively, from the panopticism articulated by Foucault and Bentham. Here, like the carceral state, gender panopticism has been facilitated by absences within privacy law, in that the law has offered insufficient protection to gender self-determination and informational privacy.<sup>40</sup> Yet today's gender panopticism is far more active, invisible, and pernicious than ever before, drawing hidden connections between data with the aid of AI and affecting the identity, privacy, and expression of everyone, whether they reject the gender binary or not.<sup>41</sup> Today, much public and private surveillance takes place without a person's knowledge

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counting-the-countless [<https://perma.cc/6QRP-GNHV>] (explaining why data science can be a threat to queer identities).

39. *Id.*

40. Others have drawn even deeper parallels between the prison's lack of privacy and the surveillance faced by transgender populations. See BEAUCHAMP, *supra* note 29, at 67.

41. See Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 MINN. L. REV. 1, 12 (2008).

of being watched; many individuals leave traces of data behind, often innocuously, without realizing the possibility of their data being collected or analyzed.<sup>42</sup> Since most of this data is collected by entities that do not recognize gender categories beyond the binary of male and female, it is necessarily reductive, prone to error, and incomplete. In turn, since AI-powered technologies are trained on this data, and integrated into other products, these technologies, when deployed, further impose gender norms and stereotypes on others.

While most of this Article is descriptive, in that it outlines various ways in which AI-driven technologies of surveillance and classification have a disparate impact on transgender and nonbinary populations, we also argue that this panopticism carries deleterious consequences for our legal systems of protection more broadly. Studying the impact of AI on transgender and nonbinary populations also provides us with a window that helps to assess how *all* populations are gendered and surveilled, in the marketplace and beyond, as a result.

In the final Subparts, we discuss some of the legal implications of these surveillance technologies, looking at both law and the design of technology, and turn to some normative possibilities to develop greater equality and gender self-determination. Toward that end, following the work of leading theorists in the field of human-computer interaction, we propose a framework that focuses on design in order to minimize the weaknesses of our existing legal frameworks.

## I. THE ARTIFICIAL INTELLIGENCE OF GENDER

From the moment we are born into this world, we are automatically assigned an identity that is congruent with a physician's determination of our sex as male or female. Despite the fact that most believe that sex is determined by chromosomes—XX for females, XY for males—sex tends to be assigned at birth by a physician's visual inspection of the baby's genitals.<sup>43</sup> Those who do not fit within these visual parameters can be subjected to corrective surgery to ensure that their bodies conform to an expectation of what is male and what is female, often according to a

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42. *See id.*

43. *See* Chinyere Ezie, *Deconstructing the Body: Transgender and Intersex Identities and Sex Discrimination—the Need for Strict Scrutiny*, 20 COLUM. J. GENDER & L. 141, 146–47 (2011) (noting that genitalia directs gender designation at birth, even though chromosomal identity is much more complex); *see also* Suzanne J. Kessler, *The Medical Construction of Gender: Case Management of Intersexed Infants*, 16 SIGNS 3 (1990). Not only is there a chance that a baby's external genitals do not match what might be expected based on their chromosomes, but the very practice of assigning babies male or female suggests incorrectly that biological sex is binary. “Every year, thousands of infants are born intersex, with bodies that fuse the chromosomes, hormones, gonads, genitals, internal sex organs, and secondary sex characteristics typically thought to be defining of ‘male’ or ‘female.’” Ezie, *supra*, at 142–43.

physician's overwhelming power of determination.<sup>44</sup> As Chinyere Ezie points out, "Courts and administrative agencies make two demands of bodies—that they be *legible* as male or female, and that they be so designated and classified."<sup>45</sup>

Our systems of sex classification have operated historically as a systematic imperative: We are asked, over and over again, to declare our state-assigned gender, whether we agree or disagree with the assignation or the act of categorization itself.<sup>46</sup> And the state's system of sex classification is often elaborate—from birth certificates, to drivers' licenses, passports, and other identity-related documents, to the federal collection of data—and has been used to enforce bans on same-sex marriage, to exclude women from military combat positions, and to administer institutional systems of sex segregation, among other actions.<sup>47</sup>

In our age of automation, a seemingly endless array of enforced "gender reveals" are performed not by humans but by technologies. In an age of AI, our gender is "detected" from countless bits of data—data that we offer in public and data that we leave behind in private. Automating gender detection, it turns out, is an area of tremendous growth. Technology increases efficiency by enabling companies to collect data on users' gender and show them gender-targeted advertisements without asking users to manually enter their gender information. As a result, gender detection has become part and parcel of surveillance capitalism.<sup>48</sup> One automated tool, gender-api.com, advertises: "Keep your

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44. Cheryl Chase, *Hermaphrodites With Attitude: Mapping the Emergence of Intersex Political Activism*, in *THE TRANSGENDER STUDIES READER* 300, 305–10 (Susan Stryker & Stephen Whittle eds., 2006). For more discussion on intersex individuals, see Julie A. Greenberg, *Defining Male and Female: Intersexuality and the Collision Between Law and Biology*, 41 *ARIZ. L. REV.* 265, 278–89 (1999) (discussing intersex individuals); Anne Fausto-Sterling, Cynthia Garcia Coll & Meghan Lamarre, *Sexing the Baby: Part 1—What Do We Really Know About Sex Differentiation in the First Three Years of Life?*, 74 *SOC. SCI. & MED.* 1684, 1687–88 (2012); Noa Ben-Asher, *The Necessity of Sex Change: A Struggle for Intersex and Transsex Liberties*, 29 *HARV. J.L. & GENDER* 51 (2006).

45. Ezie, *supra* note 43, at 160 (emphasis added).

46. Many other scholars, Dean Spade in particular, have discussed the impact of identity verification systems on transgender and nonbinary populations. See DEAN SPADE, *NORMAL LIFE: ADMINISTRATIVE VIOLENCE, CRITICAL TRANS POLITICS, & THE LIMITS OF LAW* (2011); PAISLEY CURRAH, *SEX IS AS SEX DOES: GOVERNING TRANSGENDER IDENTITY* (forthcoming 2022), and Eric Stanley, *Becoming Ungovernable: Trans Life Against the State*, *Eric A. Stanley in Conversation With Jemma DeCristo*, U.C. BERKELEY CTR. FOR STUDY SEXUAL CULTURE (June 22, 2021), <https://cssc.berkeley.edu/2021/06/22/eric-stanley-in-conversation-with-jemma-decristo-delivers-talk-becoming-ungovernable-trans-life-against-the-state-4-12/> [<https://perma.cc/F8EH-TNYD>].

47. Ezie, *supra* note 43, at 160–61. See also Mackenzie, *supra* note 24 (offering a case study of how transgender individuals are particularly affected by credit reporting systems).

48. See generally SHOSHANA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER* (2019).

registration forms simple. Optimize your conversions and *let us* determine the gender of your customers.”<sup>49</sup>

Of course, these companies promise real-world benefits in terms of minimizing the time that it takes a consumer to input information. However, they carry costs as well. Consider an example. One company, Genderify, launched in July 2020, describing itself as an “AI-based platform that instantly identifies the person’s gender by their name, username, or email.”<sup>50</sup> The company promised that it could check “an unlimited number of names, usernames, and emails to determine even the false ones and most incomprehensible combinations. A person could enter any name, username or email address, and the platform would predict the person’s gender, along with a probabilistic prediction of its accuracy in classification, culled from publicly available data sources.”<sup>51</sup>

When Genderify launched, it prompted a firestorm of criticism on Twitter.<sup>52</sup> One news outlet reported that “Netizens were horrified when they realized how sexist it was; it was riddled with the usual stereotyping, such as associating usernames or email addresses containing ‘nurse’ more with women than men, whereas ‘doctor’ or ‘professor’ was considered more male than female.”<sup>53</sup> The Verge reported:

Type the name “Meghan Smith” into Genderify, for example, and the service offers the assessment: “Male: 39.60%, Female: 60.40%.” Change that name to “Dr. Meghan Smith,” however, and the assessment changes to: “Male: 75.90%, Female: 24.10%.” Other names prefixed with “Dr” produce similar results while inputs seem to generally skew male. “Test@test.com” is said to be 96.90 percent male, for example, while “Mrs Joan smith” is 94.10 percent male.<sup>54</sup>

It also operated within an entirely binary framework, foreclosing the possibility of identifying as other than male or female.<sup>55</sup>

49. GENDER API, <https://gender-api.com> [<https://perma.cc/3P39-RVAF>] (emphasis added) (last visited Aug. 19, 2021).

50. Sarah L. Fossheim, *Thoughts on Genderify, Gender Discrimination, Transphobia, and (Un)ethical AI*, SARAH L. FOSSHEIM (July 29, 2020), <https://fossheim.io/writing/posts/ai-bias-genderify> [<https://perma.cc/VA9S-DP48>] (quoting the company’s launch site).

51. *Id.*

52. See James Vincent, *Service That Uses AI to Identify Gender Based on Names Looks Incredibly Biased*, VERGE (July 29, 2020, 6:44 AM), <https://www.theverge.com/2020/7/29/21346310/ai-service-gender-verification-identification-genderify> [<https://perma.cc/Z2DG-BJYC>] (discussing outcry on social media, prompting its shutdown).

53. Katyanna Quach, *Someone Made an AI That Predicted Gender From Email Addresses, Usernames. It Went About as Well as Expected*, REGISTER (July 30, 2020, 6:57 AM), [https://www.theregister.com/2020/07/30/genderify\\_shuts\\_down](https://www.theregister.com/2020/07/30/genderify_shuts_down) [<https://perma.cc/A5YP-D28Y>].

54. Vincent, *supra* note 52.

55. *Id.*

As an initial matter, these gender detection technologies rely on important and often incorrect presumptions: first, that technologies can indeed “predict” or “detect” one’s gender; second, that these technologies have some degree of accuracy in prediction; and third, that these gender-related predictions/detections are stable, rather than transitional or fluid categories of identity. Each classification of gender requires an initial inquiry; each assignment requires a determination that is made either in congruence with or in opposition to a set of expectations as to what composes a gender category. And each moment of this process involves an inescapable amount of surveillance. And after each of those moments, gender becomes an enforced declarative; it becomes an assertion, a “gender reveal” that is performed again and again by automated technology—either in contrast to or in congruence with a person’s own self-assignment. While for most people these presumptions may not be altogether incorrect, for transgender and nonbinary populations, these presumptions often erase their identities altogether. And when these services are deployed to build and to develop other products, they produce an unprecedented level of automated discrimination.

After an outcry on Twitter, Genderify shut down, but before it did so, it said that it could only improve its algorithm if it had more feedback (and presumably more data) from trans and nonbinary visitors.<sup>56</sup> “Since AI trained on the existing data, this is an excellent example to show how bias [sic] is the data available all around us,” the Genderify team tweeted before shutting down its site.<sup>57</sup>

While this sentence may not be exactly grammatical, consider the deeper (and revelatory) question that the question itself raises: is the data biased, or are “we” the bias that produces the data that is available to us? The answer, it seems, is both. Since the training data is gleaned from sources that accept only binary inputs, the data necessarily reflects a binary presumption that is highly specific to the geography, culture, and language where the data is collected. When Genderify shut down, the company promised that they were “going to improve [their] gender detection algorithms for the LGBTQ+ community.”<sup>58</sup> While this sounds laudable, consider what this requires: To improve its algorithms,

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56. *Id.* (noting that a spokesperson observed, “[w]e understand that our model will never provide ideal results, and the algorithm needs significant improvements, but our goal was to build a self-learning AI that will not be biased . . .” and stated that the company relied on feedback from the LGBTQ+ community).

57. *AI-Powered ‘Genderify’ Platform Shut Down After Bias-Based Backlash*, SYNCED (July 30, 2020), <https://syncedreview.com/2020/07/30/ai-powered-genderify-platform-shut-down-after-bias-based-backlash/#:~:text=Synced%20China-,AI%20Powered%20'Genderify'%20Platform%20Shut,Down%20After%20Bias%20Based%20Backlash&text=Just%20hours%20after%20making%20waves,has%20been%20completely%20shut%20down> [<https://perma.cc/AY4U-7K42>].

58. Fossheim, *supra* note 50.

Genderify requires better training data. Better training data requires more data collection. More data collection requires more surveillance.

### A. *Automating Invisibility*

As automated technology has become more advanced, surveillance has become part of the everyday life of ordinary citizens, owing to the increasing significance of personal information and identification systems.<sup>59</sup> Since the 1970s, an increasing reliance on personal data has spawned the proliferation of biometric identification technology to aid with the collection and analysis of that data.<sup>60</sup> Scholar Kathryn Conrad has written about the “informatization of the body,” a concept that draws from the notion of a body-as-information, generated in no small part by surveillance techniques that manage the body for the purpose of producing data, thereby putting more attention and pressure on non-normative bodies.<sup>61</sup>

Today, iris scanners, digital fingerprinting, and automated facial recognition are just some of the technology widely employed by biometric surveillance.<sup>62</sup> Although facial recognition technology began in the 1980s, improvements to AI, coupled with access to increased quantities of data, have apparently lowered error rates by three orders of magnitude.<sup>63</sup>

Except, it seems, where transgender and nonbinary individuals are concerned. Indeed, the very concept of identity detection represents a fundamental presumption regarding gender as a permanent, unchanging indicator to establish one’s identity. When gender is understood as binary and immutable, this understanding is programmed into how facial recognition technology integrates gender.<sup>64</sup> Since most algorithms are designed by nondiverse populations, they often fail to reflect the diversity

59. Nitzan Lebovic, *Biometrics, or The Power of the Radical Center*, 41 CRITICAL INQUIRY 841, 843 (2015).

60. For more information on the rise of traffic in personal data, see David Lyon, *Surveillance, Power, and Everyday Life*, in OXFORD HANDBOOK OF INFORMATION AND COMMUNICATION TECHNOLOGIES 1–19 (Chrisanthi Avgerou, Robin Mansell, Danny Quah & Roger Silverstone, eds., 2009).

61. Kathryn Conrad, *Surveillance, Gender, and the Virtual Body in the Information Age*, 6 SURVEILLANCE & SOC’Y 380, 380 (2009).

62. Sabrina A. Lochner, *Saving Face: Regulating Law Enforcement’s Use of Mobile Facial Recognition Technology & Iris Scans*, 55 ARIZ. L. REV. 201, 205–08 (2013).

63. Yaniv Taigman, Ming Yang, Marc’ Aurelio Ranzato & Lior Wolf, *DeepFace: Closing the Gap to Human-Level Performance in Face Verification*, 2014 IEEE CONF. ON COMPUT. VISION & PATTERN RECOGNITION 1, 2 (2014). Deep neural networks do not need a human operator to guide their searches; newer systems can even take measurements in three dimensions for facial alignment. See *id.*; see also Sharon Nakar & Dov Greenbaum, *Now You See Me. Now You Still Do: Facial Recognition Technology and the Growing Lack of Privacy*, 23 B.U. J. SCI. & TECH. L. 88, 94–95 (2017) (describing facial recognition technology).

64. Paisley Currah & Tara Mulqueen, *Securitizing Gender: Identity, Biometrics, and Transgender Bodies at the Airport*, 78 SOC. RSCH. 557, 569–70 (2011).

of the populations that are often affected by AI.<sup>65</sup> Within these systems, then, gender detection becomes more than just a prediction; it becomes a normative determination that then informs both the design of the product and the user's experience of the product. In other words, the gender binary informs the construction of binary design, and then binary design, in turn, constructs future products as a result, further amplifying its reach.<sup>66</sup>

Within many of these biometric systems, gender is understood only within the binary and is seen as immutable and determined by certain physiological characteristics that correspond with genitalia at birth.<sup>67</sup> Thus, as Conrad argues, biometric analyses that utilize a binary classification produce contradictory results for transgender individuals.<sup>68</sup> Because biometric surveillance captures images of bodies, comparing them to binary, static classifications, by nature it fails to take into account transgender individuals, whose bodies may be in transition or who may not conform to a static, immutable image of gender identity.<sup>69</sup> As a result, transgender individuals are treated as anomalies or outliers, and are often invisibilized (at best) or penalized (at worst).<sup>70</sup>

For example, a system called Automated Gender Recognition (AGR) is a growing subfield of facial recognition technologies that aims to identify one's gender from photographs, using geometric structure, skin texture, or 3D modelling.<sup>71</sup> Yet AGR is strikingly binary by design. In a powerful study of AGR research, Os Keyes showed that nearly 95 percent of the most-cited papers in the field focused on an entirely binary system of gender<sup>72</sup> and viewed gender through an immutable lens 70 percent of the time, leading Keyes to conclude that such models "fundamentally erase[] transgender people, excluding their concerns, needs and existences from both design and research."<sup>73</sup> At best, these systems are

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65. See Kate Crawford, *Artificial Intelligence's White Guy Problem*, N.Y. TIMES (June 25, 2016), <https://www.nytimes.com/2016/06/26/opinion/sunday/artificial-intelligence-white-guy-problem.html> [<https://perma.cc/W6L8-PCKA>].

66. For discussions of the intersection of technology and gender, see generally Conrad, *supra* note 61; Keyes, *supra* note 38; Buolamwini & Gebru, *supra* note 23.

67. Os Keyes, *The Misgendering Machines: Trans/HCI Implications of Automatic Gender Recognition*, 2 PROC. ACM ON HUM.-COMPUT. INTERACTION, no. 88, at 2 (2018).

68. Conrad, *supra* note 61.

69. See Lauren Wilcox, *Gendered Bodies in Securitized Migration Regimes*, in HANDBOOK ON MIGRATION AND SECURITY 87 (Phillippe Bourbeau ed., 2017).

70. See Matthew Gault, *Facial Recognition Software Regularly Misgenders Trans People*, VICE (Feb. 19, 2019, 11:11 AM), [https://www.vice.com/en\\_us/article/7xnwed/facial-recognition-software-regularly-misgenders-trans-people](https://www.vice.com/en_us/article/7xnwed/facial-recognition-software-regularly-misgenders-trans-people) [<https://perma.cc/ZKY5-E5PA>].

71. Keyes, *supra* note 67, at 4.

72. *Id.* at 7.

73. Gault, *supra* note 70 (summarizing Keyes's research). Keyes attributes the lower percentage than may be expected to the fact that many models failed to even discuss or challenge immutability. Keyes, *supra* note 67, at 8.

probabilistic regarding gender classifications, leaving large numbers of individuals either misclassified or unrecognized.

Why is this so? There are at least three reasons. First, as Keyes explains, researchers tend to utilize a model of gender that relies on binary classifiers, stemming from a fundamental presumption of gender as fixed, binary, and unchanging. This means that anyone who does not fit into this binary is automatically relegated into an “error” or “outlier” classification and usually rendered invisible as a result:

Research discusses essential “male” and “female” differences; architects make bathrooms for “men” and “women” only, with design features based on assumed physiological differences; medical training and processes are designed only for situations where someone’s gender consistently matches their anatomy and resulting medical needs; even clothing design assumes a bimodal range of presentations, coupled with a bimodal range of physical dimensions. Trans people are simply not considered (i.e. erased) in much of public life and contemporary understandings of the world.<sup>74</sup>

Second, within this binary framework, gender is usually viewed as immutable, impervious to change or obfuscation. Third, and relatedly, Keyes explains that researchers presume that gender is rooted in physiological difference—and, relatedly, that “gender could consistently be inferred from an individual’s overall appearance and presentation.”<sup>75</sup> One paper cited as an example by Keyes, when assessing an algorithm’s accuracy, noted: “[t]he fourth image . . . is particularly interesting. This was tagged as female but we suspect it is a man in a wig[.]”<sup>76</sup> As Keyes notes, the presumption of binary thinking is apparent here; the researchers do not consider that the person may be trans or nonbinary identified.<sup>77</sup> And this presumption feeds into an erasure of trans people altogether.<sup>78</sup>

Keyes’s findings are also supported by empirical research on the AGR platforms themselves. In an important study of a variety of ten commercially available facial analysis systems, including ones from Amazon (Rekognition), Google (Cloud Vision), IBM (Watson Visual Recognition) and Microsoft (Azure), a team of researchers found that “[g]ender was defined as a binary—and never a spectrum—with only two categories,” male and female, often without a corresponding probability score.<sup>79</sup> The researchers noted significant inconsistencies—in one

74. Keyes, *supra* note 67, at 3.

75. *Id.* at 10.

76. *Id.* at 8 (emphasis added).

77. *Id.* at 7 (noting that 60 percent of the papers constructed gender in terms of physiological, that is, externally visible, essentialized components).

78. *Id.* at 12–13.

79. Morgan Klaus Scheuerman, Jacob M. Paul & Jed R. Brubaker, *How Computers See Gender: An Evaluation of Gender Classification in Commercial Facial Analysis and Image Labeling Services*, 3 *PROC. ACM ON HUM.-COMPUT. INTERACTION*, no. 144, at 8 (2019). Not providing a probability score for gender determinations

example of a “photo of a man dressed in drag,” Watson classified them as female, whereas Azure classified them as male.<sup>80</sup> Researchers also noted a prevalence of multiple and seemingly contradictory labels for a single image, like “person,” “boy,” “daughter,” and “son.”<sup>81</sup>

In another study of Amazon’s Rekognition, researchers found that the tool “frequently misgenders trans, queer and nonbinary individuals” and further noted that it misgendered every single photo of a nonbinary person in its test set.<sup>82</sup> In addition, on Github, the researchers found almost 7000 references to Rekognition and gender, suggesting that thousands of projects might build on Rekognition’s technology, thereby iteratively producing even more projects—and products—that erase trans and nonbinary individuals from view.<sup>83</sup>

In addition to the issue of trans erasure, bias in image recognition services can also tend to amplify stereotypical and prejudicial views based on gender.<sup>84</sup> One recent study showed how image recognition services from Google, Microsoft, and Amazon annotate images in ways that reflect stereotypical associations; using a dataset of images of U.S. Congressional officials, top labels that applied to male lawmakers were “official” and “businessperson,” whereas for women it was “smile” and “chin.”<sup>85</sup> Other studies find similar results of gender bias: In one study of news articles, the researchers found that more political and business content was associated with men; whereas women were associated with fashion and entertainment and often represented more by image than by text.<sup>86</sup> And when race enters the picture (literally), things get even

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suggests that the system designers consider gender determinations absolute. Similarly, when probability scores were used, they never fell below 0.5. *Id.* This indicated that designers could not fathom more uncertainty than a determination of a fifty-fifty likelihood that a given face is male or female, with no other options available. One company, Clarifai, used the classifier “gender appearance,” suggesting a shift away from a biological assignment. *Id.*

80. *Id.* at 9.

81. *Id.* at 10.

82. Anna Merlan & Dhruv Mehrotra, *Amazon’s Facial Analysis Program Is Building a Dystopic Future for Trans and Nonbinary People*, JEZEBEL (June 27, 2019, 11:00 AM), <https://jezebel.com/amazons-facial-analysis-program-is-building-a-dystopic-1835075450> [<https://perma.cc/PN8X-H927>].

83. *Id.*

84. For example, studies have documented how image search algorithms, when asked to gather images for occupations, tend to produce results that demonstrate gendered stereotypes. See, e.g., Carsten Schwemmer, Carly Knight, Emily D. Bello-Pardo, Stan Oklobdzija, Martijn Schoonvelde & Jeffrey W. Lockhart, *Diagnosing Gender Bias in Image Recognition Systems*, 6 SOCIUS 1 (2020), <https://journals.sagepub.com/doi/pdf/10.1177/2378023120967171> [<https://perma.cc/88C8-6SUS>].

85. See Tom Simonite, *When AI Sees a Man, It Thinks ‘Official.’ A Woman? ‘Smile’*, WIRED (Nov. 19, 2020, 7:00 AM), <https://www.wired.com/story/ai-sees-man-thinks-official-woman-smile> [<https://perma.cc/NW5D-HRJM>].

86. Sen Jia, Thomas Lansdall-Welfare, Saatviga Sudhahar, Cynthia Carter & Nello Cristianini, *Women Are Seen More Than Heard in Online Newspapers*, PLoS

more complicated, producing disparate effects on people of color. Safiya Noble's important work has studied how the results derived from search engines' purported objectivity can further amplify racism in society.<sup>87</sup>

### B. *Automating Inaccuracy*

Beyond the underlying dominance of a binary system, the technology has a further flaw: It is prone to error (and in the context of trans and nonbinary individuals, this often results in erasure). Why is this so? These outcomes stem from poor techniques of data collection, which increase the risk of inaccuracy.<sup>88</sup> Or, as one AI scholar has concluded, “[b]ias begets bias.”<sup>89</sup> If data is not collected from diverse individuals, the resulting datasets will be biased in structural ways as a result.<sup>90</sup> And if the machine learning model is trained on data that is biased in some way, then decisions that are derived from that data can systematically disadvantage individuals who happen to be over- or underrepresented in the dataset.<sup>91</sup> Further, facial recognition technology results can vary according to a range of variables, including the environment, age, race, and emotions associated with the subjects, along with the conditions of the image itself—including lighting, orientation, image quality, and the like.<sup>92</sup>

Thus, rather than classifying these facial and image recognition services as automated “gender recognition” or “gender detection” services, it may be more accurate to describe them as “gender reduction” services, a recasting which recognizes the potential for inaccuracy and oversimplification.<sup>93</sup> All these variables can feed into training data and further replicate preexisting biases. Issues with facial recognition are well documented, such as Google’s well-publicized apology in 2015 when its photo apps were tagging people of color as gorillas.<sup>94</sup> But the same is also

ONE, Feb. 3, 2016, at 1, 8.

87. See NOBLE, *supra* note 22.

88. See Danielle Ensign, Sorelle A. Friedler, Scott Neville, Carlos Scheidegger & Suresh Venkatasubramanian, *Runaway Feedback Loops in Predictive Policing*, 81 PROC. MACH. LEARNING RSCH. 160 (2017).

89. Ricardo Baeza-Yates, *Bias on the Web*, COMM’NS ACM, June 2018, at 54, 60 (defining statistical bias to comprise “a systematic deviation caused by an inaccurate estimation or sampling process.”).

90. Note, however, that many individuals might question the applicability of data science altogether as applied to queer populations. See Keyes, *supra* note 38.

91. Solon Barocas & Andrew D. Selbst, *Big Data’s Disparate Impact*, 104 CALIF. L. REV. 671, 680–81 (2016).

92. Nakar & Greenbaum, *supra* note 63, at 95–96.

93. See Foad Hamidi, Morgan Klaus Scheuerman & Stacy M. Branham, *Gender Recognition or Gender Reductionism? The Social Implications of Automatic Gender Recognition Systems*, CHI ‘18: PROC. 2018 CHI CONF. ON HUM. FACTORS COMPUTING SYS., no. 8, at 1 (2018).

94. Soon-Gyo Jung, Jisun An, Haewoon Kwak, Joni Salminen & Bernard J. Jansen, *Assessing the Accuracy of Four Popular Face Recognition Tools for Inferring*

true with respect to gender; even studies documenting accuracy in gender detection for facial recognition overwhelmingly tend to use a binary framework, thus excluding nonbinary populations.<sup>95</sup> One study comparing accuracy metrics for face, gender, age, and race for a variety of facial recognition tools found a “trend of high accuracy for gender,” noting an accuracy rate of over 90 percent for all datasets.<sup>96</sup> While 90 percent accuracy may sound great, the necessary consequence is that the tools are 10 percent inaccurate—a non-insignificant number.

Technologists argue that these error rates only affect a small percentage of the population—a small price to pay in light of the overall added efficiency of categorization. But this narrow view overlooks the human cost. As Keyes has persuasively argued, “an error rate that disproportionately falls on one population is not just an error rate: it is discrimination. It is precisely what is meant by algorithmic injustice.”<sup>97</sup> Indeed, evidence shows that transgender and nonbinary individuals routinely suffer such injustices and humiliation that no cisgender individuals, to our knowledge, ever face. As evidence, take the story of a transgender woman in Utah who was forced to remove her makeup and have her photo retaken at the DMV because a supervisor determined that her appearance did not match her gender marker and thus might pose issues for facial recognition software.<sup>98</sup>

The most dramatic of these negative consequences stem from the classification of transgender or nonbinary individuals as “errors,” a result that flows directly from binary datasets. And this misgendering, ironically, can fuel even greater surveillance by inviting further inquiry and investigation.<sup>99</sup> Aside from a greater risk of invasion of personal privacy and misidentification, these populations face additional risks of denials of certain kinds of social and medical services as a result.<sup>100</sup>

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*Gender, Age, and Race*, PROC. TWELFTH INT’L AAAI CONF. ON WEB & SOC. MEDIA 624 (2018).

95. See, e.g., *id.* at 626 (using a binary system).

96. *Id.* at 624, 627 (studying Face++, IBM Bluemix Visual Recognition, Amazon Rekognition, and Microsoft Azure Face tools).

97. Keyes, *supra* note 67, at 13.

98. See, e.g., Kim Bellware, *A Transgender Woman Says She Was Humiliated When She Was Forced to Remove Her Makeup for Her ID*, WASH. POST (Nov. 20, 2019, 3:22 PM), <https://www.washingtonpost.com/dc-md-va/2019/11/20/transgender-woman-says-she-was-humiliated-when-she-was-forced-remove-her-makeup-her-id> [<https://perma.cc/Z6DG-7S8V>].

99. Keyes, *supra* note 67, at 11.

100. *Id.* at 3. Early deployments of facial recognition technology suggest its use for analytics and gendered shopping experiences. In London, for example, a nonprofit organization used facial recognition technology to determine one’s gender while walking by an advertisement—(perceived) women were shown a commercial entitled “Because I am a Girl!” whereas (perceived) men saw only the organization’s web site displaying its campaign. Megan Garber, *The Bus Stop That Knows You’re a Lady*, ATLANTIC (Feb. 21, 2012), <https://www.theatlantic.com/technology/archive/2012/02/>

Even nonautomated methods of gender detection raise the risk of inaccuracy. For example, one suggestion has been to rely not on gender assignments but on self-labels as a way to reduce error rates. While this may sound promising, it is important to observe, at the outset, that self-labeling tends to reveal just how error prone these systems can be (not to mention reductive because they presume uniformity within categories). In one study, researchers used a diverse dataset that included crowdsourced public images with seven different self-labeled hashtags (#agender, #genderqueer, #man, #nonbinary, #transman, #transwoman, and #woman) and then studied the accuracy rates drawn from the resulting automated gender classifications.<sup>101</sup> Their results were deeply informative, reporting a 70 percent accuracy rate for classifying trans men as male.<sup>102</sup> Unsurprisingly, there was a 0 percent accuracy rate for images of individuals who self-identified as #agender, #genderqueer, and #nonbinary, since the tested facial analysis services only returned binary gender labels and thus did not include these categories.<sup>103</sup>

Now consider the results when comparing #transwoman and #transman with male and female classifiers. Here, too, researchers noted a significant uptick in the error rate. Images from the #transwoman dataset encountered an 87.3 percent accuracy rate, and images from the #transman dataset reported the lowest true positive accuracy rate, at 70.5 percent.<sup>104</sup> What explains the results? Again, the researchers argued that it stemmed from the likely exclusion of non-normative gender presentation in the datasets that AI systems were trained upon.<sup>105</sup> Since the machines learn patterns from datasets, if the datasets are not gender diverse, the machines will reach a binary set of results.

These results fuel outcomes that resemble dystopian science fiction. Imagine a world where, for example, AGR technology could be deployed to gender segregated areas, such as bathrooms. A 2015 government

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the-bus-stop-that-knows-youre-a-lady/253365 [https://perma.cc/SH53-M8JB]. See also Janus Rose, *I'm a Trans Woman—Here's Why Algorithms Scare Me*, DAZED (Feb. 12, 2019), <https://www.dazeddigital.com/science-tech/article/43211/1/trans-algorithm-machine-learning-bias-discrimination-chelsea-manning-edit> [https://perma.cc/T7WT-NBBR] (offering the example of a pizza restaurant in Oslo that used similar software to show classified males an ad for a pizza; classified females were offered a salad instead).

101. Scheuerman, Paul & Brubaker, *supra* note 79, at 14. For discussions of this study, see Amrita Khalid, *Facial Recognition AI Can't Identify Trans and Nonbinary People*, QUARTZ (Oct. 16, 2019), <https://qz.com/1726806/facial-recognition-ai-from-amazon-microsoft-and-ibm-misidentifies-trans-and-non-binary-people> [https://perma.cc/HJJ7-3WR8].

102. Scheuerman, Paul & Brubaker, *supra* note 79, at 14.

103. *Id.* The researchers discovered the highest degree of accuracy for the category #woman (98.3% accuracy) and #man (97.6% accuracy). *Id.*

104. *Id.* at 15.

105. *Id.* These exclusion rates were probably higher in the male-oriented datasets, the researchers postulated. *Id.*

paper on automatic gender recognition proposed that gender detection software could be used to activate an alarm around women's restrooms to alert occupants to the presence of men.<sup>106</sup> One company, Clarifai, has been in discussion with companies that manage single-sex dormitories about using its automated detection services for the purposes of security.<sup>107</sup> Even when researchers study transgender subjects for dataset inclusion, some frame gender transition not as an identity shift but as a security risk, linked to wildly speculative claims of disguise and identity obfuscation.<sup>108</sup> Since gender classification error rates for dark-skinned individuals are also significant, transgender or nonbinary individuals with darker skin tones are made even more vulnerable as a result.<sup>109</sup>

These observations are not new, of course. But they are deeply prejudicial and unsupported by extant evidence. These arguments echo similar points raised by anti-trans advocates in bathroom bills who suggest that allowing trans women to use women's bathrooms would result in predatory behavior.<sup>110</sup> This proposition has been thoroughly debunked by all available evidence, none of which has documented any increased incidence of crime or predation as a result of greater inclusion.

These examples illustrate the transphobic social norms that have contributed to inaccurate gender classification technologies. When people express concerns that terrorists and sexual predators will weaponize gender transition to enter protected spaces, they reveal a harmful underlying belief that transgender people's identities are not valid and that "accurate" gender recognition means identifying a person's sex assigned at birth. In a society where such beliefs are widespread, it is little surprise that AGR technologies perform poorly when it comes to classifying transgender and nonbinary individuals.

There are other techniques, other than facial recognition, that are more inclusive (although still imperfect). For example, researchers

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106. Gault, *supra* note 70; see also MEI NGAN & PATRICK GROTHOR, U.S. DEP'T COM., FACE RECOGNITION VENDOR TEST (FRVT) PERFORMANCE OF AUTOMATED GENDER CLASSIFICATION ALGORITHMS (2015).

107. See Rachel Metz, *AI Software Defines People as Male or Female. That's a Problem.*, CNN (Nov. 21, 2019, 11:32 AM), <https://www.cnn.com/2019/11/21/tech/ai-gender-recognition-problem/index.html> [<https://perma.cc/U9PT-BC4W>].

108. See Keyes, *supra* note 67, at 4 (noting a NIST report stating "the cost of falsely classifying a male as a female (i.e. the false female rate) could result in allowing suspicious or threatening activity to be conducted"); Gayathri Mahalingam, Karl Ricanek, Jr. & A. Midori Albert, *Investigating the Periocular-Based Face Recognition Across Gender Transformation*, 9 IEEE TRANSACTIONS ON INFO. FORENSICS & SEC. 2180 (2014) (study on gender transformation for security purposes). *For critical commentary on this topic, see* Kristina Grünenberg, *Wearing Someone Else's Face: Biometric Technologies, Anti-Spoofing, and the Fear of the Unknown*, ETHNOS: J. ANTHROPOLOGY 1, 3 (Mar. 24, 2020), <https://www.tandfonline.com/doi/full/10.1080/0141844.2019.1705869> [<https://perma.cc/9WCN-4NAK>].

109. Keyes, *supra* note 67, at 11.

110. See Keyes, *supra* note 67, at 11.

noted that labeling specific features (as opposed to using image recognition) was more fluid and flexible, enabling the use of gender neutral terms (like “person”) or decoupling gender classification altogether.<sup>111</sup> Yet while these efforts to become more inclusive of trans and nonbinary individuals have grown over time, scholars caution that these systems also replicate standardization, perpetuating “a particularly ‘transnormative’ view of trans lives: a reduction of trans experiences down to those of binary trans people.”<sup>112</sup>

### C. *Other Forms of Gender Reduction*

Aside from facial recognition techniques, other technologies aim to identify one’s gender from a variety of other variables, besides appearance—drawing on a person’s name, social media postings, and the like, or audio data.<sup>113</sup> However, as some researchers have argued, the concept of automating gender detection from things like texts, voice recording, or images risks inaccuracy and perpetuating gender stereotypes.<sup>114</sup>

Moreover, here, too, automated techniques of gender detection are also almost uniformly binary by design. In another study, similar to that performed by Keyes, a team of software engineers reviewed the scientific literature on gender identification, comparing various machine learning methods of gender prediction gleaned from user-provided textual inputs on social media and news.<sup>115</sup> In their results, which reviewed over two hundred papers and almost sixty different approaches, the authors revealed that *not a single study* employed a classification outside of the

111. Scheuerman, Paul & Brubaker, *supra* note 79, at 20.

112. “On those few occasions when non-binary existences are centred [sic], they are assumed as universal and discussion tends to be reductive: as a matter of an additional checkbox on forms,” several scholars have argued. Katta Spiel, Os Keyes & Pinar Barlas, *Patching Gender: Non-binary Utopias in HCI*, CHI EA ‘19: EXTENDED ABSTRACTS 2019 CHI CONF. ON HUM. FACTORS COMPUTING SYS. 1, 2 (2019). Of course, it is quite possible that trans users with binary genders might feel affirmed by correct gender prediction. Scheuerman, Paul & Brubaker, *supra* note 79, at 17–18. At the same time, the high rates of misgendering have a great potential to cause increased harm. “Effectively,” one study concludes, “system misclassification could have the same negative impact as human misclassification, or even compound everyday experiences of misgendering.” *Id.* at 18. One person who identified as genderqueer wrote in all caps, “THIS IS A NON-BINARY ZONE. DO NOT USE GIRL/SHE/HER/HERS,” only to be classified as female by every service studied. *Id.*

113. Stefan Krüger & Ben Hermann, *Can an Online Service Predict Gender? On the State-of-the-Art in Gender Identification From Texts*, 2019 IEEE/ACM 2ND INT’L WORKSHOP ON GENDER EQUAL. SOFTWARE ENG’G (GE) 13, 13 (2019) (citing Jung, An, Kwak, Salminen & Jansen, *supra* note 94).

114. Os Keyes, for example, has criticized the use of mapping names to gender, arguing that they are often incorrect, unnecessary, racially biased, and exclude transgender individuals. See Os Keyes, *Stop Mapping Names to Gender*, IRON HOLDS (July 2, 2017), <https://ironholds.org/names-gender> [<https://perma.cc/9EKL-WF4V>]; see also Krüger & Hermann, *supra* note 113, at 13.

115. Krüger & Hermann, *supra* note 113, at 13.

binary, with the authors observing that “[a] majority of the papers outright states that they view gender as a binary classification problem.”<sup>116</sup>

Even working within a solely binary system of participants, the authors point out that at best, only a few of these approaches surpassed accuracy rates of 90 percent.<sup>117</sup> While the study claimed that the best approach led to a 93.4 percent accuracy in results, the authors were careful to note that “the resulting accuracy is still forbiddingly low for many use cases as 7 out of 100 persons will be misgendered with this approach. . . . significantly imped[ing] misclassified individuals’ social inclusion.”<sup>118</sup> Other approaches, they pointed out, led to accuracy rates that varied between 61 and 80 percent, producing a result which is very close to randomized guessing in a binary model.<sup>119</sup>

Further, companies who provide these automated facial recognition services also make their own internal determinations for gender classification. The same issues identified above—presumptions that gender is largely binary and easily determined by external markers like name remain at the heart of these classifications, as well. These issues become magnified when one considers the wide range of gender detection services that exist, many of which employ a reductive view of gender:

- Gender-API.com predicts a person’s gender from their first name, full name or email address, and reports over 20 million queries per month.<sup>120</sup>
- Genderize.io attempts to infer the gender of a first name, with three potential responses: male, female, or none. It adds two additional parameters, count (referring to the number of data entries used to calculate a response) and probability (representing the proportion of names with the gender returned in the response).<sup>121</sup>
- NameAPI uses publicly available census data, birth lists, and telephone books in over fifty-five countries, offering five different name categories: male, female, neutral, unknown, or indeterminable.<sup>122</sup>
- NamSor classifies personal names from a dataset of 1.3 million names plus sociolinguistic information, with three choices—male, female, or unknown—using a scale from -1 to +1 to reflect the certainty of its determination.<sup>123</sup>

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116. *Id.* at 14.

117. *Id.*

118. *Id.* at 13.

119. *Id.* at 14–15.

120. *Id.* at 13 (describing gender-API.com). It currently supports almost 180 countries. Lucía Santamaría & Helena Mihaljević, *Comparison and Benchmark of Name-to-Gender Inference Services*, PEERJ COMPUT. SCI., July 16, 2018, at 1, 5.

121. *Id.* at 6.

122. *Id.*

123. *Id.* at 7.

- Gender-guesser comprises a dataset of over 45,000 names with six different classifications: unknown, male, female, andy (androgynous), mostly\_male, or mostly\_female.<sup>124</sup>

These automated gender identification services range in accuracy from 74 percent accuracy (at worst) to 91 percent (at best), leading one group of researchers to comment that “even the best approach is incorrectly predicting a person’s gender in 9 percent of all cases.”<sup>125</sup> While many companies provide statistics about the classification rates between male and female, the data is often not probabilistic.<sup>126</sup> Within this system, companies can simply choose to ignore relevant data including the rate of false positives.<sup>127</sup> Other forms of errors involve nonclassifications, cases where it was not possible to predict a gender.<sup>128</sup>

Surprisingly, even studies documenting error rates overwhelmingly exclude transgender and nonbinary individuals and classifications. Consider how the authors addressed the issue in one study:

The names in our evaluation data set have been manually labeled as “female”; “male”; or “unknown.” Recall that those labeled as “unknown” refer to individuals for whom it was not possible to find sufficient gender-related information online. Therefore the class “unknown” is rather a heterogeneous label applied to people with either very common names or those that avoid providing much personal information online. In particular, *it is not a “gender class” in any suitable sense, and cannot be included appropriately in quantitative evaluations using performance metrics.*<sup>129</sup>

The study concludes by explaining that it excluded the “unknown” classifications from their results, noting that “in terms of the true labels we are dealing with a binary classification problem.”<sup>130</sup> What the authors are suggesting is that there is only a binary system of gender, and any “true” gender must reflect a binary assignation or it is not deserving of recognition or study. As a result, the exclusion of nonbinary classifications

124. *Id.* at 6.

125. See Krüger & Hermann, *supra* note 113, at 13 (citing a paper by Fariba Karimi, Claudia Wagner, Florian Lemmerich, Mohsen Jadidi & Markus Strohmaier).

126. In other words, rather than indicating a probability of being classified male or female, companies create their own threshold to classify an individual’s gender, determining whether individuals that fall below or exceed a certain probability are appropriately categorized as male or female. Buolamwini & Gebru, *supra* note 23, at 11.

127. *See id.*

128. Santamaría & Mihaljević, *supra* note 120, at 2 (describing misclassification and nonclassification). Another study that combined results from three online services claimed to reach a 98 percent accuracy rate, where only 2 percent of individuals faced misclassification; however, they had to leave 25 percent of their dataset unclassified. Krüger & Hermann, *supra* note 113, at 13 (citing the results of Santamaría and Mihaljević).

129. Santamaría & Mihaljević, *supra* note 120, at 11 (emphasis added).

130. *Id.*

forces us to question the usefulness and validity of the technologies themselves.<sup>131</sup> The absence of transgender and nonbinary classifications only further calcifies preexisting binaries in products derived from these incomplete datasets.<sup>132</sup>

#### D. *The Prediction Panopticon*

The reductive tendency of AI is not limited to gender identity. In 2017, two Stanford researchers, Yilun Wang and Michal Kosinski, claimed in a paper that deep neural networks could detect a person's gay or straight sexual orientation.<sup>133</sup> Their work was based on a sample of 35,000 images drawn from entirely white subjects, all of whom had posted their profiles and photographs on dating sites.<sup>134</sup> The study concluded that its neural technology could predict whether a person was gay or straight over 70 percent of the time, outperforming human judgment, which was only correct 61 percent of the time for men and 54 percent for women.<sup>135</sup> Wang and Kosinski argued that their results provided some proof of a “prenatal hormone theory,” which posits that a person's sexuality might be formed in relation to the hormones that they were exposed to while in utero and that biological features affect the formation of sexual orientation.<sup>136</sup>

In addition to only studying white people, the study categorized just two choices of sexual identity—gay or straight—and assumed a correlation between people's sexual identity and their sexual activity. It also entirely excluded nonbinary and transgender individuals. Given the large numbers of populations excluded from the study, a number of researchers appropriately questioned the results. Two years later, the Stanford study was replicated by John Leuner, a South African student, drawing

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131. See Krüger & Hermann, *supra* note 113, at 15.

132. See *id.*; see also Emily Denton, Ben Hutchinson, Margaret Mitchell, Timnit Gebru & Andrew Zaldivar, *Image Counterfactual Sensitivity Analysis for Detecting Unintended Bias*, CVPR 2019 WORKSHOP ON FAIRNESS ACCOUNTABILITY TRANSPARENCY & ETHICS COMPUT. VISION 1, 2 (2019) (noting that a binary system perpetuates harm “against individuals who exist outside the bounds of this categorization scheme and reinforces rigid social norms of gender expression”).

133. See Yilun Wang & Michal Kosinski, *Deep Neural Networks Are More Accurate Than Humans at Detecting Sexual Orientation From Facial Images*, 114 J. PERSONALITY & SOC. PSYCH. 246, 253 (2018).

134. *Id.* at 248.

135. *Id.* at 246. Note that the study's accuracy also depended in part on the subject's gender and how many images were presented. Sam Levin, *New AI Can Guess Whether You're Gay or Straight From a Photograph*, GUARDIAN (Sept. 7, 2017, 7:46 PM), <https://www.theguardian.com/technology/2017/sep/07/new-artificial-intelligence-cant-tell-whether-youre-gay-or-straight-from-a-photograph> [https://perma.cc/GYL3-RS3N].

136. Katyanna Quach, *The Infamous AI Gaydar Study Was Repeated—and, No, Code Can't Tell if You're Straight or Not Just From Your Face*, REG. (Mar. 5, 2019, 8:17 AM), [https://www.theregister.co.uk/2019/03/05/ai\\_gaydar](https://www.theregister.co.uk/2019/03/05/ai_gaydar) [https://perma.cc/9Q3Q-NMA8] (summarizing Wang and Kosinski).

from the same neural architectures but using a different dataset containing another 20,000 images from three dating sites (again without the participants' permission).<sup>137</sup> Leuner found that some neural network models were able to predict the sexuality of men with 68 percent accuracy and women at 77 percent.<sup>138</sup> But in a third experiment, he blurred out the subjects' faces completely and achieved around the same result, leading him to conclude that facial morphology might not be the reason for such results and that presentation, grooming, and other factors might be just as relevant.<sup>139</sup>

Leaving aside the issues of complexity regarding predicting someone's sexual orientation, consider who is left out by these studies. Transgender and bisexual (among other categories) individuals are completely excluded, along with *all* nonwhite individuals (irrespective of sexuality), ostensibly from the training data and also from the results. (In short, most of the world). The study raises similar issues of binaristic, biologically determined, and unchanging presumptions of both gender and sexual orientation. Further, the study also implicitly endorses a profoundly presumptive view of the intersection between gender, sexuality, and appearance.<sup>140</sup> Finally, even aside from issues of trans and nonbinary exclusion, these studies raise the risk that these results could be used to predict who might be lesbian or gay, perhaps heightening the possibility of stigma or punishment against those individuals as a result.<sup>141</sup>

## II. SECURITIZING THE GENDER PANOPTICON

Another technology known as advanced imaging technology (AIT) refers to the use of full body scanners that utilize x-ray and radio wave technology to screen individuals for concealed threats or foreign entities. AIT has the same function as other forms of biometric surveillance, working to verify an individual's identity to assess whether they are non-threatening enough to be granted passage or travel. As we show below, these technologies, however benign they may seem at the outset, raise privacy and dignity concerns that often deleteriously impact transgender and nonbinary individuals, ultimately curtailing their freedom of movement. Again, just like facial recognition technology, the fear of being mischaracterized or mistreated by authorities often places greater costs

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137. *Id.*

138. *Id.*

139. *Id.*

140. Os Keyes, when presented with the results of the South African study, pointed out that the study failed to control for a variety of elements involving gender presentation and thus offered questionable results. *Id.* (citing Keyes' observation that while the study found that eyes and eyebrows were accurate distinguishers, it failed to note the potential role for gender and makeup among various populations).

141. *Id.*

on transgender and nonbinary travelers, cabining their travel as a result, in a panoptic fashion.

The point of this Part is not to revisit the many, many articles that have detailed forms of public and private surveillance in travel screening.<sup>142</sup> It is to focus on several points that are often lost in the literature surrounding technology and gender: that transgender and nonbinary individuals are deleteriously affected by these technologies, more so than most other populations because of noninclusive design and the absence of legal protections that demand recognition or accommodation. Moreover, this exclusion leads to a contradictory set of circumstances. In the context of data standardization, transgender and nonbinary individuals are rendered as outliers, “errors” in these technological systems, leading to a kind of undersurveillance that results from data invisibility.<sup>143</sup> But in the context of securitization or even social media, being classified as an outlier or an “error” results in exactly the opposite—a kind of oversurveillance that targets transgender, nonbinary, and otherwise non-normative bodies in travel or online expression.<sup>144</sup>

In an influential paper, Paisley Currah and Tara Mulqueen describe how the TSA’s systems, when coupled with identity verification and identification technologies, have the productive effect of “securitizing” gender through imposing heightened scrutiny on transgender and nonbinary individuals.<sup>145</sup> As a result of the securitization of gender, gender itself “becomes an object of state (and increasingly private and privatized) surveillance through the [TSA].”<sup>146</sup> All of these processes function under the aegis of a gender surveillance system that relies on certain technologies to sort and standardize gender and then imposes costs on those who challenge categorization.

#### A. *Advanced Imaging Technology and Gender Privacy*

While some version of AIT has existed for many decades, use of this technology increased after a series of airline hijackings starting in the 1970s. The presence of AIT at airports has increased dramatically since

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142. See Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435 (2008) (listing citations).

143. See *supra* Subpart I.A.

144. For a similar discussion with respect to race, please see Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 75 (2019).

145. Currah & Mulqueen, *supra* note 64, at 575 (“Gender, in the security assemblage at the airport, is deployed as a biometric, a piece of data tied directly to the body. This ‘securitized’ variant of gender, operationalized in the assemblage, is more than just a norm from which transgender individuals constitute an exception.”).

146. *Id.* at 576; for more commentary on the implications of security measures, see Govert Valkenburg & Irma van der Ploeg, *Materialities Between Security and Privacy: A Constructivist Account of Airport Security Scanners*, 46 SEC. DIALOGUE 326 (2015).

the early 2000s and has evolved from backscatter scanner technology to today's millimeter wave scanners.<sup>147</sup>

TSA started using AIT scanners in 2008 to screen for weapons and other potential threats that may be concealed underneath clothing.<sup>148</sup> At first, these units were used only secondarily, after travelers passed through a metal detector.<sup>149</sup> Yet in early 2010 the TSA replaced its metal detectors with AIT scanners as a primary form of screening after a person attempted to board a plane with plastic explosives in his underwear.<sup>150</sup>

Initially, AIT technology used backscatter imaging, which subjected a passenger to a low intensity beam,<sup>151</sup> generating a two-dimensional digital image that can capture material underneath a traveler's clothes.<sup>152</sup> These backscatter images, which resembled high-resolution photographic negatives prompted TSA to employ privacy algorithms that resemble chalk outlines of the front and back of a person's body instead.<sup>153</sup> The digital images were then displayed on a remote monitor for more private viewing.<sup>154</sup> Unsurprisingly, despite these controls, the detailed images the technologies produced raised strong privacy and health concerns, in addition to concerns about sexual harassment.<sup>155</sup>

Eventually, due to these concerns, backscatter scanners were completely replaced by newer millimeter wave scanners.<sup>156</sup> Millimeter wave

147. See *Imaging Technology: Innovation & Technology*, TRANSP. SEC. ADMIN., [https://web.archive.org/web/20100106043039/http://www.tsa.gov/approach/tech/imaging\\_technology.shtm](https://web.archive.org/web/20100106043039/http://www.tsa.gov/approach/tech/imaging_technology.shtm) [<https://perma.cc/4LLQ-E3AB>] (last visited May 25, 2021).

148. Abini, *supra* note 5, at 123; HOMELAND SEC. OFF. HEALTH AFFS., FACT SHEET: ADVANCED IMAGING TECHNOLOGY (AIT) HEALTH & SAFETY, [https://epic.org/foia/dhs/bodyscanner/appeal/TSA-AIT\\_ScannerFactSheet.pdf](https://epic.org/foia/dhs/bodyscanner/appeal/TSA-AIT_ScannerFactSheet.pdf) [<https://perma.cc/P858-NGCU>].

149. Daniel S. Harawa, *The Post-TSA Airport: A Constitution Free Zone?*, 41 PEPP. L. REV. 1, 18 (2013); Étienne Lombard, Comment, *Bombing Out: Using Full-Body Imaging to Conduct Airport Searches in the United States and Europe Amidst Privacy Concerns*, 19 TUL. J. INT'L & COMPAR. L. 337, 342–43 & n.34 (2010) (noting that a bill to make the scanning secondary was pending approval).

150. Harawa, *supra* note 149, at 18–19.

151. Lombard, *supra* note 149, at 347.

152. Julia Layton, *Do Backscatter X-ray Systems Pose a Risk to Frequent Fliers?*, HOWSTUFFWORKS, <https://science.howstuffworks.com/innovation/science-questions/backscatter.htm> [<https://perma.cc/7H5Q-DKLR>] (last visited May 25, 2021).

153. Abini, *supra* note 5, at 124.

154. Lombard, *supra* note 149, at 347.

155. See generally Julie Accardo & M. Ahmad Chaudhry, *Radiation Exposure and Privacy Concerns Surrounding Full-Body Scanners in Airports*, 7 J. RADIATION RSCH & APPLIED SCIS. 198 (2014); Frances Romero, *Is the TSA Targeting Attractive Women?*, TIME (Feb. 16, 2012), <http://newsfeed.time.com/2012/02/16/is-the-tsa-targeting-attractive-women> [<https://perma.cc/96A5-VWQE>]; John Sedat, David Agard, Marc Shuman & Robert Stroud, *Letter from John W. Sedat et. al. on the Dangers of TSA Backscatter Scanners*, SHADOWPROOF (Apr. 6, 2010), <https://shadowproof.com/letter-from-john-w-sedat-et-al-on-the-dangers-of-tsa-backscatter-scanners> [<https://perma.cc/EL6N-9WBP>] (raising health related concerns).

156. Ashley Halsey III, *New Airport Software to End Naked Scanner Images*,

scanners, in contrast to backscatter technology, use radio frequency energy to create a general three-dimensional image of the body.<sup>157</sup> The images also resemble photographic negatives but are of much lower resolution than backscatter scanners, thus alleviating some of the privacy concerns raised by the older technology. The images are then displayed on a monitor for TSA screening with privacy filters in place.<sup>158</sup>

Most importantly, the machines have one major drawback: They require agents to classify travelers as male or female, with no alternative assignment. AIT displays include two start buttons, one pink and one blue, and the TSA officer must determine a gender and then select the corresponding button in order for the software to begin processing.<sup>159</sup> Again, despite the much-publicized critiques from #travelingwhiletrans, there is no alternative classification beyond female and male, and there are no plans in place to adjust the technology to become more inclusive.

Instead, TSA has employed a third technology, automated target recognition (ATR), to eliminate human viewers altogether.<sup>160</sup> The technology is similar to the autonomous facial recognition software also utilized by the U.S. government, and algorithmically analyzes the images

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SEATTLE TIMES (July 20, 2011, 10:31 PM), <https://www.seattletimes.com/life/travel/new-airport-software-to-end-naked-scanner-images> [<https://perma.cc/7MKF-RK7K>]; David Kravets, *TSA Pulls Plug on Airport Nude Body Scanners*, WIRED (Jan. 18, 2013, 12:17 PM), <https://www.wired.com/2013/01/tsa-abandons-nude-scanners> [<https://perma.cc/L7YY-KFWB>].

157. *Which Is It: Millimeter Wave or Backscatter?*, TRANSP. SEC. ADMIN. (May 27, 2008), <https://web.archive.org/web/20170630001222/https://www.tsa.gov/blog/2008/05/27/which-it-millimeter-wave-or-backscatter?page=1> [<https://perma.cc/9TVD-ER6J>]; Abini, *supra* note 5, at 125; Halsey, *supra* note 156; Bob Burns, *Rapiscan Backscatter Contract Terminated—Units to Be Removed*, TRANSP. SEC. ADMIN. (Jan. 18, 2013), <https://web.archive.org/web/20170729194729/https://www.tsa.gov/blog/2013/01/18/rapiscan-backscatter-contract-terminated-units-be-removed> [<https://perma.cc/3LZR-PPY5>].

158. Abini, *supra* note 5, at 125. They are also complementary to the use of biometric information and automated facial recognition software. BART ELIAS, CONG. RSCH. SERV., R42750, AIRPORT BODY SCANNERS: THE ROLE OF ADVANCED IMAGING TECHNOLOGY IN AIRLINE PASSENGER SCREENING 2 (2012). In one congressional hearing, members of the TSA themselves testified that half of the privacy protection software did not function. Abini, *supra* note 5, at 126–27. And there is evidence (despite the TSA's assurances to the opposite) that scans are being saved; one courthouse in Florida saved over 35,000 images and leaked a hundred of them to the public. *Id.*; Bianca Bosker, *100 Body Scans From Security Checkpoint Leaked*, HUFFPOST (Dec. 6, 2017), [https://www.huffpost.com/entry/100-body-scans-from-secu\\_n\\_784317](https://www.huffpost.com/entry/100-body-scans-from-secu_n_784317) [<https://perma.cc/5T24-Y5UW>].

159. Abini, *supra* note 5, at 128.

160. *Id.* at 127–28; Alan (Avi) Kirschenbaum, *The Cost of Airport Security: The Passenger Dilemma*, 30 J. AIR TRANSP. MGMT. 39 (2013); *Transportation Security Timeline*, TRANSP. SEC. ADMIN. <https://www.tsa.gov/timeline?fbclid=IwAR19Bdj44Uw2eVW0zK2sfG4p6Wa0L1tZ4vjOOrhOCG7sYNCrN-eizfoqBOY> [<https://perma.cc/V7VJ-XWKF>] (last visited Jan. 29, 2021) (discussing additional forms of screening).

generated by the body scanners for threats.<sup>161</sup> Although advocates of the transgender community welcomed the employment of ATR technology because it reduced the invasive nature of the previous AIT units, it still requires TSA agents to select a binary gender for screened passengers.<sup>162</sup>

Of course, scanning and securitization implicate the privacy and autonomy of everyone, regardless of gender. But, as the above research shows, transgender and nonbinary individuals face a greater risk of misrecognition. Information obtained by Freedom of Information Act requests confirm the issue. A study by ProPublica found that 5 percent of TSA complaints were related to screening of transgender individuals, even though they are estimated to comprise only 1 percent of the population.<sup>163</sup> One passenger described their TSA screening as “one of the most uncomfortable and terrifying experiences of my life.”<sup>164</sup>

And when these technologies merge with the potential issues surrounding “official” documentation, transgender and nonbinary travelers are more likely to be classified as security risks. The many, many reports of #travelingwhiletrans also highlight the difficulties transgender travelers face because of inconsistencies between: (1) the state-assigned gender that is marked on identification; (2) an AIT-generated image of the person’s body; and (3) a person’s own self-identification.<sup>165</sup>

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161. See ELIAS, *supra* note 158, at 6.

162. Abini, *supra* note 5, at 135; NAT’L CTR. FOR TRANSGENDER EQUAL., *WHOLE BODY IMAGING FAQ: TRAVEL INFORMATION 1* (2009), [https://transequality.org/sites/default/files/docs/releases/NCTE\\_Body\\_Scan.pdf](https://transequality.org/sites/default/files/docs/releases/NCTE_Body_Scan.pdf) [<https://perma.cc/NK5H-98H8>].

163. ProPublica also received a number of troubling reports of transgender individuals facing additional searches, noting that out of 174 responses reporting negative interactions with the TSA to ProPublica, only fourteen people filed an actual complaint with the TSA. This suggests that the issue is much greater than reports with the TSA might indicate. See Lucas Waldron & Brenda Medina, *When Transgender Travelers Walk Into Scanners, Invasive Searches Sometimes Wait on the Other Side*, PROPUBLICA (Aug. 26, 2019, 5:00 AM), <https://www.propublica.org/article/tsa-transgender-travelers-scanners-invasive-searches-often-wait-on-the-other-side> [<https://perma.cc/442D-BC5J>]; Jacob Ogles, *Trans People Face Humiliating Practices When Just Trying to Fly*, ADVOCATE (Aug. 27, 2019, 9:15 AM), <https://www.advocate.com/news/2019/8/27/trans-people-face-humiliating-practices-when-just-trying-fly> [<https://perma.cc/9WJW-QVHS>].

164. Alissa Bohling, *Exclusive: Transgender Travelers Singled Out in TSA Screenings, Docs Show*, AL JAZEERA AMERICA (May 26, 2014, 5:00 AM), <http://america.aljazeera.com/articles/2014/5/26/groin-anomalies-andpatdownstravelingwhiletrans.html> [<https://perma.cc/DFM5-37HR>].

165. See, e.g., Abini, *supra* note 5, at 134; Diana Tourjée, *An Airline Refused to Let a Trans Woman Board Her Flight*, VICE (June 29, 2016, 12:00 PM), [https://www.vice.com/en\\_us/article/paeydg/an-airline-refused-to-let-a-trans-woman-board-her-flight](https://www.vice.com/en_us/article/paeydg/an-airline-refused-to-let-a-trans-woman-board-her-flight) [<https://perma.cc/MKB2-SU46>] (describing an airline that refused to let a trans woman fly due to discrepancies between her identification and her gender identity); Allie Conti, *A Woman Says She Was Harassed by the TSA for ‘Flying While Trans’*, VICE (Sept. 23, 2015, 4:26 AM), [https://www.vice.com/en\\_us/article/ppxzz8/a-woman-says-she-was-detained-by-the-tsa-for-flying-while-trans-935](https://www.vice.com/en_us/article/ppxzz8/a-woman-says-she-was-detained-by-the-tsa-for-flying-while-trans-935) [<https://perma.cc/6BB4-6QGT>] (reporting that 21 percent of transgender individuals face some

As Toby Beauchamp has explained brilliantly in their trenchant

form of discrimination while flying); Hailey Melville, *Transgender on a Plane: TSA's Problematic New 'Universal Pat-Down'*, OUT (Mar. 13, 2017, 1:02 PM), <https://www.out.com/news-opinion/2017/3/13/transgender-plane-tsas-problematic-new-universal-pat-down> [https://perma.cc/U4YF-3XFJ]; Fury, *Traveling as a Trans Person Is Exhausting and Dangerous*, VICE (Nov. 11, 2015, 5:27 AM), [https://www.vice.com/en\\_us/article/4wb8jw/travelling-as-a-trans-person-is-exhausting-and-dangerous](https://www.vice.com/en_us/article/4wb8jw/travelling-as-a-trans-person-is-exhausting-and-dangerous) [https://perma.cc/F6HZ-64ZB]. Many accounts describe very invasive pat-downs experienced by transgender travelers. See, e.g., Katelyn Burns, *Traveling While Trans: Airport Security Sees Your Genitals as Cause for Alarm*, REWIRE NEWS GRP. (May 5, 2017, 9:59 AM), <https://rewire.news/article/2017/05/05/traveling-trans-airport-security-sees-genitals-cause-alarm> [https://perma.cc/A62L-DXJ3]; German Lopez, *Traveling While Trans: How Some State Laws Make Airport Checkpoints Much More Difficult*, VOX (Sept. 22, 2015, 2:30 PM), <https://www.vox.com/2015/9/22/9373405/transgender-id-laws> [https://perma.cc/TBW5-9A8H]; Dawn Ennis, *Traveling While Trans: Women Share Their Stories*, ADVOCATE (Oct. 21, 2015, 12:54 PM), <https://www.advocate.com/transgender/2015/10/21/traveling-while-trans-women-share-their-stories> [https://perma.cc/H6NX-B8XM]; Meredith Russo, *Travelling While Trans—The Ups and Downs of Post-Transition Globetrotting*, ELLE (June 6, 2019), <https://www.elle.com/uk/life-and-culture/travel/a27779582/travelling-while-transgender> [https://perma.cc/MZ37-MWV8]; Adele Berti, *Travelling While Trans: Gender Issues at Airport Security*, AIRPORT INDUS. REV. (Jan. 2019), [https://airport.nridigital.com/air\\_jan19/travelling\\_while\\_trans\\_gender\\_issues\\_at\\_airport\\_security](https://airport.nridigital.com/air_jan19/travelling_while_trans_gender_issues_at_airport_security) [https://perma.cc/43B9-5AJZ]. For even more stories about transgender travelers' negative experiences, see Bryn N., *When I Traveled Home to North Carolina as a Trans Woman for the First Time*, VICE (Apr. 3, 2017, 8:35 AM), [https://www.vice.com/en\\_us/article/ywvmvny/when-i-traveled-home-to-north-carolina-as-a-trans-woman-for-the-first-time](https://www.vice.com/en_us/article/ywvmvny/when-i-traveled-home-to-north-carolina-as-a-trans-woman-for-the-first-time) [https://perma.cc/L4L4-H5A8]; Rebecca Ruiz, *Why It Can Be Humiliating and Dangerous to Travel While Trans*, MASHABLE (Sept. 22, 2015), <https://mashable.com/2015/09/22/traveling-while-trans> [https://perma.cc/GX9X-4EGZ]; Alex Marzano-Lesnevich, *Opinion, Flying While Trans*, N.Y. TIMES (Apr. 17, 2019), <https://www.nytimes.com/2019/04/17/opinion/tsa-transgender.html> [https://perma.cc/85BS-77T3]; Joanne Spataro, *Opinion, The Risks of Traveling While Queer*, N.Y. TIMES (Dec. 16, 2017), <https://www.nytimes.com/2017/12/16/opinion/sunday/the-risks-of-traveling-while-queer.html> [https://perma.cc/X8YZ-UNW6]; Leila Ettachfini, *The Horrible Things That Happen to Trans People Going Through Airport Security*, VICE (Aug. 27, 2019, 12:24 PM), [https://www.vice.com/en\\_us/article/qvgbv5/transgender-airport-security-harassment-experiences-tsa](https://www.vice.com/en_us/article/qvgbv5/transgender-airport-security-harassment-experiences-tsa) [https://perma.cc/6FGG-RSZZ]; Sydney Bauer, *Trans Travelers Face 'Invasive' Airport Security at Thanksgiving*, REUTERS (Nov. 28, 2019, 1:07 PM), <https://www.reuters.com/article/us-usa-lgbt-travel/trans-travelers-face-invasive-airport-security-at-thanksgiving-idUSKBN1Y222Z> [https://perma.cc/AJ9F-U62G] (describing one traveler who was told to lift up her skirt); Patrick Kelleher, *Trans Woman Reveals She Was Detained at the Airport for 'Being Transgender' in Emotional Viral Video*, PINKNEWS (Dec. 5, 2019), <https://www.pinknews.co.uk/2019/12/05/trans-woman-detained-airport-emotional-video> [https://perma.cc/BYE3-RLT2]; Emanuella Grinberg & Dani Stewart, *Transgender Former Navy SEAL Says TSA Humiliated Her*, CNN (Sept. 22, 2016, 7:47 PM), <https://www.cnn.com/2016/09/21/us/kristin-beck-transgender-tsa/index.html> [https://perma.cc/CK4R-URPE]; Samantha Allen, *The Freedom—and Fear—of Traveling While Transgender*, DAILY BEAST (Nov. 11, 2018, 3:09 AM), <https://www.thedailybeast.com/the-freedom-and-fear-of-traveling-while-transgender> [https://perma.cc/WAX3-GXMT]; Delia Danae Rawdon, *Guest Opinion: Traveling While Trans*, BAY AREA REP. (Nov. 13, 2019), <https://www.ebar.com/news/news/284353> [https://perma.cc/5T4Y-BFFZ]; Bani Amor, *Beyond Borders*

work, *Going Stealth*, “surveillance of gender-nonconforming people centers less on their identification as transgender per se than it does on the perceived deception underlying transgressive gender presentation.”<sup>166</sup> Since AIT and surveillance techniques frame any concealment as a potential threat, techniques have grown more and more invasive, causing cause greater intrusion into areas of the body usually deemed private.<sup>167</sup> The TSA also employs “enhanced pat down[]” searches at security checkpoints, including when a person opts out of AIT screening.<sup>168</sup> TSA guidelines mandate that pat-downs “should be conducted by an officer of the same gender,” and travelers should never be asked to remove or lift clothing to reveal a sensitive area of the body, with the officer offering a private screening if a pat-down of a sensitive area is required.<sup>169</sup>

Despite these controls, the TSA’s screening process invites subjective decisionmaking by TSA agents. Since TSA agents preselect whether they perceive a passenger to be male or female, many transgender individuals are then interpreted as having “anomal[ies].”<sup>170</sup> As a result, transgender individuals must either subject themselves to pat-downs after being flagged by the body scanner or disclose their transgender status to the agent, in full view of everyone else.<sup>171</sup>

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*and Binaries: A Trans Traveler Shares What It’s Like to Navigate the World*, AFAR (Aug. 12, 2019), <https://www.afar.com/magazine/beyond-borders-and-binaries-a-trans-traveler-shares-what-its-like-to-navigate> [<https://perma.cc/X4U7-7HCA>]; Carl Charles, *Dear TSA, My Body Is Not an Anomaly*, ADVOCATE (Oct. 1, 2015, 4:45 AM), <https://www.advocate.com/commentary/2015/10/01/dear-tsa-my-body-not-anomaly> [<https://perma.cc/892M-XPPY>]; Jacob Tobia, *Why Transgender People Suffer from ‘ID Anxiety’*, TIME (June 19, 2017, 12:23 PM), <https://time.com/4817285/transgender-id-anxiety> [<https://perma.cc/2JJC-QCVZ>] (describing anxiety about negative TSA reactions when gender markers on identification do not match a person’s outward gender presentation among transgender individuals); Carina Julig, *How Airport Security Makes Travel Traumatic for Butches and Trans Folks, Whether or Not They Pass*, SLATE (June 25, 2018, 5:46 AM), <https://slate.com/human-interest/2018/06/gendered-airport-security-makes-travel-traumatic-for-butches-and-trans-folks.html> [<https://perma.cc/8ZSR-2SXE>].

166. BEAUCHAMP, *supra* note 29, at 9.

167. *Id.* at 51.

168. Abini, *supra* note 5, at 130.

169. *Id.* See *Transgender Passengers*, TRANSP. SEC. ADMIN., <http://www.tsa.gov/transgender-passengers> [<https://perma.cc/J9US-NPDV>] (last visited Aug. 22, 2021).

170. Abini, *supra* note 5, at 134–35. Transgender individuals who bind their chests may also experience difficulties with the TSA scanners. *Id.*

171. See Tanya Mohn, *How to Plan a Safe Trip for Gay and Transgender Travelers*, N.Y. TIMES (Jan. 30, 2017), <https://www.nytimes.com/2017/01/30/business/how-to-plan-a-safe-trip-for-gay-and-transgender-travelers.html> [<https://perma.cc/H8M4-NL6N>]; Dawn Ennis, *7 Things to Do When #TravelingWhileTrans*, ADVOCATE (Oct. 5, 2015, 5:00 AM), <https://www.advocate.com/commentary/2015/10/05/7-things-to-do-when-youre-travelingwhiletrans> [<https://perma.cc/GYV2-2Q7W>]; Meg Cale, *A Trans\* Guide for Staying Safe While Traveling*, MATADOR NETWORK (Dec. 10, 2014), <https://matadornetwork.com/change/trans-guide-staying-safe-traveling> [<https://perma.cc/4NM2-TCQ3>]; Alex Verman, *Know Before You Go: Tips for Transgender*

## B. *Securitizing the Gender Binary*

Broadly speaking, the intersection between AIT and subjective interpretations of an individual's gender by TSA agents creates a link between having a body that corresponds to assigned gender at birth and being declared safe and suitable for travel. Particularly for individuals who have not undergone gender confirmation surgery, who lack official documentation of their identity, or who have not registered their transition with the state, any TSA interaction is a source of stress, anxiety, and indignity.<sup>172</sup> This risk of misrecognition is more than just a denial of legal recognition and personhood; it can lead to “humiliating interrogations, sexually assaultive pat downs, outing to colleagues, even denial of travel,” and even a visit from a bomb appraisal team.<sup>173</sup>

While other minorities have faced similar kinds of surveillance, here, gender misrecognition reflects a cost disproportionately (but not exclusively) borne by transgender and nonbinary individuals.<sup>174</sup> AIT often flags prosthetics, including those for transgender and nonbinary individuals.<sup>175</sup> In one situation, a transgender man was forced to remove his prosthetic penis, and when he handed it over, the supervisor put on two pairs of gloves, complaining, “you want me to touch that thing with

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*and Nonbinary Travelers*, AFAR (May 30, 2019), <https://www.afar.com/magazine/know-before-you-go-tips-for-transgender-and-nonbinary-travelers> [<https://perma.cc/CK28-Q67U>]; *Know Your Rights: Airport Security*, NAT'L CTR. FOR TRANSGENDER EQUAL., <https://transequality.org/know-your-rights/airport-security> [<https://perma.cc/E8LP-TVF3>] (last visited Aug. 22, 2021).

172. One of the authors, a pre-operative transgender woman, has faced firsthand this disparate treatment. While moving through the security queue at the Oakland International Airport, I was immediately marked down as female before I entered the millimeter wave scanner. However, when TSA agents detected several problem areas in my genital region, they requested further screening and extensive pat-downs of the groin. By repeatedly asking the TSA agent to check my driver's license (which showed that I had not changed my state assigned sex), I was able to escape additional security measures and pat-downs in a separate room hidden from the public. In other words, only by outing my transgender identity and defaulting to the information present on state-sanctioned documents was I able to present myself as nonthreatening. Once the TSA agent saw from my driver's license that I was assigned male at birth and that I was a transgender woman, she allowed me to pass. From the TSA perspective, their recognition of a “mistake” was not the misgendering of my gender identity, but rather the TSA's failure to classify me a biological male with corresponding male genitalia, thus erasing my trans identity. —Jessica Jung

173. Currah & Mulqueen, *supra* note 64, at 562–64.

174. Mari Brighe, *Please Step Over Here: The Perils of Traveling as a Trans Woman*, AUTOSTRADDLE (July 28, 2014, 7:00 AM), <https://www.autostraddle.com/please-step-over-here-the-perils-of-traveling-as-a-trans-woman-246912> [<https://perma.cc/H36Q-YKDN>].

175. Caroline Mortimer, *Transgender Passenger Reveals Humiliation of Being Forced to Remove Prosthetic Penis by Airport Security*, INDEPENDENT (Jan. 6, 2016, 9:40 PM), <https://www.independent.co.uk/news/world/australasia/humiliated-trans-passenger-forced-to-remove-prosthetic-penis-by-airport-security-a6799476.html> [<https://perma.cc/YW4A-S7G7>].

my bare hands.”<sup>176</sup> The traveler stated that he felt that the supervisor had “no regard for him as a human being.”<sup>177</sup> In another incident, a male transgender attorney was questioned for two hours and missed his flight after a bomb appraisal unit was called to question him because his whole-body scan and pat down “did not conform to agents’ expectations of what a man’s body should look or feel like.”<sup>178</sup>

TSA has made attempts to address the concerns of differently-bodied individuals by creating a program called TSA Cares.<sup>179</sup> The program aims to provide information and personalized assistance to any passengers whose bodies may be considered non-normative, listing information for several disabilities and medical conditions. Yet even its categories perpetuate the granting of recognition and legitimacy to certain groups and not others.<sup>180</sup> While TSA states that an officer will press a button “designating a gender based on how you present yourself,” it is not at all dependent on self-presentation; it depends on how that individual is *perceived* by the TSA officer.<sup>181</sup> As a journalist from *The Advocate* explained:

When asked what the TSA’s recommendation is for intersex and gender-nonconforming individuals, the spokesman said, . . . . “The technology that we deploy, the best technology for the current and historical threat, does require the transportation security officer to either identify the person as a male or female. And that technology, it does depend on human anatomy. And so in a situation where a transgender traveler is coming through the checkpoint, that decision is made based on the way the individual presents.”<sup>182</sup>

Again, the implications of airport surveillance expand even further to include anyone whose bodies may be marked as different or anomalous. The guidelines are also inconsistent among differently-bodied populations.<sup>183</sup> Nonetheless, all extant evidence suggests that transgender and nonbinary individuals are oversurveilled relative to other populations, enduring indignities that no population should have to face.

176. *Id.*

177. *Id.*

178. Abini, *supra* note 5, at 134–35 (citing letter from Mara Keisling, Exec. Dir., Nat’l Ctr. for Transgender Equal., Kate Kendall, Exec. Dir., Nat’l Ctr. for Lesbian Rts., & Masen Davis, Exec. Dir., Transgender L. Ctr. (Dec. 17, 2010)).

179. BEAUCHAMP, *supra* note 29, at 55–56.

180. *Id.*

181. Melanie Zanona, *TSA Puts Out Guidance for Screening Transgender Passengers*, HILL (Apr. 20, 2017, 12:51 PM), <https://thehill.com/policy/transportation/329731-tsa-puts-out-guidance-for-screening-transgender-passengers> [<https://perma.cc/N6E3-TTJX>]; see Ennis, *Goodbye ‘Anomaly’*, *supra* note 1 (TSA noting determination is based on “the way the individual presents”).

182. Ennis, *Goodbye ‘Anomaly’*, *supra* note 1.

183. For example, under TSA policy, transgender women with breast prosthetics could be excluded from consideration if they are deemed not “medically necessary” and not deserving of special consideration by the TSA under this framework. BEAUCHAMP, *supra* note 29, at 55–56.

### III. THE EXPRESSION PANOPTICON

In classic literature, the panopticon represents a decentralized infrastructure of surveillance, one that is constantly watching, potentially omniscient, and constantly imposing a subtle model of control. Today's gender panopticism, aided by AI, also renders panopticism as an active mode of governance, one that sorts, surveils, records, predicts, penalizes, and enforces at the same time. The exercise of power here is mostly invisible; governance is achieved through compelling individuals to alter their behavior and expression to *accord* with the expectation that they are constantly being watched. That aspect represents the artifice in the concept of "artificial intelligence"—and when applied to gender, it helps us to see AI's automated, disciplining force more clearly.

A similar phenomenon becomes even more pronounced when we consider the increasing employment of content filters among social media platforms. Social media platforms like YouTube and Tumblr, while often functioning as sites for queer expression, also utilize governance mechanisms that, in the words of Clare Southerton and her coauthors, are "at best, indifferent to queer communities, or, at worst, hostile to various forms of their expression."<sup>184</sup> Southerton has argued that social media produces a sort of "sexual citizenship," one that represents a vibrant space for the renegotiation of the boundaries between public and private, and the links between intimacy, desire, and expression.<sup>185</sup> As she explains, "insofar as these classification practices are *technologies* of citizenship, they are technologies of *sexual* citizenship because classification is preoccupied with sex."<sup>186</sup> Southerton has argued that familiar old debates about "rights, identity, representation and expression . . . play out in the new digital landscapes."<sup>187</sup> By deploying classification practices and viewing modes, however, Southerton argues that platforms, both directly and indirectly, regulate this notion of citizenship.

While we would agree that many of the issues regarding the relationship between technology and LGBTQ+ content on social media raise familiar debates, we would also argue that the particular importance of social media for queer communities—and the silent ubiquity of the surveillance technologies that regulate them—present us with added complications.<sup>188</sup> While content filtering may be commonplace, evidence

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184. Clare Southerton, Daniel Marshall, Peter Aggleton, Mary Lou Rasmussen & Rob Cover, *Restricted Modes: Social Media, Content Classification and LGBTQ Sexual Citizenship*, 23 *NEW MEDIA & SOC'Y* 920, 921 (2020).

185. *Id.*

186. *Id.* at 927.

187. *Id.* at 922.

188. See generally Morgan Klaus Scheuerman, Stacy M. Branham & Foad Hamidi, *Safe Spaces and Safe Places: Unpacking Technology-Mediated Experiences of Safety and Harm With Transgender People*, 39 *PROC. ACM ON HUM.-COMPUT. INTERACTION*, no. 155 (2018) (studying how transgender people navigate the creation and denial of safe spaces online).

shows us that LGBTQ+ populations are again caught in a double bind: Social media is particularly important to the visibility of marginalized communities, but the inadequacy of technological design also renders them more vulnerable to censorship, erasure, harassment, and abuse.

#### A. *Authenticating the Gender Panopticon*

Today, social media technology has “undoubtedly changed the very meaning of what it is to be trans” throughout the world.<sup>189</sup> Since many transgender and nonbinary individuals lack social support from traditional systems such as the family, social media plays an even more formative and especially relevant role in their everyday lives.<sup>190</sup> Some use online resources to assist their self presentation, to improve their physical safety, or to shield themselves from harassment or discrimination and to build community.<sup>191</sup>

Yet regardless of how a personal user customizes their given identity on social media, their choices will be constrained by governing legal guidelines and private platform policy.<sup>192</sup> Consider, for example, Facebook’s “real name policy,” which refers to the mandate that a user on Facebook must only have one profile with their assigned name and that the name has to correlate with legal identification.<sup>193</sup> Facebook defends its policy on the grounds that it demonstrates a measure of user “integrity.”<sup>194</sup>

This policy, however, directly implicates transgender individuals, who may find themselves blocked from social media because of this

189. Baird Campbell, *Learning to Be Trans on YouTube*, PLATYPUS (Feb. 14, 2017), <http://blog.castac.org/2017/02/trans-on-youtube> [<https://perma.cc/3CYU-PGXJ>]. See also Kami A. Kosenko, Bradley J. Bond & Ryan J. Hurley, *An Exploration Into the Uses and Gratifications of Media for Transgender Individuals*, 7 PSYCH. POPULAR MEDIA CULTURE 274 (2018) (explaining the value of social media for the transgender community).

190. Lauren B. McInroy & Shelley L. Craig, *Transgender Representation in Offline and Online Media: LGBTQ Youth Perspectives*, 25 J. HUM. BEHAV. SOC. ENV’T 606, 613–17 (2015).

191. *Id.* These include tips for one’s appearance, grappling with body changes from transition, and resources for procedures and trans-friendly healthcare.

192. See *What Names Are Allowed on Facebook?*, FACEBOOK, <https://www.facebook.com/help/112146705538576> [<https://perma.cc/TW27-XFHW>] (last visited Nov. 7, 2020). For more information, see Keir Baker, *Social Media Law: An Essential Guide*, GUARDIAN (Aug. 12, 2016, 10:36 AM), <https://www.theguardian.com/law/2016/aug/12/social-media-law-an-essential-guide> [<https://perma.cc/4MPF-MFN5>].

193. Jessa Lingel & Tarleton Gillespie, *One Name to Rule Them All: Facebook’s Identity Problem*, ATLANTIC (Oct. 2, 2014), <https://www.theatlantic.com/technology/archive/2014/10/one-name-to-rule-them-all-facebook-still-insists-on-a-single-identity/381039> [<https://perma.cc/GKN4-K5KA>].

194. *Id.* If a user was reported (by another user) for utilizing a “fake” name, the reported user’s account would be locked. After locking the account, Facebook would ask the user to submit legal identification and then compare their legal name to the user’s profile. *Id.*

requirement. Not only is registering one's transition difficult and costly, but it is subject to wide variation among state law. These requirements can easily become barriers for nonbinary or transgender individuals who already have difficulty navigating systems of legal identification. For example, in one of the most largescale surveys of transgender individuals, 68 percent did not have a single document that reflected their preferred name and gender, in part due to cost considerations.<sup>195</sup>

In 2015, Facebook faced a lot of criticism for kicking a number of drag queens, including San Francisco-based drag queen Lil Miss Hot Mess, off its platform for violating its name policy.<sup>196</sup> As she explained:

Transgender people uniquely face an uphill legal process just trying to be recognized for who they are—not to mention enduring life-threatening violence—and social media can offer an excellent way to test the waters of acceptance and build community. Facebook claims that their policy helps users express their authentic selves and keeps people safe by making users accountable for their words and actions. It's an admirable goal, and yet, our stories show that this policy is deeply flawed.<sup>197</sup>

Eventually, Facebook apologized and promised that it would allow for “stage names in place of legal ones.”<sup>198</sup> Rather than change its policy, Facebook opted to enforce it in a way that left room for flexibility around identification, allowing people to use nongovernment ID instead.<sup>199</sup> It eventually changed its policy to allow whatever “authentic name they use in real life,”<sup>200</sup> allowing individuals to provide more context and describe

195. SANDY E. JAMES, JODY L. HERMAN, SUSAN RANKIN, MARA KEISLING, LISA MOTTET & MA'AYAN ANAFI, NAT'L CTR. FOR TRANSGENDER EQUAL., *THE REPORT OF THE 2015 U.S. TRANSGENDER SURVEY 9* (2016), <https://transequality.org/sites/default/files/docs/usts/USTS-Full-Report-Dec17.pdf> [<https://perma.cc/3XFW-6WMC>].

196. Karen Dybis, “*Come As You Are?*” *Moral Concerns With Facebook's Identity Policies*, CTR. FOR DIGIT. ETHICS & POL'Y (Aug. 3, 2015), <https://web.archive.org/web/20201107091408/https://www.digitalethics.org/essays/come-you-are-moral-concerns-facebooks-identity-policies> [<https://perma.cc/Y8YL-6WAR>].

197. See Lil Miss Hot Mess, *Let Me Be Lil Miss Hot Mess: Facebook Took Away My Stage Name*, SALON (Sept. 24, 2014, 9:59 PM), [https://www.salon.com/control/2014/09/24/let\\_me\\_be\\_lil\\_miss\\_hot\\_mess\\_facebook\\_took\\_away\\_my\\_stage\\_name](https://www.salon.com/control/2014/09/24/let_me_be_lil_miss_hot_mess_facebook_took_away_my_stage_name) [<https://perma.cc/X8CN-AHKS>] (“To have years of photos, conversations and other traces of a life lived digitally suddenly disappear felt like an erasure of my very existence.”). In addition, a number of Native American individuals also came forward to point out that they, too, had been kicked off the platform for similar reasons. See Amanda Holpuch, *Native American Activist to Sue Facebook Over Site's 'Real Name' Policy*, GUARDIAN (Feb. 19, 2015, 9:29 AM), <https://www.theguardian.com/technology/2015/feb/19/native-american-activist-facebook-lawsuit-real-name> [<https://perma.cc/8BN2-J8F8>].

198. Lingel & Gillespie, *supra* note 193.

199. Vauhini Vara, *Who's Real Enough for Facebook?*, NEW YORKER (Oct. 2, 2014), <https://www.newyorker.com/business/currency/whos-real-enough-facebook> [<https://perma.cc/HLJ2-9W4X>].

200. *Id.*

their circumstances when asked for verification.<sup>201</sup> In 2015, Facebook further refined its guidelines, making it clear that being a member of the LGBTQ+ community provides additional justification for an exception.<sup>202</sup> But there are still critiques—many from individuals who point out that transgender persons often face significant delays between choosing their name and obtaining verification, suggesting little has changed as a result.<sup>203</sup>

## B. *Censoring Sexuality in Social Media*

Automated systems detect or “flag” content that may include language or images (like nudity) that may be deemed offensive under the governing terms of service or community guidelines.<sup>204</sup> Although these automated filters and their sorting decisions often make mistakes, their detection systems are opaque and proprietary, making it difficult to determine what factors contributed to the decision.<sup>205</sup> Below, we list several of the ways in which filtering on social media produces oversurveillance that negatively impacts the LGBTQ+ community.

### 1. Overinclusive Surveillance and Demonetization

In early March of 2017, reports surfaced that YouTube restricted a variety of clips of LGBTQ+-oriented content, including videos of a same-sex couple reading their wedding vows, a transgender woman performing a makeup tutorial, and a video celebrating Pride published by none other than YouTube itself.<sup>206</sup> Why did this happen? The restrictions

201. See *Facebook Makes Changes to ‘Real Names’ Policy After Complaints*, CBC, (Sept. 8, 2018), <https://www.cbc.ca/news/technology/facebook-real-names-1.3367403> [<https://perma.cc/Q9AV-YZC8>].

202. See *id.* These exceptions, according to CBC News, are: “Affected by abuse, stalking, or bullying,” “[l]esbian, gay, bisexual, transgender or questioning (LGBTQ),” and “[a] member of an ethnic minority.” *Id.*

203. Samantha Allen, *Facebook’s Pride Rainbows Don’t Extend to Trans People’s Names*, DAILY BEAST (June 13, 2017, 12:54 AM), <https://www.thedailybeast.com/facebook-pride-rainbows-dont-extend-to-trans-peoples-names> [<https://perma.cc/4DWB-6SUQ>]; see also *What Types of ID Does Facebook Accept?*, FACEBOOK, [https://www.facebook.com/help/159096464162185?helpref=faq\\_content](https://www.facebook.com/help/159096464162185?helpref=faq_content) [<https://perma.cc/LBD8-2QPL>] (last visited Aug. 22, 2021).

204. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 922.  
205. *Id.* at 923.

206. See Abby Ohlheiser, *YouTube Is ‘Looking Into’ Complaints That It Unfairly Censors LGBT Videos*, WASH. POST (Mar. 20, 2017, 9:18 AM), <https://www.washingtonpost.com/news/the-intersect/wp/2017/03/20/youtube-is-looking-into-complaints-that-it-unfairly-censors-lgbt-videos> [<https://perma.cc/23XF-KJ9Y>]. See Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 923. “Restricted mode” was introduced in 2010 by YouTube as an opt-in setting for individuals who wished to restrict access to mature content, like content that contained profanity, nudity, or violence. See *YouTube Help: Turn Restricted Mode On or Off*, GOOGLE SUPPORT, <https://support.google.com/youtube/answer/174084?co=GENIE.Platform%3DAndroid&hl=en> [<https://perma.cc/8N9K-YGDH>] (last visited Aug. 23, 2021).

were probably linked to the discovery, a month earlier, that Google had hosted a number of extremist videos promoting terrorism, prompting it to promise (in the face of an advertiser boycott) that it would do a better job identifying extreme content and ensure that advertisers could exert greater control over their brand associations in the future.<sup>207</sup> While YouTube denied any association between the regulation of content in restricted mode and the advertiser boycott, Southerton has argued that the increased vigilance around content has deleteriously affected LGBTQ+ creators.<sup>208</sup> For example, Youtuber NeonFiona pointed out that videos where she discussed bisexuality were restricted, whereas videos where she explicitly discussed sex were not.<sup>209</sup> A youth organization called Everyone Is Gay reported that all of their advice videos were restricted from view.<sup>210</sup> A video called “8 Black LGBTQ+ Trailblazers Who Inspire Me” was also restricted.<sup>211</sup>

In response, in March of 2017, LGBTQ+ users instituted a #YouTubeIsOverParty after noting that a variety of LGBTQ+ videos had been filtered in restricted mode.<sup>212</sup> Initially, YouTube argued that “LGBTQ+ videos are available in Restricted Mode, but videos that discuss more sensitive issues may not be.”<sup>213</sup> However, when confronted with evidence that showed overblocking (for example, a video titled “GAY flag and me petting my cat to see if youtube blocks this” was blocked), it again admitted that its filters were far too restrictive.<sup>214</sup> YouTube finally acknowledged later in 2017 that “[o]ur system sometimes makes mistakes in understanding context and nuances when it assesses which videos to make available in Restricted Mode.”<sup>215</sup> While they claimed to fix the problem (deemed an “engineering . . . issue”)<sup>216</sup> to restore the content, reports continued to surface just one month later.<sup>217</sup>

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207. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 923.

208. *Id.* at 924.

209. *Id.* at 923.

210. *Id.*

211. *Id.* at 924.

212. Elle Hunt, *LGBT Community Anger Over YouTube Restrictions Which Make Their Videos Invisible*, GUARDIAN (Mar. 19, 2017, 9:49 PM), <https://www.theguardian.com/technology/2017/mar/20/lgbt-community-anger-over-youtube-restrictions-which-make-their-videos-invisible> [<https://perma.cc/U9U9-2CCQ>] (noting that one user observed that only videos of her referencing her same-gender partner had been restricted, but not those where the gender of her partner remained unspecified).

213. Alex Hern, *To Censor or Not to Censor? YouTube’s Double Bind*, GUARDIAN (Mar. 21, 2017, 9:36 AM), <https://www.theguardian.com/technology/2017/mar/21/youtube-advertisers-censorship> [<https://perma.cc/9JB3-XGB7>].

214. *Id.*

215. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 924.

216. Johanna Wright, *An Update on Restricted Mode*, YOUTUBE OFF. BLOG (Apr. 21, 2017), <https://blog.youtube/news-and-events/an-update-on-restricted-mode> [<https://perma.cc/RX4M-JSB9>].

217. Even its admissions were confusing, at best. On one hand, YouTube

The issue of censoring LGBTQ+ content is not limited to YouTube. Similar problems have been reported on almost every major social media platform. For example, in 2017, Twitter admitted that it had mistakenly censored LGBTQ+ content, explaining that its list of “sensitive media terms” was outdated, thus leading to search results coming up empty for LGBTQ+ terms.<sup>218</sup> Similar reports have been made about Instagram. In 2018, when Eli Erlick tried to post photos on her Instagram account under the hashtag #lesbian, she noticed that her pictures stopped showing up on followers’ feeds and that no one had followed the account for several days.<sup>219</sup> When she tried to investigate, she discovered that she had been “shadow banned,” which is a feature that Instagram uses to filter out potential spam by preventing posts with certain hashtags for days or even weeks.<sup>220</sup> While shadow bans can apply to “banned” hashtags that involve pornography or content that breaks Instagram’s terms of use, it can also include harmless LGBTQ+ content as well, such as hashtags like #gays, #iamgay, #bi, #lesbiansofinstagram, or, in Erlick’s case, #lesbian.<sup>221</sup>

In some of these cases, it’s clear that the filters are conflating LGBTQ+ terms with sexual imagery. However, research has shown that filters, particularly filters designed for children, are overinclusive in blocking LGBTQ+ content (irrespective of whether the content was sexual or not); ironically, however, they are also often underinclusive in preventing

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asserted that “Restricted Mode should not filter out content belonging to individuals or groups based on certain attributes like gender, gender identity, political viewpoints, race, religion or sexual orientation.” Mahita Gajanan, *YouTube Changes Restricted Mode After Backlash for Blocking LGBTQ Videos*, *FORTUNE* (Apr. 21, 2017, 2:52 PM), <https://fortune.com/2017/04/21/youtube-LGBTQ+-restricted-mode-community> [<https://perma.cc/PV6Z-K5AQ>]. At the same time, however, it admitted in April of 2017 that its filters were doing just that: removing LGBTQ+ content from Restricted Mode—in fact, around 12 million videos in total. Wright, *supra* note 216.

218. Zack Ford, *Twitter Offers Incoherent Explanation for Anti-LGBTQ Censorship*, *THINKPROGRESS* (Nov. 7, 2017, 4:44 PM), <https://archive.thinkprogress.org/twitter-lgbtq-censorship-719192dbb0fd/> [<https://perma.cc/TFV4-WLLB>].

219. Eli Erlick, *How Instagram May Be Unwittingly Censoring the Queer Community*, *THEM.*, (Jan. 30, 2018), <https://www.them.us/story/instagram-may-be-unwittingly-censoring-the-queer-community> [<https://perma.cc/J78U-GH56>].

220. *Id.* While Instagram has not explained the practice, it appears to involve the triggering of spam filters due to the use of too many hashtags or reliance on third party applications. See, e.g., Caroline Forsey, *Everything You Need to Know About Instagram’s Secret Shadowban*, *HUBSPOT* (Oct. 30, 2019), <https://blog.hubspot.com/marketing/instagram-shadowban#:~:text=Shadowbanning%20is%20the%20act%20of,of%20view%2C%20shadowbanning%20makes%20sense> [<https://perma.cc/Q26P-H4HZ>].

221. Erlick, *supra* note 219. As Erlick explains, “By simply searching a term on Instagram, young, isolated queer people can find and have conversations with community members like themselves from around the world. But if that term is banned or the account uses the banned hashtags at all, the user will be difficult, if not impossible, to find.” *Id.*

nudity.<sup>222</sup> In other cases, the filters are actively censoring self-identifying terms as well.<sup>223</sup> To make matters worse, the reports indicated that the very policies that were meant to protect users from hate speech are actually harming those who are most in need of protection.<sup>224</sup> Many other reports share the same concern, pointing out that a number of LGBTQ+ individuals have been blocked for using terms like “dyke,” “fag,” or “tranny” to describe themselves or others within the community.<sup>225</sup> In one study, the Data Pack released a list of hashtags censored by Instagram, including tags like #lesbian, #gays, #lesbians, and #bi, but strangely, not #gay.<sup>226</sup> The term “dyke,” even when used as part of “Dyke Disco,” or “NYC Dyke Bar Takeover” was also censored by Facebook.<sup>227</sup> Even “I want a president,” an iconic text-based artwork by Zoe Leonard that is a prominent piece of public art, was flagged and removed by Instagram for its failure to comply with “community guidelines.”<sup>228</sup>

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222. Jay Costello, *Why Are Tumblr, Twitter, and YouTube Blocking LGBTQ+ Content?*, ESTABLISHMENT (July 20, 2017), <https://theestablishment.co/why-are-tumblr-twitter-and-youtube-blocking-lgbtq-content-e54e7acf4b5c/index.html> [<https://perma.cc/H9AK-HPGW>]. They found that when Tumblr users tagged their accounts as “explicit” or “NSFW” to signal that some of their content was explicit, every post they produced was flagged as a result. *Id.*

223. *Id.*

224. See SALTY, AN INVESTIGATION INTO ALGORITHMIC BIAS IN CONTENT POLICING OF MARGINALIZED COMMUNITIES ON INSTAGRAM AND FACEBOOK (2019), [https://www.saltyworld.net/wp-content/uploads/2019/10/Algorithmic\\_Bias\\_Salty\\_Oct222019-16.pdf](https://www.saltyworld.net/wp-content/uploads/2019/10/Algorithmic_Bias_Salty_Oct222019-16.pdf) [<https://perma.cc/N8N2-DQGQ>].

225. Dottie Lux & Lil Miss Hot Mess, *Facebook’s Hate Speech Policies Censor Marginalized Users*, WIRED (Aug. 14, 2017, 7:00 AM), <https://www.wired.com/story/facebook-hate-speech-policies-censor-marginalized-users> [<https://perma.cc/X6CF-ZX5J>].

226. Brogan Driscoll, *Instagram Is Censoring Hashtags Such as #Lesbian, #Gays and #Bi, Here’s Why*, HUFFPOST (May 27, 2016), [https://www.huffingtonpost.co.uk/entry/instagram-censorhip-hashtag-lesbian-gays-bi\\_uk\\_574704fae4b03e9b9ed5724a](https://www.huffingtonpost.co.uk/entry/instagram-censorhip-hashtag-lesbian-gays-bi_uk_574704fae4b03e9b9ed5724a) [<https://perma.cc/ENC7-3MXW>]; Mary Emily O’Hara, *Why Is Instagram Censoring So Many Hashtags Used by Women and LGBT People?*, DAILY DOT (May 26, 2021, 7:19 PM), <https://www.dailydot.com/irl/instagram-list-of-banned-tags-weird> [<https://perma.cc/484K-467J>].

227. Nico Lang, *How Social Media Is Silencing LGBT Voices*, NEWNOWNEXT (Nov. 6, 2017), <http://www.newnownext.com/how-social-media-is-silencing-lgbt-voices/11/2017> [<https://perma.cc/38VH-9T8G>]; see also Lisa A. Mallett & Liz Waterhouse, *Facebook Has a Problem With Dykes*, LISTENING 2 LESBIANS (June 24, 2017), <https://listening2lesbians.com/2017/06/24/facebook-has-a-problem-with-dykes> [<https://perma.cc/38RH-XV3E>] (noting that the term dyke has often been banned for community standard reasons); Mitchell Sunderland, *Facebook Blocked Me Because I Said ‘Faggot,’ Even Though I’m Gay*, VICE (May 25, 2014, 7:34 AM), <https://www.vice.com/en/article/bn575w/facebook-wont-let-faggots-say-faggot> [<https://perma.cc/6R8S-BQGD>].

228. Trish Bendix, *Instagram Is Censoring Lesbian Content for Violating ‘Community Guidelines’*, INTO (Jan. 25, 2018), <https://www.intomore.com/culture/instagram-is-censoring-lesbian-content-for-violating-community-guidelines> [<https://perma.cc/F9RG-2XF2>]. “Queer history is offensive to the dominant culture; the very

By essentially banning LGBTQ+ hashtags and preventing LGBTQ+ users' accounts from being seen, Erlick argues that "Instagram is suggesting that queer and trans identities are inherently inappropriate, sexual, and deserving to be hidden from the public."<sup>229</sup> This invisibility fuels economic harm as well. Not only have LGBTQ+ vloggers reported that filtering and blocking continues, but they also have found that YouTube has refused to approve their content for monetization, leading to significant drops in income.<sup>230</sup> In such situations, the logic behind capitalism and content moderation blends together, creating a bias against LGBTQ+ content. Since Google and YouTube pledged to give brands more control over where their ads appear, many advertisers opt away from channels that are not considered kid-friendly, often affecting LGBTQ+ content as a result.<sup>231</sup>

While much of the media attention about this censorship has covered anecdotal evidence, it is important to underscore that empirical research also supports assertions of censorship. One YouTube researcher did extensive research into the metadata of YouTube's source code and posted the results, noting that demonetized videos had certain codes tagged into the video's metadata.<sup>232</sup> Right after their findings became public, the source code disappeared from view entirely.<sup>233</sup> But the results of the study, which scraped over a million YouTube sites and drew on over 14,000 words, noted that if words like "gay" and "lesbian" were replaced with words like "happy," the status of the video immediately changed to "advertiser friendly" every time."<sup>234</sup>

Others, most recently in the lawsuit discussed at the start of this Article, have complained that YouTube has demonetized videos for

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mechanisms that Instagram has put in place to 'protect' us are being used to erase us when we don't stay within the bounds of 'respectability,'" the account's owners observe. *Id.*

229. Erlick, *supra* note 219.

230. Nico Lang, *YouTube Has Supposedly Stopped Restricting LGBT Content. So Why Are Queer YouTubers Still Leaving?*, NEWNOWNEXT (May 16, 2017), <http://www.newnownext.com/youtube-censorship-lgbt-monetize/05/2017> [<https://perma.cc/9D7W-GMNV>].

231. *Id.* ("The issues of monetization and restricting LGBT videos might seem distinct, but when YouTube sends the message that content is not suitable for a general audience, companies listen.")

232. BrodaYT, *YouTube Removes "excluded\_ads" Tag From the Source Code on Videos in Two Days After NerdCity's Video Exposes It!*, REDDIT (Dec. 1, 2017, 12:15 PM), [https://www.reddit.com/r/youtube/comments/7gxpqk/youtube\\_removes\\_excluded\\_ads\\_tag\\_from\\_the\\_source](https://www.reddit.com/r/youtube/comments/7gxpqk/youtube_removes_excluded_ads_tag_from_the_source) [<https://perma.cc/4C8R-4YUU>]. Examples of these codes include 102=profanity and 104=sexually suggestive content. *Id.*

233. *Id.*

234. Julia Alexander, *YouTube Moderation Bots Punish Videos Tagged as 'Gay' or 'Lesbian,' Study Finds*, VERGE (Sept. 30, 2019, 5:12 PM), <https://www.theverge.com/2019/9/30/20887614/youtube-moderation-LGBTQ-demonetization-terms-words-nerd-city-investigation> [<https://perma.cc/5AT7-49NL>].

containing terms like “trans” or “transgender” in the titles, deleteriously affecting trans youth.<sup>235</sup> Vlogger Chase Ross argued that YouTube’s demonetization algorithms were directly powered by the use of the word “trans” in the title, showing how the same video was monetized immediately when given a non-trans label.<sup>236</sup> Indeed, Ross alleges that every single one of his educative Trans 101 videos was demonetized, and over 60 percent of his entire collection has been flagged under restrictions, even though some contain no mature content.<sup>237</sup> Even after an apology from YouTube, his videos have been demonetized, age restricted, and removed.<sup>238</sup> In an even more troubling development, YouTube allowed anti-LGBTQ+ advertisers, like the Alliance Defending Freedom (deemed a hate group by the Southern Poverty Law Center) to run ads on his channel.<sup>239</sup>

Demonetization and restriction have real-life consequences, not just for the interlocutor but also for the larger trans community that relies on these videos for education and a sense of community. Many transgender individuals note that when they first started to come out, they spent a lot of time watching videos on YouTube about others like them.<sup>240</sup> As one scholar explains:

Though at first blush perhaps counterintuitive, trans social media use is intimately tied to the body. . . . These transition videos are one of the most popular, almost archetypal, kinds of trans social media activity. The visual and temporal specificities of social media allow trans people to create a living, public archive of their transitions, consisting of coming out videos, visits to doctors, hormone injections, and bodily progress reports. Furthermore, they have a pedagogical element, serving as examples for people who are considering transitioning, or just beginning.<sup>241</sup>

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235. Isabelle Kohn, *YouTube Is (Still) Silencing LGBTQ Sex Ed*, MEL, <https://melmagazine.com/en-us/story/youtube-is-still-silencing-LGBTQ+-sex-ed> [<https://perma.cc/EX5P-AJNL>].

236. *See id.*

237. *See* Declan Lawson, *An Open Letter to YouTube About Censoring Its Transgender Creators*, HUFFPOST (Apr. 10, 2017), [https://www.huffpost.com/entry/an-open-letter-to-youtube-about-censoring-its-transgender\\_b\\_58eba45ce4b0145a227cb6d7](https://www.huffpost.com/entry/an-open-letter-to-youtube-about-censoring-its-transgender_b_58eba45ce4b0145a227cb6d7) [<https://perma.cc/YN6A-WQKA>]. *See also* Malia Disney, *Trans YouTubers Say They Are Being Censored. Is It the Algorithm?*, YR MEDIA (May 4, 2018), <https://yr.media/news/trans-youtubers-say-they-are-being-censored-and-an-algorithm-may-be-to-blame> [<https://perma.cc/3YTE-KELT>] (interview with Stef Sanjati, a transgender content creator on YouTube with over 600,000 subscribers, who also reports that she encounters demonetization “fairly often”).

238. Megan Farokhmanesh, *YouTube Is Still Restricting and Demonetizing LGBT Videos—and Adding Anti-LGBT Ads to Some*, VERGE (June 4, 2018, 2:46 PM), <https://www.theverge.com/2018/6/4/17424472/youtube-lgbt-demonetization-ads-algorithm> [<https://perma.cc/UR56-TNNE>].

239. *Id.*

240. Campbell, *supra* note 189.

241. *Id.* Interestingly, however, most trans interlocutors are transmasculine

One of Ross's viewers wrote an open letter to YouTube, explaining that he had been watching Ross since he was seventeen years old.<sup>242</sup> The author used a prosthetic penis and explained that he had gotten his information from Ross's review videos:<sup>243</sup>

As a 23-year-old transgender man living in a state that has recently tried to pass anti-transgender bathroom bills, my [prosthetic penis] has saved my life in numerous bathroom situations . . . . To me, it is no different than a prosthetic leg. I wouldn't have been able to find the right one if it wasn't for YouTube review videos. . . . But because of the age-restriction, these videos are now not available for transgender youth, a community that . . . needs these videos the most.<sup>244</sup>

While YouTube has pledged to improve its filters, the demonetization essentially bars people like Ross from profiting from their educative work. In such instances, we see a clear economic and educative effect from gender-related surveillance that directly affects the transgender and nonbinary community. These decisions not only lower the economic returns from the corresponding demonetization or decrease in viewings, but they also dramatically narrow the pool of peer-related educative videos for transgender and nonbinary viewers, making it harder for them to learn about products and community in a space free from stigma. Ironically, while the intended effect of these policies is to ensure individual safety, it actually has the opposite effect of making transgender and nonbinary individuals less safe—and less informed—as a result.

## 2. Misclassification and Misrecognition

The issue of social media censorship raises a host of concerns that go beyond older debates about representation, sexuality, and the role of rights-based discourse. One core issue raised by these stories of censorship involves the automated conflation of an LGBTQ+ identity with overt sexuality and mature content. The LGBTQ+ community faces a disparate impact in expressing their relationships: straight people can push the boundaries of sexual expression without censorship, but even the most vanilla of LGBTQ+ content cannot. As Southerton writes, the issue of platform censorship “highlight[s] the effects of codifying practices in which the complexities of sexuality and sex must be reduced for efficiency—explorations of non-normative sexuality and LGBTQ expressions of desire” are defined, classified, and then automatically “placed within

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(feminine to masculine). Why? Because the “community standard[]” platforms in Facebook or YouTube “make it almost impossible for transwomen to engage in the same type of online behavior as transmen.” *Id.*

242. The letter's author lived in Montana, ranked as the second-to-worst state to live in for transgender people, “where there is such a lack of transgender education that most transgender people here figure out who they are via the internet.” Lawson, *supra* note 237.

243. *Id.*

244. *Id.*

the restricted category.”<sup>245</sup> Yet if content falls outside of these classifications, it can be unrestricted, whether or not it contains harmful content.<sup>246</sup> Safiya Noble has described how algorithms can function to oppress along the axes of race and gender, reinforcing discrimination.<sup>247</sup> Indeed, the very act of classifying LGBTQ+ content as “adults only” and therefore unsuitable for a general audience has the dual effect of both normalizing only heterosexuality and reinscribing the label of deviance onto those within the LGBTQ+ community.<sup>248</sup>

*a. The Act of Misclassification*

In 2019, Instagram banned six advertisements for the newsletter Salty, which focuses on trans and nonbinary individuals. The advertisements featured nonbinary and transgender persons of color and were banned on the grounds that the ads promoted escort services, which violated the site’s Terms of Service, even though none of the ads were even remotely connected to sex work.<sup>249</sup> After its ads were rejected by Instagram, Salty collected testimonials from users to document their experiences. Their report found that queer individuals and women of color were policed at a higher rate than the general population and that a high number of flagged videos were reinstated after deletion, suggesting a high number of false positives.<sup>250</sup>

But how is content classified? YouTube defines “mature content” to include content that includes drugs, alcohol, sexual situations, violence, profane language, war, crime, and demeaning content.<sup>251</sup> It does include

245. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 927.

246. *Id.* at 928.

247. See generally NOBLE, *supra* note 22 (outlining how search engines reinforce and amplify sexism and racism).

248. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 927.

249. EJ Dickson, *Why Did Instagram Confuse These Ads Featuring LGBTQ People for Escort Ads?*, YAHOO (July 11, 2019), <https://www.yahoo.com/entertainment/why-did-instagram-confuse-ads-203958840.html> [https://perma.cc/G7P5-2URY]; see also *Sex Workers and Trans Folks Will Get Hit Hardest by Craigslist Personals Shut-Down*, INTO (Mar. 26, 2018), <https://www.intomore.com/impact/sex-workers-and-trans-folks-will-get-hit-hardest-by-craigslist-personals-shutdown> [https://perma.cc/K83J-LFHT] (describing impact of the Fight Online Sex Trafficking Act and the Stop Enabling Sex Traffickers Act (FOSTA/SESTA) on sex workers and transgender individuals); Javi Mason, *The Great Depression: How SESTA-FOSTA Is Affecting Queer and Trans Sex Workers*, OUT ALLIANCE (June 1, 2018), <https://outalliance.org/the-great-depression-how-sesta-fosta-is-affecting-queer-and-trans-sex-workers> [https://perma.cc/9F2F-SL47]; Aviva Stahl, *‘We’re Monumentally Fucked’: Trans Sex Workers on Life Under FOSTA/SESTA*, VICE (Aug. 2, 2018, 11:41 AM), [https://www.vice.com/en\\_us/article/ev8ayz/trans-sex-workers-on-life-under-fosta-sesta](https://www.vice.com/en_us/article/ev8ayz/trans-sex-workers-on-life-under-fosta-sesta) [https://perma.cc/ZH5P-GXS5]. According to a 2015 report by the National Center for Transgender Equality, approximately 11 percent of transgender individuals have engaged in sex work, including nearly four out of every ten Black-identified transgender individuals in the survey. *Id.*

250. Dickson, *supra* note 249.

251. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 924.

an exclusion for “‘some educational’ content.”<sup>252</sup> Inevitably, however, the act of classifying implicates a relationship where mainstream, dominant values act to construct definitions of deviance, rather than diversity and inclusion.

But there is another reason for why classification systems are inherently troubling. By drawing a line between “good” LGBTQ+ content, described as “completely innocuous,” and “bad” LGBTQ+ content, content that raises eyebrows, the platform makes its own categorical judgments about what does and what does not deserve full recognition.<sup>253</sup> This ultimately translates into a value judgment about what is respectable and what is not respectable, with LGBTQ+ populations often at the losing end of the spectrum.

Indeed, much of the scrutiny of LGBTQ+ persons in social media is partially the result of the Fight Online Sex Trafficking Act and the Stop Enabling Sex Traffickers Act (FOSTA/SESTA), which holds websites and platforms liable for online sex trafficking.<sup>254</sup> As a result, many individuals have had their content removed from Instagram without explanation, even when they have large followings.<sup>255</sup> Yet aside from ostensibly targeting sex workers, FOSTA/SESTA has also led to wider efforts to censor content that is sexual in nature, even when it is entirely innocuous. In October of 2018, ostensibly due to FOSTA/SESTA, Facebook banned discussion of “sexual hints such as mention of sexual roles, positions or fetish scenarios,” under a policy designed to curb content that “facilitates, encourages or coordinates sexual encounters between adults,” and bars “sexually explicit language that may lead to solicitation.”<sup>256</sup>

If its definition of questionable content seems incredibly broad, that is because the policy has essentially been extended to ban any

252. *Id.*

253. *Id.* at 929 (noting that the examples recognized as mistakes by YouTube in its apology (a gay wedding, for example) reflect a “normative queer subject” seeking validation from heteronormative institutions like marriage and family).

254. Michael Kan, *New Facebook Policy Sparks Fears of Sex Talk Crackdown*, PCMag (Dec. 5, 2018), <https://www.pcmag.com/news/new-facebook-policy-sparks-fears-of-sex-talk-crackdown> [<https://perma.cc/6GRE-RL3P>] (noting that Facebook and Tumblr recently decided to ban various forms of sexual content in the wake of SESTA/FOSTA); Andre Shakti, *SESTA-FOSTA Proves Lawmakers Don't See Sex Workers Like Me as Human*, THEM. (Apr. 10, 2018), <https://www.them.us/story/sesta-fosta-backpage-sex-workers> [<https://perma.cc/N4FN-8R8L>] (describing the dehumanizing effect of SESTA/FOSTA on sex workers). See Erin Taylor, *The Vanilla Internet: How Instagram Is Failing Queer Sex Workers*, BITCHMEDIA (July 30, 2019, 7:40 AM), <https://www.bitchmedia.org/article/sex-workers-queer-meme-instagram-censorship> [<https://perma.cc/4GHQ-Y8YK>] (documenting effects of FOSTA/SESTA).

255. Taylor, *supra* note 254.

256. Nick Duffy, *Facebook Bans People From Discussing Sexual Preferences and Positions*, PINKNEWS (Dec. 6, 2018), <https://www.pinknews.co.uk/2018/12/06/facebook-ban-sexual-preferences> [<https://perma.cc/VN53-4HNF>].

content that “engages in implicit sexual solicitation.”<sup>257</sup> Its filters apparently identify and target a broad degree of content, including content that uses “sexual hints . . . sexual roles, sex positions, fetish scenarios, sexual preference/sexual partner preference, [or] sexual intercourse or activity (sexual penetration or self-pleasuring).”<sup>258</sup> Clearly, based on its guidelines, Facebook is targeting a much wider swath of content than that which would be noted under FOSTA/SESTA. Indeed, on its face, Facebook’s policy appears to chill all speech that is sexualized in nature. Yet its filters appear to disproportionately target LGBTQ+ (particularly trans) individuals, only making them more vulnerable as a result.<sup>259</sup>

The risk of censorship, therefore, poses implications for the framing of Southerton’s notion of sexual citizenship. If content produced by LGBTQ+ communities is routinely flagged, this suggests that expressive content produced by the LGBTQ+ community is somehow less deserving of recognition than content from another category. And if platforms aim for a more risk averse approach, suppressing all content that may be perceived as sexual in nature, then content produced by LGBTQ+ creators will inevitably wind up being caught in the crosshairs.<sup>260</sup>

#### *b. The Act of Misrecognition*

A further issue raised by such anecdotes involves the gender discrimination threaded through automated determinations. Artists who have tried to capture non-normative bodies have faced similar forms of

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257. *Id.*

258. *Id.*

259. Transgender porn performer and filmmaker Chelsea Poe explains that new social media policies in the wake of FOSTA/SESTA endanger sex workers: “If you have a platform for digital sex workers, you’ll have less women on the street and in a less vulnerable position.” Dickson, *supra* note 249.

260. See Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 924–26. Consider Tumblr as an example of this phenomenon. After its purchase by Yahoo in 2013, Tumblr faced more content restrictions, leading to users reporting that searches for terms like “gay” and “lesbian” were not returning any results. *Id.* at 925. Four years later, Tumblr introduced Safe Mode. *Id.* With the introduction of Safe Mode, LGBTQ+ content creators argued that their content was being identified as “sensitive” and therefore restricted from Safe Mode. *Id.* For its part, Tumblr acknowledged what happened and provided a host of explanations: first, that some users had self-identified their content as explicit; second, that posts that were reblogged from explicit sites were viewed as “sensitive;” and third, that its algorithm had incorrectly classified some nudity-related images. *Id.*; see also *Safe Mode Update*, TUMBLR, (June 23, 2017), <https://staff.tumblr.com/post/162178688374/safe-mode-update> [<https://perma.cc/6R3W-3WMU>]. Yet in 2018, it took an even further step, announcing that it planned to ban all adult content from its site, leading to a significant drop in traffic and undoubtedly affecting Tumblr’s previous character as a queer friendly space. Southerton, Marshall, Aggleton, Rasmussen & Cover, *supra* note 184, at 925–26. See also Daniel Reynolds, *Tumblr’s Ban on Adult Content Alarms LGBTQ Twitter*, ADVOCATE (Dec. 3, 2018, 1:52 PM), <https://www.advocate.com/business/2018/12/03/tumblrs-ban-adult-content-alarms-lgbtq-twitter> [<https://perma.cc/W9C2-ZVTW>].

ensorship as a result.<sup>261</sup> The artist Clarity Haynes, who produces large scale paintings of female-identified torsos, has noted that her work is regularly censored on Instagram and Facebook, leading to significant material consequences.<sup>262</sup> Haynes asks, “Whose nipples get censored? The rule is: women’s do, men’s don’t. But there is a spectrum of breasts, just like there is a spectrum of gender. There are infinite possibilities of what breasts can look like, and they can belong to men, women, and non-binary people.”<sup>263</sup>

Apparently, Facebook and Instagram claim to always allow photographs of women breastfeeding; photographs, paintings, sculptures, other art that depicts nudes; and post-mastectomy scarring.<sup>264</sup> Yet as transgender woman Courtney Demone demonstrated, when she posts pictures of herself topless, the pictures are sometimes permitted to remain and sometimes terminated according to the “community standards” on nudity.<sup>265</sup>

Others report that photographs of trans bodies (particularly those of people of color in a sensual context) are much more likely to be removed.<sup>266</sup> Facebook, at one point, removed a photo spread of trans-

261. See Katie Dupere, *This Trans Student’s School Tried to Censor His Artwork. Now It’s Going Viral*, MASHABLE (July 21, 2017), <https://mashable.com/2017/07/21/trans-artist-ap-art-gender-censorship> [<https://perma.cc/DX9C-PADC>] (discussing case of Jasper Behrends, a trans student whose award-winning work was censored for being “too provocative”).

262. Clarity Haynes, *I’m a Queer Feminist Artist. Why Are My Paintings Censored on Social Media?*, HYPERALLERGIC (Mar. 21, 2018), <https://hyperallergic.com/433549/im-queer-feminist-artist-paintings-censored-social-media> [<https://perma.cc/U7FL-NPZC>]. See also *Your Post Has Been Deleted—Censorship on Instagram*, CONSCIENTIOUS PHOTOGRAPHY MAG. (July 22, 2019), <https://cphmag.com/ig-censorship> [<https://perma.cc/4M86-YUUV>]. In one case, even a review of the artist’s work by Hyperallergic (a prominent art publication) was taken down, at the same time that the artist’s entire Facebook site was suspended for posting her exhibition catalogue. See Haynes, *supra*.

263. Haynes, *supra* note 262.

264. Community Standards:14. Adult Nudity and Sexual Activity, FACEBOOK, [https://www.facebook.com/communitystandards/adult\\_nudity\\_sexual\\_activity](https://www.facebook.com/communitystandards/adult_nudity_sexual_activity) [<https://perma.cc/SBV4-HHU7>] (last visited Aug. 26, 2021); *Instagram Community Guidelines FAQs*, INSTAGRAM (Apr. 19, 2018), <https://about.instagram.com/blog/announcements/instagram-community-guidelines-faqs> [<https://perma.cc/7YPT-VLJL>].

265. Yet either outcome contradicts Facebook’s own policy, which states that it “recognise[s] individuals based on their self-identified gender on Facebook and Instagram, and our community standards are applied on this basis.” Hannah Jane Parkinson, *A Surprisingly Difficult Question for Facebook: Do I Have Boobs Now?*, GUARDIAN (Nov. 3, 2015, 4:30 AM), <https://www.theguardian.com/technology/2015/nov/03/facebook-instagram-do-i-have-boobs-now> [<https://perma.cc/MTQ3-B7WT>]. See also Ben Moore, *Huge Inflatable Breast Outside Facebook HQ*, BBC (Nov. 15, 2019), <https://www.bbc.com/news/av/uk-england-berkshire-50437843/huge-inflatable-breast-outside-facebook-hq> [<https://perma.cc/2Y28-QGZN>] (noting the protests surrounding the suspension of a medical tattooist who draws nipples on women who have had mastectomies).

266. Dickson, *supra* note 249 (noting that the same pose would be taken down if

gender model Ines Rau with Tyson Beckford, arguing that it “violated the site’s community standards.”<sup>267</sup> Again, Facebook’s attempts to be inclusive regarding gender categories are limited by its technology, namely its content filters, which seemingly encounter greater errors when dealing with photos of transgender people.<sup>268</sup>

### 3. Overpoliticization of Content

Instances of queer and trans representation in social media, like many other kinds of non-normative content, are often filtered for being “political” and therefore removed from platforms.<sup>269</sup> Facebook has been known to block LGBTQ+-themed ads under its revised advertising policy governing political content, labeling a variety of Pride-themed advertisements as “political” in nature, even though they did not involve any political content or advocacy.<sup>270</sup>

Ironically, at the same time that platforms have shied away from queer content that it deems too “political” in nature, they have also readily agreed to censor LGBTQ+ content in contexts where official norms may be less than welcoming. And yet the “political” implications of this choice can be devastating for the LGBTQ+ community in such contexts. A study of Netsweeper, a Canadian filtering service used in over thirty countries, found evidence of blocking of LGBTQ+ content in countries like Bahrain, Sudan, the United Arab Emirates, or Yemen.<sup>271</sup> In 2019,

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the model were trans and a person of color, but not otherwise).

267. Carolina A. Drake, *Transgender Bodies and Censorship in Media Platforms, What Is Up?*, FEMINISTING, <http://feministing.com/2013/12/02/transgender-bodies-and-censorship-in-media-platforms-what-is-up> [<https://perma.cc/9BDN-G7U8>] (last visited Aug. 26, 2021).

268. In another example, Luna Winters, a transgender female, posted a topless picture of herself on Facebook without any intervention, even though she is transitioning (and therefore violating the policy against showing female nipples). Tish Weinstock, *This Transgender Woman Is Challenging Censorship and Gender Binaries on Facebook*, VICE: i-D (May 21, 2015, 11:59 AM), [https://i-d.vice.com/en\\_us/article/d3vxb7/this-transgender-woman-is-challenging-censorship-and-gender-binaries-on-facebook](https://i-d.vice.com/en_us/article/d3vxb7/this-transgender-woman-is-challenging-censorship-and-gender-binaries-on-facebook) [<https://perma.cc/GE8L-ENJS>]. See also Dickson, *supra* note 249 (discussing case of Ady Del Valle, who reports that Instagram routinely bans his topless photographs, even though he identifies as male and Instagram’s Terms of Service prohibit only female nipples from being showcased).

269. See, e.g., Casey Newton, *There’s a Crack at the Heart of Facebook’s Advertising Business*, VERGE (Oct. 4, 2018, 6:00 AM), <https://www.theverge.com/2018/10/4/17934770/facebook-lgbt-ads-watch-policies> [<https://perma.cc/ZQ3K-VKGF>] (noting the tendency to categorize LGBTQ+ content as “political”).

270. See, e.g., Eli Rosenberg, *Facebook Blocked Many Gay-Themed Ads as Part of Its New Advertising Policy, Angering LGBT Groups*, WASH. POST (Oct. 3, 2018, 1:44 PM), <https://www.washingtonpost.com/technology/2018/10/03/facebook-blocked-many-gay-themed-ads-part-its-new-advertising-policy-angering-lgbt-groups> [<https://perma.cc/4NTG-3RDY>].

271. See Miles Kenyon, Adam Senft & Ronald Deibert, *Identities in the Crosshairs—Censoring LGBTQ Internet Content Around the World*, OPENGLOBALRIGHTS (Nov. 27, 2018), <https://www.openglobalrights.org/>

the Guardian found that TikTok's efforts to provide locally sensitive moderation resulted in censoring any content relevant to the LGBTQ+ community, even in countries that did not ban homosexuality or same-sex sexual content.<sup>272</sup> While the China-based site's general guidelines banned speech that was controversial in China (like discussions of Falun Gong), it also employed more rigorous guidelines for conservative countries and individualized guidelines for some countries; many of these guidelines went further than local law required.<sup>273</sup> In Turkey, for example, the Guardian reported that TikTok's guidelines were devoted to censoring depictions of homosexuality, including "[i]ntimate activities" like holding hands; "reports of homosexual groups, including news, characters, music, tv show[s], pictures," along with content that "promot[es] homosexuality."<sup>274</sup>

Add to this the possibility of government surveillance. Grindr, a popular dating app for gay men, was apparently used by Egyptian authorities to arrest people in 2017; the Indonesian government and others have long been suspected of using spyware to target LGBTQ+ activists.<sup>275</sup> Even in other spaces where there is potential for anonymity, there still exists possibilities for surveillance and constraints on gender expression, particularly on popular platforms like YouTube and Tumblr.<sup>276</sup>

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identities-in-the-crosshairs-censoring-LGBTQ-internet-content-around-the-world [https://perma.cc/7YG2-5BYP].

272. Alex Hern, *TikTok's Local Moderation Guidelines Ban Pro-LGBT Content*, GUARDIAN (Sept. 26, 2019, 9:34 AM), <https://www.theguardian.com/technology/2019/sep/26/tiktoks-local-moderation-guidelines-ban-pro-lgbt-content> [https://perma.cc/E3WP-T66X].

273. *Id.*

274. *Id.*; see also Cristina Criddle, *Transgender Users Accuse TikTok of Censorship*, BBC (Feb. 12, 2020), <https://www.bbc.com/news/technology-51474114> [https://perma.cc/J8X6-J37U] (noting reports from many trans individuals that their posts are removed); Chris Köver & Markus Reuter, *TikTok Curbed Reach for People With Disabilities*, NETZPOLITIK.ORG (Feb. 12, 2019, 5:09 PM), <https://netzpolitik.org/2019/discrimination-tiktok-curbed-reach-for-people-with-disabilities> [https://perma.cc/3PER-J7A2] (noting that TikTok instructed its moderators to mark videos of perceived overweight, disabled and LGBTQ+ individuals and to restrict their circulation by marking them as "not recommend[ed]" because these groups were "highly vulnerable to cyberbullying").

275. Bo Hanna, *Digital Defenders: Meet the Queer Activists Fighting Surveillance and Censorship Online*, DOCUMENT (Apr. 12, 2019), <https://www.documentjournal.com/2019/04/digital-defenders-meet-the-queer-activists-fighting-surveillance-and-censorship-online> [https://perma.cc/M78Z-Q9DH].

276. James Vincent, *Transgender YouTubers Had Their Videos Grabbed to Train Facial Recognition Software*, VERGE (Aug. 22, 2017, 10:44 AM), <https://www.theverge.com/2017/8/22/16180080/transgender-youtubers-ai-facial-recognition-dataset> [https://perma.cc/4E66-W7YC].

#### 4. Inexplicable Outcomes

Last, there are also account terminations that come without explanation but which seem to target transgender individuals at disproportionately higher rates. For example, on Tinder, trans individuals report having their accounts terminated or suspended on multiple occasions without explanation,<sup>277</sup> leading one journalist to note that she was “inundated” with responses from trans women who had been blocked or banned from dating sites “for seemingly no reason.”<sup>278</sup> Later, Tinder publicly explained that it had chosen to roll out its “More Genders update,” in order to ensure “no one is ever removed from Tinder simply because of their gender.”<sup>279</sup>

In 2018, a class action suit was filed against Tinder alleging that the site systematically discriminates against transgender individuals.<sup>280</sup> The plaintiff in that case, Ariel Hawkins, alleged that just hours after she added the phrase, “camgirl on the side. preop trans woman” to her dating profile on Tinder, she was told that she violated their terms of service and had her account deleted.<sup>281</sup> Hawkins maintains she did not violate any of the terms of service, and Tinder, typically, refused to explain or specify which of the terms were violated.<sup>282</sup> Tinder responded to inquiries by noting that they do not comment on pending litigation, but pointed out:

[W]e can say, categorically, that we do not ban users from Tinder due to gender identity . . . . At Tinder, we fundamentally believe that gender is not binary and we support inclusivity and acceptance of all people, which is why we offer more than 37 gender identity options for our users in the United States.<sup>283</sup>

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277. See Allison Tierney, *Why Are Trans People Being Banned From Tinder?*, VICE (Dec. 14, 2017, 10:15 AM), [https://www.vice.com/en\\_us/article/xwvaaz/why-are-trans-people-being-banned-from-tinder](https://www.vice.com/en_us/article/xwvaaz/why-are-trans-people-being-banned-from-tinder) [https://perma.cc/JBT2-BWS3].

278. Chloe Sargeant, *Side-Swipe: The Challenges of Online Dating While Trans*, SBS (May 29, 2018, 2:42 PM), <https://www.sbs.com.au/topics/sexuality/agenda/article/2018/05/22/side-swipe-challenges-online-dating-while-trans> [https://perma.cc/52ZM-8KF8]; see also Tierney, *supra* note 277.

279. Tierney, *supra* note 277. See also Chris Riotta, *Tinder Still Banning Transgender People Despite Pledge of Inclusivity*, INDEPENDENT (Dec. 12, 2019, 5:36 PM), <https://www.independent.co.uk/news/world/americas/tinder-ban-trans-account-block-report-lawsuit-pride-gender-identity-a9007721.html> [https://perma.cc/JGQ5-5H5P].

280. Brigitte Honaker, *Tinder Class Action Lawsuit Alleges Transgender Discrimination*, TOP CLASS ACTIONS (Mar. 16, 2018), <https://topclassactions.com/lawsuit-settlements/lawsuit-news/838753-tinder-class-action-lawsuit-alleges-transgender-discrimination> [https://perma.cc/P26T-6GEF].

281. Katie Shepherd, *A Portland Transgender Woman Has Sued Tinder for Deleting Her Online Dating Profile*, WILLAMETTE WK. (Mar. 14, 2018, 12:01 AM), <https://www.wweek.com/news/courts/2018/03/14/a-portland-transgender-woman-has-sued-tinder-for-deleting-her-online-dating-profile> [https://perma.cc/NF4H-BGUV].

282. Honaker, *supra* note 280.

283. Shepherd, *supra* note 281.

Despite Tinder's pledge for multiple gender protection, a year later, users still have similar complaints. One of them, named Stevie, a non-binary person, had their account banned, even though they had availed themselves of the "more genders" option introduced in 2016.<sup>284</sup> Other persons have reported similar results.<sup>285</sup>

### C. *Trolling the Algorithm*

As the previous Subpart suggested, many social media sites are criticized for using overinclusive content filters when it comes to targeting content produced by or for transgender and nonbinary individuals. This Subpart focuses on the opposite issue: underinclusive filters when it comes to targeting harassing content. When we connect the issue of trolling to AI-driven filtering, we see a radical revision of Southerton's notion of sexual citizenship: overbroad filtering fuels an overregulation of LGBTQ+ content, silencing LGBTQ+ voices, at the very same time that platforms underregulate harmful content, amplifying the harassment and abuse that these users face. The result of this state of affairs essentially redraws the boundaries of digital citizenship—implicitly suggesting that LGBTQ+ populations are less deserving of the same protections enjoyed by others within the mainstream population.

According to one report analyzing 10 million posts across social media in the United States and United Kingdom, 12 percent of all conversations on social media about being trans contain abusive language.<sup>286</sup> Insert "transgenders are" in Google, the writer Jeremy Kun suggests.<sup>287</sup> The results list an astonishing array of hateful descriptions—"freaks," "gross," "sick," "wrong," and "crazy."<sup>288</sup> These results only further underscore the stigma and misunderstanding facing transgender individuals.

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284. "I had four pictures up, and all of them were of me," Stevie reported to *The Independent*, noting that they appeared in feminine clothing in all photographs. "They're all clearly the same person: it's me." Riotta, *supra* note 279. Vic Parsons, *Tinder Has 50 Gender Options but Transgender People Are Being Banned for Their Gender Identity*, *PinkNews* (Oct. 25, 2019), <https://www.pinknews.co.uk/2019/10/25/tinder-50-gender-options-transgender-people-banned-gender-identity> [<https://perma.cc/PZ3Y-36C3>] (reporting on the banning of trans and non-binary users' accounts for spurious reasons).

285. *See id.*

286. Jamie Wareham, *Twitter's Transphobia Ban: One Year On, the Platform Is Still Failing Trans People, Activists Say*, *FORBES* (Nov. 25, 2019, 8:57 AM), <https://www.forbes.com/sites/jamiewareham/2019/11/25/one-year-since-twitters-transphobia-ban—that-is-failing-trans-people/?sh=4ff339ea20f8> [<https://perma.cc/WUV3-UCMC>]; *Exposed: The Scale of Transphobia Online*, *BRANDWATCH*, <https://www.brandwatch.com/reports/transphobia> [<https://perma.cc/242D-PML7>] (last visited Aug. 27, 2021).

287. Jeremy Kun, *Big Data Algorithms Can Discriminate, and It's Not Clear What to Do About It*, *CONVERSATION* (Aug. 13, 2015, 1:56 AM), <https://theconversation.com/big-data-algorithms-can-discriminate-and-its-not-clear-what-to-do-about-it-45849> [<https://perma.cc/84NS-CU9R>].

288. *Id.*

Using social media also carries its share of risks for transgender and nonbinary individuals, who often need to protect themselves from mistreatment, trolling, and subsequent discrimination.<sup>289</sup>

For transgender and nonbinary individuals, however, these platforms can be a double-edged sword, forcing them to navigate between authenticity and visibility. Despite the common construction of social media as a site for queer connection, many trans individuals report facing significant harm-related concerns, arising from both inside and outside of the trans community and directed at individuals or at the trans community as a whole.<sup>290</sup> Further, companies often use images from social media platforms to hone automated gender recognition technologies without individuals' knowledge or consent.<sup>291</sup>

In addition to the possibility of surveillance, many transgender and nonbinary individuals face online harassment.<sup>292</sup> Yet social media sites like YouTube have failed to respond effectively to right wing vloggers who use transphobic or homophobic language, further marginalizing vulnerable populations, especially members of the LGBTQ+ population.<sup>293</sup> Twitter, after an outcry, finally prohibited misgendering and deadnaming transgender individuals, specifying that such practices violated their Hateful

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289. Yuliya Cannon, Stacy Speedlin, Joe Avera, Derek Robertson, Mercedes Ingram & Ashley Prado, *Transition, Connection, Disconnection, and Social Media: Examining the Digital Lived Experiences of Transgender Individuals*, 11 J. LGBT ISSUES COUNSELING 68 (2017) (discussing the role of social media in the lives of transgender individuals).

290. See Scheuerman, Branham & Hamidi, *supra* note 188, at 13–19.

291. For example, researcher Karl Ricanek compiled data from YouTube transition videos without the prior knowledge or consent of the individuals. Vincent, *supra* note 276. When contacted by journalists, Ricanek assured them that he no longer gave individuals access, tried to seek consent from individuals, and ensured that his dataset was not used for commercial purposes. *Id.* Yet when journalists from the Verge contacted individuals whose videos were used in the dataset, some explained that they felt like it was still an invasion of their privacy, even though they understood that their videos were public. *Id.*

292. See Scheuerman, Branham & Hamidi, *supra* note 188, at 13–19.

293. Steven Crowder, for example, posted a series of homophobic comments about Carlos Maza, a popular YouTube star, calling him a “lispy queer” and “little queer,” but was not found to violate YouTube’s Terms of Service. EJ Dickson, *LGBTQ Influencers Criticize YouTube After Homophobic Videos Are Allowed to Stay*, ROLLING STONE (June 5, 2019, 5:54 PM), <https://www.rollingstone.com/culture/culture-features/LGBTQ-influencers-steven-crowder-carlos-maza-homophobic-video-youtube-844561> [<https://perma.cc/2MS3-F7G4>].

Conduct policy.<sup>294</sup> But many Twitter users have said that the policy has not reduced the level of hate directed at them for being transgender.<sup>295</sup>

When stigma and discrimination are combined with filters and censors that disproportionately target and exclude transgender content, the result only begets more stigma and discrimination.<sup>296</sup> As we previously described, overinclusive filters create invisibility, and underinclusive harassment policies often facilitate harassment and mistreatment. As we discuss in the next Part, in failing to countenance a more inclusive view of gender, both public and private entities abdicate their responsibilities to treat everyone equally, placing transgender and nonbinary communities even more at risk of discrimination as a result.

#### IV. INTERROGATING THE GENDER PANOPTICON

In their award-winning volume, *Trap Door*, Reina Gossett, Eric Stanley, and Johanna Burton noted the irony of today's moment—that we live in a time of trans visibility, while at the same time, we exist in a state of perpetual anti-trans violence.<sup>297</sup> As they write:

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294. Wareham, *supra* note 286. Its terms of service prohibit “targeting individuals with repeated slurs, tropes or other content that intends to dehumanize, degrade or reinforce negative or harmful stereotypes about a protected category. This includes targeted misgendering or deadnaming of transgender individuals.” *Id.*; *Hateful Conduct Policy*, TWITTER, <https://help.twitter.com/en/rules-and-policies/hateful-conduct-policy> [<https://perma.cc/2XYS-VWJB>] (last visited July 21, 2021); Adi Robertson, *Twitter Has Banned Misgendering or ‘Deadnaming’ Transgender People*, VERGE (Nov. 27, 2018, 9:53 AM), <https://www.theverge.com/2018/11/27/18113344/twitter-trans-user-hateful-content-misgendering-deadnaming-ban> [<https://perma.cc/4KNH-X9XG>]. See also Muri Assunção, *VidCon Apologizes for ‘Horrible Mistake’ When Addressing YouTuber Miles McKenna at Panel on LGBTQ Activism*, N.Y. DAILY NEWS (July 17, 2019, 6:09 PM), <https://www.nydailynews.com/entertainment/ny-vidcon-youtuber-miles-mckenna-lgbtq-apologized-20190717-nockkixgtjg4rnnuhm7yg7eezu-story.html> [<https://perma.cc/PDM8-9V96>] (noting the harmful impact of deadnaming).

295. Wareham, *supra* note 286.

296. Consider that in the United Kingdom, there have been at least six prosecutions of individuals for gender fraud and sexual assault involving individuals who failed to disclose their transgender status to their partners, often online. In one case, a person created a Facebook profile identifying as a man before Facebook had created trans-friendly options. His representation was portrayed as an instance of fraud though no appropriate alternative was available. These cases highlight how a binary system of gender risks classifying transgender individuals as fraudulent. J. Lester Feder, *How an Online Love Affair Ended With a Trans Man Convicted of Sexual Assault*, BUZZFEED NEWS (Oct. 14, 2016, 10:12 AM), <https://www.buzzfeednews.com/article/lesterfeder/how-an-online-love-affair-ended-with-a-trans-man-convicted-o> [<https://perma.cc/BD95-B777>]; Alex Sharpe, *The Dark Truth Behind the Convictions for ‘Gender Fraud’*, NEWSTATESMAN (Dec. 16, 2015), <https://www.newstatesman.com/politics/feminism/2015/12/dark-truth-behind-convictions-gender-fraud> [<https://perma.cc/D9KA-38DK>].

297. See Reina Gossett, Eric A. Stanley & Johanna Burton, *Known Unknowns: An Introduction to Trap Door*, in *TRAP DOOR: TRANS CULTURAL PRODUCTION AND THE POLITICS OF VISIBILITY* xv (2017).

[T]he promise of “positive representation” ultimately gives little support or protection to many, if not most, trans and gender non-conforming people, particularly those who are low-income and/or of color—the very people whose lives and labor constitute the ground for the figuration of this moment of visibility.<sup>298</sup>

While trans people are often offered many “doors” to visibility, resources, and recognition, there are also many “traps,” because the accommodating forces only operate insofar as they replicate (or fail to challenge) existing power structures.<sup>299</sup> Taking the notion of a trap door as a metaphor here, we would suggest that privacy, too, operates as a sort of trap door of protection: it does little to improve the quality of lives of the LGBTQ+ population and fails to really grapple with the gender panopticism that governs us all. As this Article has suggested, the panopticon of gender affects all of us; it proposes and enforces a uniformity and scarcity to the categories of gender that we are *all* governed by.<sup>300</sup> However, it affects most powerfully the LGBTQ+ community, especially transgender and nonbinary individuals who are among the ones most deleteriously affected.

#### A. *Gender Panopticism*

While there is a large body of study of the panopticon—and a variety of different panopticons throughout surveillance literature<sup>301</sup>—few legal scholars have, as yet, articulated a link between surveillance theory, AI, and gender categorization.<sup>302</sup> The idea of a “gender panopticon”

298. *Id.*

299. *Id.* at xxiii. But then, they note, there is also a third way—a “trap door,” which they describe as a “secret passageway[] that take[s] you someplace else, often someplace as yet unknown. . . . a third term that acknowledges the others but refuses to be held to them.” *Id.* For more discussion of these possibilities, see *infra* Part V.

300. See generally Sonia K. Katyal, *The Numerus Clausus of Sex*, 84 U. CHI. L. REV. 389 (2017).

301. Indeed, Galič, Timan & Koops articulate a variety of different formulations, including a “pauper-Panopticon,” a “constitutional-Panopticon,” among others. Galič, Timan & Koops, *supra* note 28, at 13–14.

302. Beauchamp’s work is the most prominent example of work in this vein. See generally BEAUCHAMP, *supra* note 29. Others have also drawn on the notion of gender and the panopticon, though in different contexts. For a few of these examples, see SANDRA LEE BARTKY, *FEMININITY AND DOMINATION: STUDIES IN THE PHENOMENOLOGY OF OPPRESSION* 80 (1990) (studying relationship between Foucault’s panopticon and gender); Trisha Kemerly & Tony Kemerly, *Caught in the Panopticon: Gender Performativity in Women’s Mixed Martial Arts*, POPULAR CULTURE ASS’N/AM. CULTURAL ASS’N NAT’L CONF. (2015) (studying the relationship between gender performance and martial arts); Margaret Carlisle Duncan, *The Politics of Women’s Body Images and Practices: Foucault, the Panopticon, and Shape Magazine*, 18 J. SPORT & SOC. ISSUES 48 (1994) (studying relationship between gender and panopticism in Shape, a popular culture magazine); Amelia Clare Wright, *The Panopticon of the Patriarchy*, VIVA, <https://vocal.media/viva/the-panopticon-of-the-patriarchy> [<https://perma.cc/5HUM-FT76>] (last visited Aug. 27, 2021) (studying relationship between patriarchy and panopticism).

is a particularly fruitful framing of the intersections between data collection, surveillance, and gender categorization. Classic forms of data collection and categorization, we argue below, bear a distinct similarity to the ways in which surveillance technologies can be distributed throughout panoptic infrastructure.

As this Article has argued, the intersections of surveillance technologies with biometric surveillance, social media, and AI have created a gender panopticon, a world where these technologies have created opportunities for surveillance and categorization. Gender surveillance begins from a centralized state entity and eventually becomes decentralized among private entities, which then engage in the process of surveillance, sorting, and categorization. This shift from public to private surveillance tracks, again, the panopticon's capabilities. But the classification mechanism also brings with it the risk of censorship, erasure, and self-censorship. The greatest cost of panopticism thus involves how it encourages self-censorship as a result of constant surveillance and categorization.

It is also important to see how panopticism differs from ordinary forms of discipline and control. As Foucault and others recognized, the original goal of the panopticon was not to institute a society where individuals were directly watched and controlled all the time.<sup>303</sup> “[I]t is at once too much and too little,” Foucault wrote, “that the prisoner should be constantly observed by an inspector . . . .”<sup>304</sup> Rather, “the inmate must never know whether he is being looked at at any one moment; but he must be sure that he may always be so.”<sup>305</sup> The governing purpose of the panopticon, according to several leading surveillance scholars, “was that discipline would be internalised and the need for the inspector, the watching itself, would be eventually exhausted. . . . the purpose of such central inspection was to obviate the need for watching, punishment, and the Panopticon itself.”<sup>306</sup>

Modern surveillance scholars, along these lines, have deepened the parallel between data collection and panopticism. Two leading post-structuralist thinkers, Gilles Deleuze and Félix Guattari, argued that under capitalist frameworks, the rise of nonstate institutions became less focused on long-term control and more focused on short-term results, requiring constant “monitoring and assessment” of markets and workforces, thus enabling surveillance to become far more abstract and numerical.<sup>307</sup> Importantly, in this process, the goal is not social control

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303. Michel Foucault, “Panopticism” *From Discipline & Punish: The Birth of the Prison*, RACE/ETHNICITY: MULTIDISCIPLINARY GLOB. CONTEXTS, Autumn 2008, at 1.

304. *Id.* at 6.

305. *Id.*

306. Galić, Timan & Koops, *supra* note 28, at 12.

307. *Id.* at 19.

as much as the creation of consumers; a focus on consumers' data-bodies becomes almost more important than the outright control of real bodies.<sup>308</sup>

Under these capitalist surveillance frameworks, as they argue, a multiplicity of institutions (called assemblages) engage in these processes, leading to an exponential increase in forms of technology-driven surveillance.<sup>309</sup> Under this emergent framing:

It is no longer (physical) individuals who needs [sic] to become visible and controlled, rather, the focus is on their data doubles (who need not be a double at all), the data that individuals leave behind and are then re-assembled according to the purpose it is supposed to serve. Data about us, this “pure virtuality,” is almost uncontrollably flowing in cyberspace . . . . [As a result] [s]ocial control today is, thus, decentralised and shape-shifting—it is not focused just on collecting information but on decoding and recoding, altering, circulating and re-playing information.<sup>310</sup>

Applying these insights, this Article tells the story of what happens when AI misgenders, censors, or overlooks an entire population of LGBTQ+ individuals. American society has historically conflated gender, sex, appearance, and anatomy, often to the detriment of transgender and nonbinary communities.<sup>311</sup> And when these presumptions are baked into data collection practices, they resurface as part of the data itself. And massive data collection—of the kind AI requires—carries real-world effects on behavior. As panoptic scholarship predicts, “[w]hen everybody can potentially be under surveillance, people will internalise control, morals and values—discipline is thus a type of power, a strategy and a kind of technology.”<sup>312</sup> The idea behind a panopticon is that since participants never truly know whether or not they are being watched, they adjust their behavior to the expectation of surveillance as a result. As a result, the panopticon operates in a passive capacity, instead of an active one.

Just as panopticism creates strategies of surveillance, it carries the additional cost of enforcing conformity or imposing costs on those who defy easy categorization. And this applies to those who (consciously or unconsciously) resist the panoptic pull of surveillance. Dean Spade has used the term “administrative violence” to describe how the state “create[s] narrow categories of gender and force[s] people into them in

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308. *Id.* at 20.

309. *Id.* at 21.

310. *Id.* at 23.

311. Chan Tov McNamara, *Misgendering*, 109 CAL. L. REV. (forthcoming 2021) (citing Sonny Nordmarken, *Microaggressions*, 1 TRANSGENDER STUD. Q. 129, 130 (2014) and describing misgendering as addressing “trans people with incorrect gender pronouns, among other actions”).

312. Galič, Timan & Koops, *supra* note 28, at 16.

order to get their basic needs met.”<sup>313</sup> Anna Lauren Hoffmann, echoing these views, has extended the concept of discursive violence to data, studying how the “processes of classifying, sorting, bounding, labeling, and optimizing enabled by data technologies,” both private and public can promulgate “data violence” as well.<sup>314</sup> This concept extends beyond gender and into race, where we can see countless examples of AI-driven technologies that cause racial stereotyping and other forms of harm.<sup>315</sup> “[D]atafication represents a discourse that is at once social and technological, structuring how various identities and bodies are produced, surfaced, made sense of, seen as legitimate, and ascribed significance.”<sup>316</sup>

As such, today’s gender panopticism goes much further than before,<sup>317</sup> since it is far more active, lying not just in the potential for surveillance but in drawing hidden connections between troves of data.<sup>318</sup> Since so much public and private surveillance takes place without the person’s knowledge or consent, many individuals leave traces of data behind.<sup>319</sup> And with today’s AI-powered techniques, gender detection and prediction is far more widespread than anyone realizes. As this Article has discussed, transgender and nonbinary individuals face a range of harms as a result of this combination of pervasive surveillance and misrecognition, producing violations of both bodily and informational privacy, suppression of expressive freedoms, and denial of services as a result.

## B. *The Harms of Gender Panopticism*

In this Article, we identify at least three different types of harms caused by gender panopticism.<sup>320</sup> One type of harm is subjective, involving harms that flow from unwanted observation, ranging from mild

313. See Keyes, *supra* note 38 (quoting Dean Spade). See generally DEAN SPADE, *NORMAL LIFE: ADMINISTRATIVE VIOLENCE, CRITICAL TRANS POLITICS, & THE LIMITS OF LAW* (Duke University Press 2015) (articulating a movement of critical trans politics that moves from a demand for recognition to a demand for structural, material changes to the lives of trans people); DEAN SPADE, *What’s Wrong With Rights?*, in *NORMAL LIFE: ADMINISTRATIVE VIOLENCE, CRITICAL TRANS POLITICS, & THE LIMITS OF LAW*, 38–49 (Duke University Press 2015).

314. Anna Lauren Hoffmann, *Terms of Inclusion: Data, Discourse, Violence*, *NEW MEDIA & SOC’Y: ONLINEFIRST* 3 (Sept. 16, 2020), <https://journals.sagepub.com/doi/full/10.1177/1461444820958725> [<https://perma.cc/X4ED-2NV2>].

315. See generally RUHA BENJAMIN, *RACE AFTER TECHNOLOGY: ABOLITIONIST TOOLS FOR THE NEW JIM CODE* (2019); Katyal, *supra* note 144.

316. Hoffmann, *supra* note 314, at 5.

317. See Jack M. Balkin, *The Constitution in the National Surveillance State*, 93 *MINN. L. REV.* 1, 12 (2008).

318. *Id.*

319. See *id.*

320. In a helpful essay along these lines, Ryan Calo has argued that privacy harms can be divided into subjective and objective categories. M. Ryan Calo, *The Boundaries of Privacy Harm*, 86 *IND. L.J.* 1131, 1142–43 (2011).

discomfort in the presence of a security camera to those harms that can be far greater, involving significant pain and distress.<sup>321</sup> Consider the reports surfacing from the hashtag #travelingwhiletrans. Unlike other travelers, the transgender or nonbinary traveler faces a greater expectation of search, sorting, and surveillance. And this harm does not require actual observation for actual harm; here, just like the panopticon predicted, the mere fear of surveillance, the mere “perception of observation can be enough.”<sup>322</sup>

But a second type of harm is more objective in nature; it stems from the “unanticipated use of information about a person against that person.”<sup>323</sup> Consider the censorship panopticon discussed in the previous Subpart,<sup>324</sup> where automated filters target certain content for demonetization and erasure. Here, the harm may involve the detection of personal and expressive information (a hashtag, for example) to then block a person’s ability to express themselves. The main focus is on the actual adverse consequence that flows from the loss of personal control over information.<sup>325</sup> The harm involves the unanticipated collection of information, with no information about its planned use or purpose.<sup>326</sup>

Further, by making one’s online activities, identities, and preferences transparently visible, social media frameworks create a culture of surveillance by other individuals. This culture of panopticism, in turn, enables a variety of entities—governments, private individuals, and authority figures—to exploit the power of social media frameworks to develop an increasingly invasive system of surveillance. The identities and activities we adopt in social media can become transparently visible, compromising privacy and identity. Many of our activities in cyberspace—communications, files, stored pictures, online activities—can be monitored, revealed, and recorded at the same time, enabling “invasion without physical invasion.”<sup>327</sup>

While a strong case can be made for both the subjective and objective nature of the harms faced by transgender and nonbinary individuals, we would argue that they also face a third category of harm. The harm here, we would argue, is a harm that stems from *misrecognition*. In this Article, we have discussed three types of technologies—biometric, government-related, and social media-related—to show how the very moment of classification can become an opportunity for misrecognition and further invisibilization.

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321. *Id.* at 1142.

322. *Id.*

323. *Id.* at 1143.

324. *See supra* Subpart III.B.

325. Calo, *supra* note 320, at 1143.

326. *Id.* at 1148–49.

327. Lawrence Lessig, *The Architecture of Privacy*, Address at Taiwan Net ‘98 (Mar. 1998); *see also* LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999).

In an extensive account of the historical context behind misgendering, Chan Tov McNamarah has argued that intentional misgendering represents much more than a trivial mistake.<sup>328</sup> Drawing on historical and sociolinguistic research, McNamarah ties misgendering to the use of dishonorifics to subjugate a broad range of minority groups, including Black and non-Black minorities, women, and members of the LGBTQ+ population (among other categories).<sup>329</sup> They draw a compelling portrait of the ways in which both intentional and nonintentional misgendering subordinates and disregards the personhood of trans and nonbinary persons, depriving them of safety, privacy and dignity.<sup>330</sup> To McNamarah, then, intentional misgendering operates as “a technology of gender policing,” reinforcing “a binary, discrete, stable notion of gender . . . to punish and censor those who challenge it.”<sup>331</sup>

What are the effects of automated forms of misrecognition? One resulting cost involves the harm of over- or underrepresentation, implicating the erasure or targeting of trans and nonbinary subjects.<sup>332</sup> Another kind of harm involves the replication of stereotypes. Those who are excluded from the dataset are drawn as deviant, error classifications, or outliers. And those who are included are cast as cisgender or falling within the binary, even when that category may not apply. A further kind of harm deals with quality-of-service differentials.<sup>333</sup> When entire communities disappear from datasets, they are no longer afforded the same opportunities and obligations that everyone else enjoys.

As a result, just as the panopticon dictates, many trans individuals carefully censor their online presence on social media. Care about their online presence extends not only to their outward gender presentation but to the content produced by transgender or nonbinary individuals and to their online interactions. Many transgender or nonbinary individuals report a need to constantly censor their own online presence and their everyday lives in order to avoid harassment, reflecting concerns over their physical safety.

According to scholar Alice Marwick, since those who are female, LGBTQ+-identified, and young often experience online abuse at higher rates than others, these groups often self-censor their content (leading to lower levels of content produced by these specific groups). Moreover, because online systems and social media sites are usually designed by white males who do not face harassment in the same way, they fail to

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328. See generally McNamarah, *supra* note 311.

329. *Id.*

330. *Id.*

331. *Id.*

332. See Yang Trista Cao & Hal Daumé III, *Toward Gender-Inclusive Coreference Resolution*, PROC. 58TH ANN. MEETING ASS'N COMPUTATIONAL LINGUISTICS 4568, 4570 (2020).

333. *Id.* at 4569.

design social media that protects against online abuse.<sup>334</sup> Since these technologies draw on exclusionary designs and impacts, they wind up producing results that target LGBTQ+ populations for even more surveillance. In some cases, the individual does not wish to be ignored or left alone; they want to be *seen*, to be counted and recognized, just like everyone else. At other times, they may wish to remain anonymous, unaccounted for. In either case the privacy harm stems from the way in which their information is processed. Instead of facilitating intrusion, which is the conventional way to describe information-related privacy harms, here, AI and other processes facilitate a panoptic mischaracterization of the individual, an erasure of their identity, or a reduction that classifies nonbinary populations as data outliers. The person may or may not wish to be left alone, nor does the information entity purposely mean to mischaracterize the data, but the harm of misrecognition occurs as a result of both of these processes, producing further surveillance as a result.

### C. *Is Privacy Enough?*

Of course, it is important to note that part of what has facilitated the increased conditions of surveillance and misrecognition has been a near-total absence, within federal law, of a comprehensive set of standards for privacy protection. Our understanding of privacy and its entitlements comes largely from case law and thus is both obtuse and diffuse as a result, making it hard to apply to the specific circumstances faced by individuals who are facing systems of surveillance. Just as this Article implicates different kinds of surveillance, it also implicates different kinds of privacy. Issues of physical search, biometric surveillance, and intrusion deal with a strong notion of bodily privacy (linked, to a lesser extent, to informational privacy). The converse is true of social media, which implicates strong concerns about informational privacy (and relates to bodily privacy to a lesser extent).

Nevertheless, it may be attractive to sketch out a robust form of privacy protection for transgender and nonbinary individuals. But this strategy carries several shortcomings. First, as we discuss more below, a more robust form of privacy is not always linked to gender self-determination, and the notion of gender self-determination, when it exists in case law, often circulates within a binary system of gender. While there are a few states that have adopted nonbinary classifications, those states are few and far between as compared to the matrix of ways in which our federal system (not to mention private entities) operates and imposes a binary system.

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334. Alice Marwick, *A New Study Suggests Online Harassment Is Pressuring Women and Minorities to Self-Censor*, QUARTZ (Nov. 24, 2016), <https://qz.com/844319/a-new-study-suggests-online-harassment-is-pressuring-women-and-minorities-to-self-censor> [<https://perma.cc/DC77-G6J4>].

Second, turning to information privacy, we see similar shortcomings, particularly in that the law is limited in its ability to curtail the creeping ability of technology to govern our private and public lives. While some cities like Oakland have banned facial recognition,<sup>335</sup> many other legal avenues for protection are hampered by a paucity of legal protections. The privacy implications of biometric data are of course extremely well documented. A variety of jurisdictions have also enacted regulations governing the collection, retention, and use of biometric data.<sup>336</sup> Six states have included biometric data protections in regulations involving data security breach notifications.<sup>337</sup> Other states have enacted statutes that more directly protect biometric information by regulating its collection.<sup>338</sup>

However, not a single statute, to date, addresses the potential harms from gender misidentification.<sup>339</sup> In June of 2016, the National Telecommunications and Information Administration, in conjunction with several stakeholders, released a set of facial recognition best practices for private companies (but not government entities).<sup>340</sup> But those practices govern only the use and collection of such information and do not address the issue of gender misidentification. They are also unenforceable.<sup>341</sup> The U.S. Federal Trade Commission also issued a report addressing the privacy and security concerns in facial recognition technology.<sup>342</sup> While its report emphasized concepts like privacy by design (which encourages companies to build in privacy protections at every stage of their product development), it did not offer a solution with respect to correction or remedies for misidentification or error.<sup>343</sup>

Third, perhaps the biggest problem with a robust notion of privacy protection is that it fails, nearly entirely, to grapple with the significant harms faced by transgender and nonbinary communities. An additional concern with privacy involves the uneven extension of privacy protections

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335. Sarah Ravani, *Oakland Bans Use of Facial Recognition Technology, Citing Bias Concerns*, S.F. CHRON. (July 17, 2019, 8:33 AM), <https://www.sfchronicle.com/bayarea/article/Oakland-bans-use-of-facial-recognition-14101253.php> [<https://perma.cc/6RTJ-2GN4>].

336. Jason B. Binimow, Annotation, *State Statutes Regulating Collection or Disclosure of Consumer Biometric or Genetic Information*, 41 A.L.R. 7th Art. 4 (2019).

337. These states are Connecticut, Iowa, Nebraska, North Carolina, Oregon, Wisconsin, and Wyoming. *Id.* § 2.

338. These states are Illinois, Texas, and more recently, Washington. *Id.*

339. For an excellent, thoughtful account of misgendering, see McNamara, *supra* note 311.

340. See Nakar & Greenbaum, *supra* note 63, at 93.

341. *Id.*

342. *Id.* at 107; FED. TRADE COMM'N, *FACING FACTS: BEST PRACTICES FOR COMMON USES OF FACIAL RECOGNITION TECHNOLOGIES* (2012), <https://www.ftc.gov/sites/default/files/documents/reports/facing-facts-best-practices-common-uses-facial-recognition-technologies/121022facialechrt.pdf> [<https://perma.cc/WC94-35QR>].

343. See Nakar & Greenbaum, *supra* note 63, at 107 (discussing the report).

to different populations. As Beauchamp has insightfully observed, “privacy is not a default status but an exceptional one, granted largely on the basis of wealth and racial privilege.”<sup>344</sup> As a result, the ways in which surveillance has affected particular communities—including populations marginalized because of their race, class, gender, or the intersection of these categories—often goes overlooked. As Mary Anne Franks has detailed in her article *Democratic Surveillance*, “[t]he privacy narrative emphasizes the experiences of relatively privileged members of society, which produces a distorted picture of the history, theory, and practice of surveillance.”<sup>345</sup> In addition, breach of privacy, in an age of information, is usually framed as a more information-related harm. This obscures the ways in which privacy implicates other types of harms, like restraints on physical liberty and freedom of movement, issues that are faced by those targeted by biometric surveillance and other forms of AI-driven technologies.<sup>346</sup>

## V. ADDRESSING THE GENDER PANOPTICON

As we argued above, legal solutions are simply not enough, and are unable to keep up with the rapid changes within technology and innovation. We need to take stock of design-oriented solutions as well. Toward that end, in this final Part we explore how to reform both law and technology to be more protective of the rights of transgender and nonbinary individuals. Some of these strategies involve legal solutions; others involve reforming the very design of technology and data collection. Instead of merely engaging the power of law, we also need to employ the power of design and utilize our legal tools to build better frameworks. Below, we detail some of the legal limits and possibilities for protecting gender self-determination in an AI-oriented world; in the latter half of this Part, we turn to how technology might be enlisted to both embed and protect gender self-determination, blending a range of solutions that draw from design strategies to move toward greater inclusion.

### A. *Elective Gender*

Years ago, Mary Dunlap noted, “If the individual’s authority to define sex identity were to replace the authority of law to impose sex identity, many of the most difficult problems currently associated with the power of government to probe, penalize, and restrict basic freedoms

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344. BEAUCHAMP, *supra* note 29, at 3.

345. Mary Anne Franks, *Democratic Surveillance*, 30 HARV. J.L. & TECH. 425, 441, 453 (2017) (“For the less privileged members of society, surveillance does not simply mean inhibited Internet searches or decreased willingness to make online purchases; it can mean an entire existence under scrutiny, with every personal choice carrying a risk of bodily harm.”).

346. *Id.* at 429.

of sexual minorities would be resolved.”<sup>347</sup> As we have argued, the right of gender self-determination is largely denied to transgender and nonbinary individuals in a world dominated by a binary system of AI. While discrimination against transgender persons is becoming more and more recognized as illegal, the vast majority of legal cases only protect transition viewed within a binary system—that is, individuals who are transitioning from their assigned sex to confirming their identity as the opposite sex. This narrow view does not question the overall applicability of a strictly binary system. As a result, the notion of gender self-determination offered by these cases does not address the additional complexities faced by nonbinary individuals, who are often forced to live within binary assignments that do not adhere to their own self-identity.

Consequently, the most radical view of a right to gender self-determination begins at the outset with reexamining the system of state assignment of identity itself.<sup>348</sup> Under this framework, gender becomes understood as elective rather than ascriptive, thus eliminating state-assigned gender classifications.<sup>349</sup> Others have echoed similar views, defining self-determination as “the right to nominate and define a category and one’s relationship to it, including as an intermittent or inconsistent identity,” implying an end to binary understandings of gender and sex altogether.<sup>350</sup>

As one of the authors has previously argued, our current system of gender classification is largely ascriptive, relying on surveillance to assign gender.<sup>351</sup> However, one does not have to abandon the idea of state assignment altogether (though it is certainly worth considering) to account for greater gender pluralism. The law is slowly changing to create more

347. Mary C. Dunlap, *The Constitutional Rights of Sexual Minorities: A Crisis of the Male/Female Dichotomy*, 30 HASTINGS L.J. 1131, 1147–48 (1979).

348. The Yogyakarta Principles, among the most notable examples of gender self-determination, observe that “[e]ach person’s self-defined sexual orientation and gender identity is integral to their personality and is one of the most basic aspects of self-determination, dignity and freedom.” *Principle 3*, YOGYAKARTA PRINCIPLES, <https://yogyakartaprinciples.org/principle-3> [<https://perma.cc/CN2X-WHNC>]. See also the excellent volume in the *International Journal of Gender, Sexuality and Law*, devoting a series of articles to this question, 1 INT’L J. GENDER, SEXUALITY & L. (2020), and the volume of the journal *feminists@law* also devoting a series of articles to this question, 10 FEMINISTS@LAW, no. 2, (2020).

349. See Jessica A. Clarke, *Identity and Form*, 103 CALIF. L. REV. 747 (2015) (discussing and questioning the appeal of formal identity).

350. Christopher Hutton, *Legal Sex, Self-Classification and Gender Self-Determination*, 11 L. & HUMANS. 64, 79 (2017). By honoring the notion of gender self-determination, Katherine Franke has argued that this principle creates possibilities for autonomy and agency that are currently foreclosed by biological or deterministic understandings of gender. Katherine M. Franke, *The Central Mistake of Sex Discrimination Law: The Disaggregation of Sex From Gender*, 144 U. PA. L. REV. 1, 3–4 (1995).

351. See, e.g., Katyal, *supra* note 300 (discussing systems of gender classification and their effects on transgender and nonbinary individuals).

and more spaces for more recognition. Though the Supreme Court has not ruled yet on this issue, lower courts are increasingly concluding that discrimination against transgender people should receive heightened scrutiny, either as a form of discrimination based on sex<sup>352</sup> or as its own suspect or quasi-suspect classification.<sup>353</sup> The Supreme Court's holding in *Bostock v. Clayton County* in June of 2020 unequivocally states that "it is impossible to discriminate against a person for being homosexual or transgender without discriminating against that individual based on sex."<sup>354</sup> This holding, at the very least, suggests that the numbers of anti-trans bills making their way through the state and federal levels would almost certainly be invalidated by courts due to *Bostock* and the absence of a compelling interest justifying differential treatment of trans women and girls.<sup>355</sup>

Even without recourse to suspect classifications, an alternate foundation for gender self-determination can be found in the right to privacy. The *Roe v. Wade*<sup>356</sup> decision extended the constitutional protection of liberty to a right to privacy that incorporated a woman's decision to have an abortion, holding people have a right to be free from unwarranted intrusion by the state.<sup>357</sup> The protection of privacy was extended over personal choices such as the right of a woman to control her choices regarding her body and of everyone to make certain choices regarding sexual conduct in a private space.<sup>358</sup>

Drawing from these precedents, the law offers some limited areas of optimism for the accommodation of transgender and nonbinary

352. See, e.g., *Whitaker v. Kenosha Unified Sch. Dist.*, 858 F.3d 1034 (7th Cir. 2017); *Glenn v. Brumby*, 663 F.3d 1312, 1321 (11th Cir. 2011).

353. See, e.g., *Grimm v. Gloucester Cnty. Sch. Bd.*, 302 F. Supp. 3d 730, 749 (E.D. Va. 2018); *M.A.B. v. Bd. of Educ.*, 286 F. Supp. 3d 704, 719 (D. Md. 2018); *F.V. v. Barron*, 286 F. Supp. 3d 1131, 1145 (D. Idaho 2018); *Stone v. Trump*, 280 F. Supp. 3d 747, 768 (D. Md. 2017), *appeal dismissed*, No. 17-2398, 2018 WL 2717050 (4th Cir. Feb. 2, 2018); *Bd. of Educ. v. U.S. Dep't of Educ.*, 208 F. Supp. 3d 850, 874 (S.D. Ohio 2016), *stay denied pending appeal*, *Dodds v. U.S. Dep't of Educ.* 845 F.3d 217 (6th Cir. 2016); *Norsworthy v. Beard*, 87 F. Supp. 3d 1104, 1119 (N.D. Cal. 2015); *Adkins v. City of New York*, 143 F. Supp. 3d 134, 140 (S.D.N.Y. 2015).

354. *Bostock v. Clayton Cnty.*, 140 S. Ct. 1731, 1741 (2020); see also Sharita Gruberg, *Beyond Bostock: The Future of LGBTQ Civil Rights*, CTR. FOR AM. PROGRESS (Aug. 26, 2020, 9:01 AM), <https://www.americanprogress.org/issues/lgbtq-rights/reports/2020/08/26/489772/beyond-bostock-future-lgbtq-civil-rights> [<https://perma.cc/8UKN-GBUW>].

355. See, e.g., *Hecox v. Little*, 479 F. Supp. 3d 930, 968-89 (D. Idaho 2020). The case is currently on appeal before the Ninth Circuit.

356. 410 U.S. 113 (1973).

357. This right to privacy was also extended in subsequent cases such as *Planned Parenthood v. Casey* and *Griswold v. Connecticut*, and the arc of the *Bowers v. Hardwick* and *Lawrence v. Texas* decisions regarding sodomy. See Hutton, *supra* note 350, at 72.

358. WILLIAM N. ESKRIDGE JR., NAN D. HUNTER & COURTNEY G. JOSLIN, *SEXUALITY, GENDER, AND THE LAW* 228 (4th ed. 2017).

identities. The Supreme Court's gay rights jurisprudence since *Lawrence v. Texas*<sup>359</sup> has suggested that the liberty interest encompassed within due process protects a person's right to live in accordance with their identity, including as an LGBTQ+ person, without interference or punishment from the state.<sup>360</sup> As commentators have noted, that jurisprudence sometimes blurs the lines between the equal protection and due process guarantees.<sup>361</sup> Nevertheless, this theory could also apply to transgender and nonbinary individuals and thus could be useful to conceptualize a right to gender self-determination, based on precedent regarding bodily autonomy as a right to privacy.

Even without Supreme Court jurisprudence supporting this view, lower court decisions have held that denying transgender people an accurate government ID restricts their rights to privacy and autonomy.<sup>362</sup> A recent Tenth Circuit ruling questioned the utility of binary categories for an intersex individual seeking a passport from the State Department, noting that it did not support the stated goal of "accuracy" to deny them a passport, noting "for intersex individuals like Zzyym, treating every applicant as male or female would necessarily create inaccuracies."<sup>363</sup>

Perhaps one of the most core results of studying and centering the impact of design choices on transgender and nonbinary populations involves recognizing, rather than replicating, the limitations of identity-based categories of gender and sexuality. As many scholars (including one of us) have argued, methods that invoke even the concept of a "transgender population" reproduce Western categories of gender that may not fit in every context, and actually run the risk of stigmatizing populations even more; some scholars have argued (following Foucault) that "the very insistence that particular persons be classified and counted as transgender positions them as abnormal and subject to greater scrutiny and social surveillance within the binary gender system."<sup>364</sup>

Even without articulating a robust notion of gender privacy, it is undeniable that transgender and nonbinary communities are subjected to a disproportionate level of surveillance, historically and today. For example, under at least one of the proposed regulations that ban transgender girls from participating in women's sports, an athlete whose

359. 539 U.S. 558 (2003).

360. *Obergefell v. Hodges*, 135 S. Ct. 2584, 2589 (2015); *Lawrence*, 539 U.S. at 574 ("At the heart of liberty is the right to define one's own concept of existence, of meaning, of the universe, and of the mystery of human life.")

361. *See, e.g.*, Kenji Yoshino, *The New Equal Protection*, 124 HARV. L. REV. 747, 776–81 (2011).

362. *Arroyo Gonzalez v. Rossello Nevares*, 305 F. Supp. 3d 327, 333 (D.P.R. 2018); *Love v. Johnson*, 146 F. Supp. 3d 848, 856 (E.D. Mich. 2015).

363. *See Zzyym v. Pompeo*, 958 F.3d 1014, 1024 (10th Cir.).

364. *See Hale Thompson & Lisa King, Who Counts as "Transgender"? Epidemiological Methods and a Critical Intervention*, 2 TRANSGENDER STUD. Q. 148, 148–49 (2015).

gender is challenged can “verify” their sex using three criteria: (1) their reproductive anatomy, (2) genetic makeup, or (3) by showing the level of testosterone produced by the body absent medical intervention.<sup>365</sup> None of these characteristics are ever tested in a routine sports examination.<sup>366</sup> As one court pointed out, “‘reproductive anatomy’ is not a medical term,” acknowledging that the proposed law required an intrusive, medically unnecessary (not to mention humiliating) pelvic examination, which is generally regarded as traumatic for pediatric patients and generally only done with medical necessity.<sup>367</sup> The same is true for the other provisions, which require genetic testing (usually requiring a pediatric endocrinologist and only done if medically necessary) or hormone testing (same).<sup>368</sup> It is also designed to essentially exclude transgender girls, many of whom have not had gender confirmation surgery, either because it does not fit their individual treatment plan, because they have not yet reached the age of eighteen, or because they cannot afford it.<sup>369</sup> As one district court concluded, the Act “illustrates [that] the Legislature appeared less concerned with ensuring equality in athletics than it was with ensuring exclusion of transgender women athletes.”<sup>370</sup>

Finally, limiting a trans person’s ability to live in accordance with their gender identity may also infringe the First Amendment right to expression.<sup>371</sup> At least half of the federal circuit courts of appeal have now recognized that sex discrimination laws bar discrimination against those who are perceived to transgress gender stereotypes, including transgender people,<sup>372</sup> an issue that the Supreme Court affirmed in

365. *Hecox v. Little*, 479 F. Supp. 3d 930, 949 (D. Idaho 2020).

366. *Id.* at 986.

367. *Id.*

368. *Id.*

369. *Id.* at 984. Transgender girls often have XY chromosomes, so cannot satisfy the second criterion, and by focusing on the third criterion, the provisions exclude transgender girls whose actual (circulating) testosterone levels are within the typical range after hormone suppression. *Id.*

370. *Id.*

371. *See, e.g., Karnoski v. Trump*, No. C17–1297, 2017 WL 6311305, at \*9–10 (W.D. Wash. Dec. 11, 2017) (granting preliminary injunction of President Trump’s ban on open military service by transgender people, on First Amendment grounds), *stay granted*, *Trump v. Karnoski*, 139 S. Ct. 950 (2019).

372. Brief for Nat’l Women’s L. Ctr. et al. as Amici Curiae Supporting Employees at 18–20 & n.7, *Bostock v. Clayton Cnty.*, 140 S. Ct. 1731 (2020) (Nos. 17–1618, 17–1623, 18–107). *See also* Sonia K. Katyal & Ilona M. Turner, *Transparenthood*, 117 MICH. L. REV. 1593, 1651 & n.362 (citing 1 SEXUAL ORIENTATION AND THE LAW § 10:5 (Karen Moulding in conjunction with Nat’l Lawyers Guild eds., 2018)); James Lockhart, Annotation, *Discrimination on Basis of Person’s Transgender or Transsexual Status as Violation of Federal Law*, 84 A.L.R. Fed. 2d 1 (2014) (listing cases that have adopted the view that transsexual or transgender individuals are a protected class under Title VII insofar as they allege that sex discrimination against them was based on their failure to conform to sexual stereotypes); Theodore Z. Wyman, *Cause of Action for Employment Discrimination on Basis of Transsexual or Transgender Status*, 73 Causes

*Bostock*.<sup>373</sup> More recently, courts and administrative agencies across the country have interpreted laws against sex discrimination not only to bar discrimination but more specifically to guarantee the right of a transgender person to be recognized and treated as a member of the sex with which they identify, in contexts ranging from dress codes<sup>374</sup> to single-sex facilities like bathrooms<sup>375</sup> and locker rooms.<sup>376</sup> Nondiscrimination laws and principles are also increasingly interpreted to guarantee the right to gender transition through medical treatments relating to gender transition<sup>377</sup> or access to accurate identity documents.<sup>378</sup>

Of course, the majority of these cases have emerged within a binary framework. However, while we have not yet seen a case demanding similar entitlements for nonbinary individuals, it is certainly conceivable that these entitlements, particularly in the states that protect nonbinary identities,<sup>379</sup> could be employed to encourage greater protection. On these possibilities, Jessica Clarke's excellent work has analyzed the costs and benefits of a variety of regulatory models to address nonbinary categories.<sup>380</sup> She notes that recognition of a third gender category comes with the benefits of recognition by conferring legal status and visibility but also potentially obscures the importance of requiring actual accommodation.<sup>381</sup> It also risks creating new stereotypes, perhaps subordinating a nonbinary category altogether.<sup>382</sup> When we apply this analysis to technology's reductive tendencies toward automation, we see similar risks and possibilities, discussed further below.

## B. *Gender Diversity, Categorization and Capitalism*

In an insightful essay addressing social media, artist and theorist micha cárdenas argues that “the algorithm has replaced modernist notions such as journalistic objectivity or integrity,” noting that diversity of representation “not only benefits global capitalism but is fundamental

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of Action 2d 211 (2021) (noting in 2016 that a majority of federal courts now recognize that Title VII protects persons from discrimination based on gender nonconformity).

373. *Bostock*, 140 S. Ct. 1731 (2020).

374. *See, e.g., id.*

375. *E.g., Whitaker v. Kenosha Unified Sch. Dist.*, 858 F.3d 1034 (7th Cir. 2017).

376. *See, e.g., M.A.B. v. Bd. of Educ.*, 286 F. Supp. 3d 704 (D. Md. 2018).

377. *E.g.*, 45 C.F.R. § 92.207 (2016).

378. *E.g., F.V. v. Barron*, 286 F. Supp. 3d 1131 (D. Idaho 2018).

379. As of September 2019, the following states offer nonbinary gender designations on IDs: Arkansas, California, Colorado, Illinois, Indiana, Hawaii, Maine, Maryland, Minnesota, Nevada, New Hampshire, New Jersey, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, and Washington. *See Marie-Amélie George, Framing Trans Rights*, 114 Nw. U.L. REV. 555, 611 n.327 (2019).

380. *See Jessica A. Clarke, They, Them, and Theirs*, 132 HARV. L. REV. 894, 936–37 (2019).

381. *Id.* at 937–39.

382. *Id.* at 940.

to it.”<sup>383</sup> The notion that diversity of representation, that is, increasing LGBTQ+ visibility, somehow “resolves” the issue of LGBTQ+ discrimination in AI is at the heart of the critique that this paper suggests. Simply expanding the categories of identity is not enough without a wholesale consideration of the ways in which personal data becomes commodified and traded within our system of surveillance capitalism.

As we show, the potential for trans and nonbinary erasure can happen from the automating frame of AI. The question we ask is why. In a world of more and more gender diversity, why is technology so committed to classification altogether? We propose it is not solely because of a conscious desire to exclude or to discriminate, but rather it is the consequence of inadequate design in a gender diverse population. But the cause of gender panopticism—and its effects—carry insights for anyone interested in the relationship between surveillance and gender. Since AI-driven technologies are largely committed to a fixed, binary framing of gender (and generally fail to grapple with its declining relevance in a gender diverse world), these technologies impose these frameworks onto populations that do not fit these categories, thereby reinscribing gender categories rather than challenging them.

Consider this example. In 2014, with much fanfare, Facebook added a customizable option with over fifty different terms that people can use to identify their gender (such as androgynous, trans woman, bigender, intersex, gender fluid, transsexual, and others), including three different choices of pronouns: them, her, or him.<sup>384</sup> A central factor motivating the change was the recognition that a binary system of gender failed to represent many individuals, including many who worked at Facebook.<sup>385</sup> Both Google+ and Pinterest followed with similar actions the following year.<sup>386</sup>

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383. micha cárdenas, *Dark Shimmers: The Rhythm of Necropolitical Affect in Digital Media*, in TRAP DOOR: TRANS CULTURAL PRODUCTION AND THE POLITICS OF VISIBILITY, *supra* note 297, at 161, 168–69.

384. See Associated Press in Menlo Park, California, *Facebook Expands Gender Options: Transgender Activists Hail ‘Big Advance’*, GUARDIAN (Feb. 14, 2014, 3:45 AM), <https://www.theguardian.com/technology/2014/feb/13/transgender-facebook-expands-gender-options> [http://perma.cc/9MGJ-87R9].

385. At the same time that the decision was hailed by the trans community and its allies, however, it was disparaged by others. Consider this statement from an analyst for Focus on the Family, a religious organization:

Of course Facebook is entitled to manage its wildly popular site as it sees fit, but . . . it’s impossible to deny the biological reality that humanity is divided into two halves—male and female. . . . Those petitioning for the change insist that there are an infinite number of genders, but just saying it doesn’t make it so.

*Id.*

386. Rena Bivens & Oliver L. Haimson, *Baking Gender Into Social Media Design: How Platforms Shape Categories for Users and Advertisers*, SOC. MEDIA + SOC’Y 5 (Oct. 12, 2016), <https://journals.sagepub.com/doi/pdf/10.1177/2056305116672486> [https://perma.cc/9PAV-87X9]. Regarding seven other top social media sites, Yahoo and VK

Although there was some negative commentary on Facebook's decision, most of the public response was decidedly in favor of recognizing greater gender fluidity and diversity. "There's going to be a lot of people for whom this is going to mean nothing, but for the few it does impact, it means the world," stated a software engineer who worked on the program and who changed her gender from female to trans woman the day it launched.<sup>387</sup>

But the most significant critique involved something almost entirely hidden from the public. Even though a user could choose between fifty-six predetermined options for gender, users were limited to only three pronoun choices—them, her, or his.<sup>388</sup> So even though one could identify oneself in more than fifty different ways, gender assignment still operated as a three-option data classification and collection system. Why? Because if Facebook could not categorize its users, this might negatively affect its business model, which involves selling data to advertisers who may want to display gender-targeted advertisements.<sup>389</sup>

The distinction between customizable gender and assigned gender thus shows a disconnect between Facebook's own stated value of gender self-expression. To the user, data could be customized (as touted by Facebook); but when packaged for sale to advertisers, it became radically simplified.<sup>390</sup> As Rena Bivens and Oliver L. Haimson have pointed out in an influential study, the mandatory pronoun tends to be the most instrumental coding variable in determining how a user's gender materializes in the database and how it appears through Facebook's application programming interface (API).<sup>391</sup> As the study demonstrates, "[I]nstead of a user's selected gender . . . the database reconstitutes a user's gender according to their pronoun selection (e.g., 'she'), which means that 'female' appears when that user's gender is retrieved from the database."<sup>392</sup> As Bivens and Haimson note:

There is a clear disconnect between platform owners' motivations for *offering* particular gender options and social media users' desires and motivations for *using* particular gender options. The former is

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were programed to permit only binary choices; Blogspot and Instagram enabled users to leave their gender unspecified, and YouTube, Twitter, and LinkedIn omitted gender altogether, also avoiding using pronouns within news feeds. *Id.*

387. Associated Press, *supra* note 384. Of course, the move from Facebook was met with a number of cogent critiques. "Perhaps having no gender box at all would be a more radical step in questioning how we currently understand—and prioritise—gender," one author explained. Meg-John Barker, *57 Genders (and None For Me)? Reflections on the New Facebook Gender Categories*, *REWRITING RULES* (Feb. 15, 2014), <https://www.rewriting-the-rules.com/gender/57-genders-and-none-for-me-reflections-on-the-new-facebook-gender-categories> [<https://perma.cc/X4GY-9ULZ>].

388. Bivens & Haimson, *supra* note 386, at 5.

389. *See id.* at 4–5.

390. *Id.* at 5.

391. *Id.*

392. *Id.*

almost completely about data collection, advertising, and revenue opportunities. The latter is about online self-presentation.<sup>393</sup>

Not only did the study demonstrate the potential for software to misclassify users, but it also demonstrates the complexity of how gender can be materialized through different layers of software, “reconstituted in each location with new limitations, meanings, and constituent parts.”<sup>394</sup> At the end of the day, then, Facebook stores and processes data in a manner that is essentially largely unchanged since their launch in 2004 when they utilized only three categories for gender—male, female, and undefined.<sup>395</sup>

Similarly, in 2014, Google+ enabled users to categorize their gender with the help of a freeform text field that permits users to enter any text they desire.<sup>396</sup> However, this customization, like Facebook’s, came with one caveat: users have to indicate a preferred pronoun from a mandatory, three option list—essentially another layer of gender that can be superimposed over custom gender.<sup>397</sup> When researchers studied how Google+ tracked gender categories, they discovered that:

Whenever the pronoun “their” is selected, gender simply disappears as though the user has no gender at all. Yet “male” and “female” users materialize whenever a user selects a binary gender *or* the pronoun “his” or “her.” . . . In this space, the gender binary is made durable for advertisers, at the expense of some users who are given the illusion of agency in gender self-presentation yet are nonetheless invisibly misgendered.<sup>398</sup>

These examples reveal almost perfectly the promises and pitfalls of relying on surveillance capitalism for social media practices. As much as we are drawn into sharing our personal and social information online and embrace the new possibilities of socialization and expression afforded by technology, we are always beholden to a private company and its business model. And if that business model relies on the widespread collection of easily searchable data, then any attempt to individuate that data makes it less valuable as a result.

### C. *Encoding Gender Self-Determination*

As mentioned throughout this Article, those who live and identify beyond the gender binary can sometimes face a paradox: as much as being queer, trans, or nonbinary might involve challenging normative notions of identity, a failure to be identified, surveilled, and measured by

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393. *Id.* at 3.

394. *Id.* at 5.

395. *Id.*

396. *Id.*

397. *Id.*

398. *Id.*

the state can often portend both violence and invisibility.<sup>399</sup> As a result, those who resist categorization by the state can find themselves unable to access certain protections and services offered by the state. Similarly, at the same time that the expansion of gender categories is a cause for celebration—indeed a win for fluidity and its possibilities—it is also a loss for all those who resist categorization altogether.<sup>400</sup>

We argue here that gender self-determination must not just be demanded, it needs to be *coded*; in other words, it must be embedded in our approach to technology altogether. Here, “design justice,” a concept associated with Sasha Costanza-Chock, offers us a powerful framework to move forward.<sup>401</sup> While the notion of design justice is much broader than the harms that concern this Article, a general definition of the movement is “a field of theory and practice that is concerned with how the design of objects and systems influences the distribution of risks, harms, and benefits among various groups of people.”<sup>402</sup> Here, special attention is paid to whether design reproduces (or is reproduced by) matrices of domination.<sup>403</sup> But design justice is also oriented normatively, in that it works to build solutions that ensure fair and meaningful participation in design decisions and to recognize community based design and practice.<sup>404</sup>

The concept of design justice grew out of a summit of designers, artists, technologists, and community organizers in a 2015 meeting of the Allied Media Conference.<sup>405</sup> While the concept is much broader than the scope of this Article, some primary themes center on listening to the voices of those who are directly impacted by the outcomes of the design process, prioritizing the impact of the design on the affected community

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399. Zach Blas, *Escaping the Face: Biometric Facial Recognition and the Facial Weaponization Suite*, MEDIA-N: J. NEW MEDIA CAUCUS (July 10, 2013), <http://median.newmediacaucus.org/caa-conference-edition-2013/escaping-the-face-biometric-facial-recognition-and-the-facial-weaponization-suite> [https://perma.cc/UAY7-UPUU] (discussing the desire to escape recognition).

400. For incisive commentary on the complications of data collection in the trans community, pointing out how data collection techniques can reify the gender system itself, see Thompson & King, *supra* note 364. See also A Pranav, MaryLena Bleile, Arjun Subramonian, Luca Soldaini, Danica J. Sutherland, Sabine Weber & Pan Xu, *How to Make Virtual Conferences Queer-Friendly: A Guide*, QUEER IN AI, <https://sites.google.com/view/queer-in-ai/diversity-guide?authuser=0> [https://perma.cc/QV9Z-DU6L] (last visited Aug. 28, 2021) (noting that many trans and nonbinary members would prefer not to use a pronoun or identify their gender). I thank Arjun Subramonian for this suggestion.

401. See Sasha Costanza-Chock, *Design Justice, A.I., and Escape From the Matrix of Domination*, J. DESIGN & SCI. (July 16, 2018), <https://jods.mitpress.mit.edu/pub/costanza-chock> [https://perma.cc/NTW6-T6DU].

402. Sasha Costanza-Chock, *Design Justice: Towards an Intersectional Feminist Framework for Design Theory and Practice*, DESIGN RSCH. SOC’Y 2018: CATALYST, June 2018, at 529, 529.

403. *Id.*

404. *Id.*

405. *Id.*

(as opposed to the designers' intent), sharing information and design, building sustainable, non-exploitative outcomes, and empowerment.<sup>406</sup> It seeks to provide a "more equitable distribution of design's benefits and burdens," along with meaningful participation in design choices, and recognizes the value of community based practices.<sup>407</sup> Taking the principles of design justice to heart, we sketch out several different approaches to encoding self determination, stemming from principles of diversity, neutrality, and contextual integrity.

### 1. Designing for Diversity

In a powerful essay, Sasha Costanza-Chock described her experience traveling as a nonbinary transfeminine person, arguing that without a robust engagement with intersectionality, AI systems will continue to replicate exclusionary systems and cause discriminatory results.<sup>408</sup> As she explains, an engagement with intersectionality reveals great promise for more design justice, since universalist approaches to design both erase and disadvantage intersectional populations:

Intersectionality is thus an absolutely crucial concept for the development of A.I. Most pragmatically, single-axis (in other words, non-intersectional) algorithmic bias audits are insufficient to ensure algorithmic fairness. . . . they look for a biased distribution of error rates only according to a single variable, such as race or gender.<sup>409</sup>

If datasets contain gender bias or incomplete information that is structurally biased against particular groups, then the models trained on those datasets will both amplify that bias and impose further forms of bias.<sup>410</sup> Due in part to the complexities resulting from insufficient data, and because their bodies do not conform to normative situations, transgender and nonbinary individuals receive higher levels of scrutiny as a result. As Keyes echoes, the erasure of trans individuals imposes greater costs on them: "[i]f systems are not designed to include trans people, inclusion becomes an active struggle: individuals must actively fight to be included in things as basic as medical systems, legal systems or even bathrooms."<sup>411</sup> By excluding data—intentionally or otherwise—on

406. *Id.* at 530.

407. *Id.* at 533.

408. Costanza-Chock, *supra* note 401.

409. *Id.*

410. See Tianlu Wang, Mark Yatskar, Kai-Wei Chang & Vicente Ordonez, *Balanced Datasets Are Not Enough: Estimating and Mitigating Gender Bias in Deep Image Representations*, 2019 PROC. IEEE/CVF INT'L CONF. ON COMPUT. VISION 5310; Jieyu Zhao, Tianlu Wang, Mark Yatskar, Vicente Ordonez & Kai-Wei Chang, *Men Also Like Shopping: Reducing Gender Bias Amplification Using Corpus-Level Constraints*, PROC. 2017 CONF. ON EMPIRICAL METHODS NAT. LANGUAGE PROCESSING 2979 (note, however, that this Article draws only on a binary system of gender in formulating results).

411. Keyes, *supra* note 67, at 3.

transgender and nonbinary individuals, certain biometric technologies have the dual effect of both reinforcing the gender binary and limiting the opportunities enjoyed by transgender individuals.

Moreover, the disparate impacts experienced by trans and nonbinary individuals are particularly complex because they stem from harms that involve both the perceived absence as well as the presence of trans and nonbinary individuals within data and the AI processes that surround them. Trans and nonbinary individuals face presence-related harms, stemming from added surveillance and invasion when they travel or express themselves on social media. But these communities also face absence-related harms, too, that stem from their erasure from data-related processes altogether; indeed, as noted above, this leads machine learning techniques to categorize them as outliers, rather than as individuals deserving of recognition and support. For example, in one investigation of gender classifications in AI, only one company, Clarifai, responded, explaining that there was not enough training data to help it integrate gender and nonbinary individuals into its AI and that it was “not worth the money it would cost to source such data.”<sup>412</sup>

For companies more devoted to inclusion, one solution could involve more diverse forms of data, including finding better ways to protect the diverse ways that individuals might engage with that data. More representative datasets that are balanced by gender and skin type may return lower error rates.<sup>413</sup> Microsoft recently announced that it has been able to update and improve its Azure facial recognition technology to significantly reduce error rates for women and men with darker skin by expanding and revising training datasets and by improving its classifier systems.<sup>414</sup> Projects such as MegaPixels, created by Adam Harvey and

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412. Metz, *supra* note 107.

413. See Buolamwini & Gebru, *supra* note 23, at 8 (finding that automated facial recognition datasets are overwhelmingly skewed towards lighter-skinned subjects, producing greater error rates regarding darker-skinned females). For an example of research that shows a reduction in error rates using more inclusive datasets, see Wenying Wu, Zheng Yang, Pavlos Protopapas & Panagiotis Michalatos, *Gender Classification and Bias Mitigation in Facial Images*, WEBSCI '20: PROC. 12TH ACM CONF. ON WEB SCI. 106 (2020). Still, however, such studies overlook the complexity often associated with queer and trans identities. See Os Keyes, *Gender Classification and Bias Mitigation: A Post-Publication Review*, IRON HOLDS (Jul. 14, 2020), <https://ironholds.org/debiasing> [<https://perma.cc/6P4M-VRQM>] (addressing the study and offering critiques); Kyle Wiggers, ‘Fundamentally Flawed’ Study Describes Facial Recognition System Designed to Identify Non-Binary People, VENTURE BEAT (Jul. 14, 2020, 8:40 PM), <https://venturebeat.com/2020/07/14/study-describes-facial-recognition-system-designed-to-identify-non-binary-people> [<https://perma.cc/2ELA-V9Q4>].

414. John Roach, *Microsoft Improves Facial Recognition Technology to Perform Well Across All Skin Tones, Genders*, MICROSOFT: AI BLOG (Jun. 26, 2018), <https://blogs.microsoft.com/ai/gender-skin-tone-facial-recognition-improvement/#:~:text=Microsoft%20announced%20Tuesday%20that%20it,recognize%20gender%20across%20skin%20tones.&text=With%20the%20new%20improvements%2C%20>

Jules LaPlace, aim to bring this transparency by publicly hosting datasets of faces used for automated facial recognition technology.<sup>415</sup> However, one must be careful to use data in accordance with privacy expectations; many of these datasets include those used by defense organization and foreign surveillance, which contain thousands of images taken at college campuses without prior knowledge or consent.<sup>416</sup>

Better and more intersectional data collection practices, while they may be individually useful, also implicate a fundamental paradox. While some individuals might desire recognition and visibility, others might use identity management strategies precisely to avoid recognition altogether. Both strategies are important sources of data, and both strategies are important to consider when detailing ways to protect minority groups. In other words, some communities might desire visibility and inclusion; others might resist it altogether.

Thus, when we consider the value of improving data, it is important to extend this principle to recognizing the diverse ways data can also be used and deployed (or resisted) by communities. For example, research shows that LGBTQ+ individuals often use different identity management strategies than the general public, since many use multiple accounts on social media or choose to restrict content at higher rates than others.<sup>417</sup> Protecting these practices requires a specific understanding of why they are important for marginalized groups.

## 2. Against Datafication and Incomplete Inclusion

Of course, it is also important to emphasize that not everyone wants to be counted. As Paisley Currah and Susan Stryker have insightfully observed, the “imperative to be counted” can at times be a problematic endeavor for transgender subjects, due to longstanding tensions regarding “what to count, whom to count . . . why to count, or whether to count or be counted at all.”<sup>418</sup> Normatively, of course, it is difficult—if not impossible—to reconcile the tension between wanting better data on

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Microsoft, by %20up%20to%2020%20times [https://perma.cc/M2TY-3ELC].

415. Adam Harvey & Jules LaPlace, *About*, EXPOSING.AI, https://exposing.ai/about [https://perma.cc/J5KN-NDWG] (last visited May 31, 2021).

416. See Adam Harvey & Jules LaPlace, *MegaPixels: Face Recognition Datasets*, EXPOSING.AI, https://megapixels.cc/datasets [https://perma.cc/V4HQ-6C5A] (last visited May 31, 2021) (view each individual dataset page for information regarding where the images were taken and the level of prior knowledge or consent the subjects had).

417. Elizabeth A. McConnell, Antonia Clifford, Aaron Kai Korpak, Gregory Phillips II & Michelle Birkett, *Identity, Victimization, and Support: Facebook Experiences and Mental Health Among LGBTQ Youth*, 76 COMPUTS. HUM. BEHAV. 237, 240 (2017) (noting that a “sizeable percentage” of LGBTQ+ youth may use multiple accounts).

418. Paisley Currah & Susan Stryker, *Introduction*, 2 TRANSGENDER STUD. Q. 1, 4 (2015).

trans people and wanting to create better strategies for resistance to the need to collect better data.<sup>419</sup>

Similarly, it is impossible to reconcile attempts to universalize and classify a trans experience with more contextual attempts toward rejecting categorization and incorporation.<sup>420</sup> And inclusion—even its very concept—can overlook structural inequalities. As Anna Lauren Hoffmann has incisively written, the concept of inclusion itself is a “kind of technology, one that makes ‘strangers into subjects, those who in being included are also willing to consent to the terms of inclusion.’”<sup>421</sup> Inclusion might mean expanding categories and checkboxes for identity markers, but doing so also opens up the possibility of targeted advertising.<sup>422</sup> And inclusive mission statements and commitments might well recognize that data technologies might produce harm, but they tend to “respond by positioning data science and technology as ultimately the solution to these violences—as long as we design and deploy them in more inclusive ways.”<sup>423</sup> Such statements tend to deflect or neutralize calls “to not collect certain kinds of data or build and deploy certain technologies by reframing the issue as exclusively one of iteration, improvement, and doing things more inclusively.”<sup>424</sup> These wins are then cast as major victories for marginalized communities, Hoffmann writes, when they are only narrow, technical fixes that fail to grapple with the material or systemic reasons for mistreatment.<sup>425</sup>

As these comments suggest, perhaps one way to recognize the complexity of how data classifications map onto trans lives is to reconsider the function and need for datafication altogether. Beauchamp has insightfully observed that “[c]oncealing and revealing trans identity actually

419. *Id.*

420. *Id.*

421. Hoffmann, *supra* note 314, at 2 (quoting Sara Ahmed) (citations omitted). Ruha Benjamin has described inclusion as part “of a larger repertoire of ‘happy talk,’ which involves a willingness to acknowledge and even revel in cultural difference without seriously challenging the ongoing structural inequality.” BENJAMIN, *supra* note 315, at 148.

422. Hoffmann, *supra* note 314, at 2.

423. *Id.* at 10.

424. *Id.* (emphasis omitted).

425. *See id.* Using the example of Tinder’s #AllTypesAllSwipes hashtag campaign, Hoffmann comments that such campaigns, unintentionally evoke[] datafication’s demand that individuals be transformed into reductive and computationally friendly typological features . . . . [making clear] that being swiped (i.e. recognizable) is, in the first place, contingent on one’s conformity to a “type” that can be marked off, named, and made amenable to the system. More perversely, it represents what we might call the discursive excess of inclusion; inclusion discourses do not simply normalize, but dupe us into celebrating the very power structures that generate asymmetrical vulnerabilities to violence in the first place.

*Id.* at 12.

depend on one another, demonstrating the impossibility of thinking these actions as binary opposites.”<sup>426</sup> At all times where data is involved, trans individuals are subjected to a constant and unrelenting forced disclosure and surveillance, requiring them to disclose their transition where consumer data is concerned.<sup>427</sup> In essence, then, the constant pressure on disclosure may produce a fundamental contradiction for some trans and nonbinary individuals in terms of identification, as Keyes points out:

Whatever approach (physiology, clothing, hair length . . . ) an AGR system takes for discriminating between genders, however many trans people the dataset includes, the technology is fundamentally premised on the idea that gender is something *assigned*. Yet to be trans—to be of a gender that runs contrariwise to that which society assumed of you—means to stand as a testament to the idea that it is self-knowledge, not external assignation, that has primacy in defining gender. Put simply, a trans-inclusive system for non-consensually defining someone’s gender is a contradiction in terms.”<sup>428</sup>

While Keyes is careful to point out that they are drawing from their own experience and not trying to universalize, their observations are particularly valuable nonetheless.<sup>429</sup> According to Keyes, “trans existences are built around fluidity, contextuality, and autonomy, and administrative systems are fundamentally opposed to that. . . . in many respects data science can be seen as an extension of those administrative logics: It’s gussied-up statistics, after all—the ‘science of the state.’”<sup>430</sup>

Thus, while it is useful to think beyond binaries and to move toward multiplicities, granting recognition to multiple populations may be insufficient.<sup>431</sup> As several scholars have echoed, “adding more categories alone cannot solve all the dilemmas of representing population diversity.”<sup>432</sup> Categories are necessarily reductive and insufficiently inclusive of the complexities of identity, thereby always excluding someone. On the other hand, enabling people to self-identify risks obscuring recognition if only small populations respond and misses the fact that some terms are in flux.<sup>433</sup> And even using a distinction between trans and non-trans populations overlooks the reality that many nontraditional gender practices and expressions are not confined to the transgender population alone.<sup>434</sup>

426. Mackenzie, *supra* note 24, at 54 (quoting Toby Beauchamp).

427. *Id.*

428. Keyes, *supra* note 67, at 13.

429. Keyes, *supra* note 67, at 5. See also Christine Labuski & Colton Keo-Meier, *The (Mis)Measure of Trans*, 2 *TRANSGENDER STUD. Q.* 13, 14–15 (2015) (noting the risk of reductiveness in using such categories).

430. Keyes, *supra* note 38.

431. See Devon Magliozzi, Aliya Saperstein & Laurel Westbrook, *Scaling Up: Representing Gender Diversity in Survey Research*, 2 *SOCIUS* 1, 2 (2016), <https://journals.sagepub.com/doi/pdf/10.1177/2378023116664352> [<https://perma.cc/JL6T-XAUZ>].

432. *Id.*

433. *Id.*

434. *Id.*

Moreover, despite the optimism of the concept of gender self-determination, it bears noting that expanding the legal categories of gender self-determination does virtually nothing to address the range of harms we have detailed in this Article. As Marie Draz has insightfully noted, there is a world of difference between declaring that gender is a “fundamentally personal issue” involving self-determination, and then only providing three choices to self-identity (male, female, nonbinary).<sup>435</sup> As this example suggests, categories are complicated; they are inherently reductive in nature.<sup>436</sup> Indeed, every act of classification involves value-laden choices that often create overlooked “residual categories.”<sup>437</sup> These residual categories can be subject to a kind of double silencing: not only are they rendered leftover (“none of the above” and thus unknowable), but they are also stripped of their historical and social context.<sup>438</sup>

While these observations about datafication and incomplete inclusivity may seem abstract, consider a real-life example that demonstrates the temporal, bounded efficacy of trans-inclusive legislation.<sup>439</sup> Even after a trans person has changed their name on official state documentation, credit reports, background checks, and other private “authentication” technologies may not immediately recognize this change.<sup>440</sup> As a result, since they are unable to change all of their data at one time, trans individuals exist in a world where, at any point, “they will legally exist as (at least) two identities.”<sup>441</sup> Lars Mackenzie describes the situation faced by a trans woman, Kim, who explains that she faces an almost impossible, no-win situation: “they won’t [update my credit report] until I have credit in my new name and I can’t get credit in my new name because there is no official file in that name.”<sup>442</sup> Since she has no cards or debt in her new name, her prior name is required for a landlord to run a credit check,

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435. Marie Draz, *From Duration to Self-Identification?: The Temporal Politics of the California Gender Recognition Act*, 6 *TRANSSEXUAL STUD. Q.* 593, 601, 604 (2019) (“The move to self-identification and the addition of a third option for gender markers can therefore be simultaneously emancipatory and insidious, perhaps allowing for some degree of freedom on an individual level while potentially also distracting from the question of how temporal mechanisms of power remain at work in the documentation itself.”).

436. For other ways to develop better data on gender, see Magliozzi, Saperstein & Westbrook, *supra* note 431 (arguing that adding gradational measures of femininity and masculinity to gender categories is a better measure of gender inequality).

437. Susan Leigh Star & Geoffrey C. Bowker, *Enacting Silence: Residual Categories as a Challenge for Ethics, Information Systems, and Communication*, 9 *ETHICS & INFO. TECH.* 273, 274–75 (2007).

438. *Id.* at 274.

439. See Draz, *supra* note 435, at 601 (“Despite the lifting of specific requirements for gender markers, the document still reflects a particular relation between time and identity that serves state institutions.”).

440. See Mackenzie, *supra* note 24, at 47.

441. *Id.*

442. *Id.* at 51.

running the risk that being outed will lead to discrimination.<sup>443</sup> And if she tries to open a credit card in her name, using her prior Social Security Number, she risks producing a fraud alert.<sup>444</sup>

What to do in these situations? How can the law address this issue of temporal, multiple lives? These are harms that stem from not just violations of a person's autonomous right to identify as a trans or nonbinary person; these are harms that stem from not recognizing that identity comprehensively. And they are harms that flow not directly from the state but from private companies that utilize and process personal data, deploying forms of AI. This, we argue, changes the landscape of privacy-related harms and suggests new pathways to remediation. In other words, in order for our solutions to be most effective, we must recognize that the absence of state action limits the reach of private regulation.<sup>445</sup> As such, we must also recognize that privacy itself is limited in its ability to provide a comprehensive remedial framework, both as a general and a specific matter.<sup>446</sup>

As Anita Allen's excellent work has suggested, much more research articulating the nature of these privacy harms faced by those in the LGBTQ+ community may help us to figure out the scope of possible remedies.<sup>447</sup> One potential way in which the concept of design justice could be deployed to improve the experiences of transgender and nonbinary individuals online is by introducing a more robust formation of the right to be forgotten, which is a fundamental tenant of European data protections.<sup>448</sup> The right to be forgotten enables the erasure of personal data in several circumstances, mostly focusing on the right of an individual to object and to withdraw consent for data processing.<sup>449</sup> One interpretation of this right focuses on the right of an individual to object

443. *Id.* at 52.

444. *Id.* at 53–54.

445. As Mary Ann Franks notes, quoting Bernard Harcourt, this “idea of an enemy surveillance state is outdated and inaccurate. Contemporary surveillance ‘involves a larger amalgam of corporate, intelligence, and security interests, . . . a ‘surveillance-industrial empire’ that includes those very telecommunications companies, as well as social media, retailers, and intelligence services . . . .” Franks, *supra* note 345, at 458 (citations omitted).

446. See Anita L. Allen, *Privacy Torts: Unreliable Remedies for LGBT Plaintiffs*, 98 CALIF. L. REV. 1711, 1711–12 (2010) (observing how privacy torts have insufficiently protected LGBT plaintiffs).

447. See *id.*

448. See *Everything You Need to Know About the “Right to Be Forgotten”*, GDPR.EU, <https://gdpr.eu/right-to-be-forgotten/#:~:text=Also%20known%20as%20the%20right,to%20delete%20their%20personal%20data.&text=The%20%E2%80%9Cright%20to%20be%20forgotten%2C%E2%80%9D%20which%20received%20a%20lot,provision%20contained%20in%20the%20GDPR> [https://perma.cc/A2B9-UZMY] (last visited May 31, 2021). I am grateful to Alexander Chen for this suggestion.

449. *Id.*

to data processing and collection in the absence of an “overriding legitimate interest for the organization to continue with the processing.”<sup>450</sup> To broaden the autonomy and authority for nonbinary and transgender persons, this provision could be reinterpreted to suggest that the desire for the individual to control their data overrides the interests of an organization, and, further, that a desire to retain a person’s deadname and related information should not be viewed as legitimate if the individual objects. This is just one example of the way in which the right to be forgotten can be employed to protect the identities of transgender and nonbinary individuals, ensuring that data processing respects their gender identity and related data. Under this reasoning, attempts to reify a person’s deadname, for example, might be construed as illegitimate in the face of the law’s insistence on protecting a person’s right to gender self-determination.

### 3. Contextual Integrity and Possibilities of Resistance

As this Article has suggested, privacy-related concerns are particularly robust in the context of LGBTQ+ users, particularly trans and nonbinary individuals, who often face an even greater degree of sensitivity regarding data, often due to the disconnect between a user’s official identity documentation and their own self-identity. To analyze the privacy issues apparent in the experiences of trans and nonbinary individuals, the idea of “contextual integrity” can be particularly useful here, largely for its departure from the traditional distinction between public and private information.<sup>451</sup> Helen Nissenbaum has set forth a workable framework stemming from a focus on context and information norms, explaining that contexts are constituted, in part, by norms.<sup>452</sup> Determining what constitutes adequate privacy protections requires considering the norms of a particular context, rather than making a binary categorization of the context as public or private.<sup>453</sup> By focusing on context, we can consider the areas of potential divergence between one’s identity in online and offline spaces, between state-ordered documentation and one’s own identity, or between one’s online and offline existence. All of these arenas help construct improved notions of privacy expectations and privacy harms, but only after context has become part of a more searching inquiry.<sup>454</sup>

The notion of contextual integrity can be fruitful as applied to the paradox discussed throughout this Article. Where some individuals desire

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450. *Id.*

451. See Yana Welinder, *A Face Tells More Than a Thousand Posts: Developing Face Recognition Privacy in Social Networks*, 26 HARV. J.L. & TECH. 165, 183–84 (2012).

452. See Helen Nissenbaum, *Privacy as Contextual Integrity*, 79 WASH. L. REV. 119, 138 (2004).

453. *Id.* at 119.

454. Clarke, too, has emphasized the core role of context in nonbinary gender classifications. See Clarke, *supra* note 380, at 933–45.

recognition in data, others desire invisibility. Here, in addition to contextual integrity, the notion of “informational self defence”<sup>455</sup> can be a way, albeit a limited one, to resist the panopticism we have discussed. Here, digital obfuscation can facilitate forms of resistance—involving noncompliance and other actions, particularly for users who are unable to “opt out” of surveillance.<sup>456</sup> Obfuscation involves a collection of mitigation strategies to address data collection, surveillance, and analysis, often by figuring out ways to block monitoring or to make data less valuable.<sup>457</sup> Designers such as Adam Harvey have created visual projects and masks to protect individuals from biometric facial recognition.<sup>458</sup> Other projects work to confuse facial recognition algorithms to avoid detection.<sup>459</sup> Other masks are more collective in nature, like Zach Blas’s project Facial Weaponization Suite, which aggregates many different faces into a synthetic, amorphous disguise.<sup>460</sup>

While these tools are promising, they primarily treat resistance to surveillance as an individualized problem rather than a structural issue.<sup>461</sup> Other forms of data resistance like minimization and obfuscation may be useful techniques for reducing trails of private data but may be counterproductive for transgender individuals who need visibility to seek services and to gain recognition.<sup>462</sup> The paradox is admittedly hard to resolve.

#### D. *Neutrality by Design*

In the context of framing solutions to resolve the tension between AI and gender, authorities are caught between one of two choices, producing

455. See Galič, Timan & Koops, *supra* note 28, at 31–32 (discussing obfuscation strategies presented by Brunton and Nissenbaum).

456. *Id.*; see also generally FINN BRUNTON & HELEN NISSENBAUM, *OBUSCATION: A USER’S GUIDE FOR PRIVACY AND PROTEST* (2015).

457. Galič, Timan & Koops, *supra* note 28, at 31–32 (discussing obfuscation strategies presented by Brunton and Nissenbaum).

458. Torin Monahan, *The Right to Hide? Anti-Surveillance Camouflage and the Aestheticization of Resistance*, 12 *COMMUN & CRITICAL/CULTURAL STUD.* 159, 164 (2015).

459. *Id.* at 162–63. Similarly, URME Surveillance, a company developed by interdisciplinary artist Leo Selvaggio, produces rubber masks that are 3D printed with Selvaggio’s likeness, relying on open-source facial encryption software. Leslie Katz, *Anti-Surveillance Mask Lets You Pass as Someone Else*, CNET (May 8, 2014, 3:09 PM), <https://www.cnet.com/news/urme-anti-surveillance-mask-lets-you-pass-as-someone-else> [<https://perma.cc/5U7E-GJXH>]. See also *Computer Vision Dazzle Camouflage*, CV DAZZLE, <https://cvdazzle.com> [<https://perma.cc/3BNU-P2Z2>] (last visited Aug. 29, 2021) (strategies of resistance to facial surveillance).

460. Blas, *supra* note 399.

461. See *id.*

462. See generally Elis L. Herman, *Tranarchism: Transgender Embodiment and Destabilization of the State*, 18 *CONTEMP. JUST. REV.* 76, 84 (2015); David Swanlund, *Geosurveillance, Biometrics, and Resistance* (Dec. 11, 2017) (M.A. thesis, Simon Fraser University) (echoing these concerns).

a classic double bind. The first cluster of solutions might draw on code-based solutions and design. If designers aim to improve the data and the code by drawing from more diverse datasets or changing the design of their algorithms, it may still carry the effect of limiting human interaction and increasing automation. This might produce an even greater risk of automated misidentifications if more and more data is fed into systems of machine learning and if the data is not representative of the diversity of gender identity and expression. Even if AGR becomes more accurate, the subjective nature of gender identification means that AI can never be 100 percent accurate at identifying gender.

Conversely, the designer might increase the range of human discretion over decisionmaking, adding a human “check” to automated decisions/predictions. However, given the stigma and misunderstanding often faced by transgender and nonbinary individuals in society, increasing human discretion may come with serious drawbacks as well. In other words, both choices involve serious costs—by increasing automation, surveillance techniques create an even greater number of potential errors; but by increasing human discretion, security systems raise the risk of prejudicial outcomes without proper training, oversight, and simple human compassion.

There are other ways to code for gender self-determination. One option is to simply embed it within our systems by making it a right enjoyed by both consumers and citizens. Another solution could be to signal greater diversity in technology, and/or to implicitly question the importance of a binary system altogether. On this point, drawing from Clarke’s work addressing neutrality, we would advocate for a model that questions the deployment of imperative classifications based on gender and that also adds open-ended categories, including ones for self-identification, that signal the value of gender pluralism as an alternative.<sup>463</sup>

For example, in February 2019, Airlines for America, a trade association of all major airline carriers, pledged to accommodate nonbinary travelers, given the changes in the law. United Airlines, for example, will allow passengers to identify as M(ale), F(emale), U(ndisclosed), or X(unspecified), and “customers who do not identify with a gender will have the option of selecting ‘Mx’ as a title.”<sup>464</sup> While these solutions are

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463. See Clarke, *supra* note 380, at 943–45.

464. See Zach Wichter, *U.S. Airlines to Offer New Gender Options for Non-Binary Passengers*, N.Y. TIMES (Feb. 15, 2019), <https://www.nytimes.com/2019/02/15/business/airline-travel-gender-choices.html> [<https://perma.cc/96TE-VY7Y>]; Devin Norelle, *Meet the Nonbinary Activist Advocating for Gender Neutral Passports*, OUT (May 10, 2019, 8:00 AM), <https://www.out.com/travel/2019/5/10/meet-nonbinary-activist-advocating-gender-neutral-passports> [<https://perma.cc/38A3-MJ5W>]; Allison “AI” Turner, *It Just Became Less Terrifying to Travel While Nonbinary*, ADVOCATE (Feb. 16, 2019, 8:03 AM), <https://www.advocate.com/commentary/2019/2/16/it-just-became-less-terrifying-travel-while-non-binary> [<https://perma.cc/P582-TA9H>]; Kyle Arnold, *American Airlines Adding Nonbinary Gender Options When Buying Tickets*,

imperfect in that they still require a gender assignment, they honor a more pluralistic form of identification.

Other solutions do not require the abolition of gender categories but require an abolition of their assignment instead. There is evidence that this is happening: In February of 2020, Google AI announced that it would no longer use labels like “woman” or “man” on its image tags, noting the significant risk of bias in inferring gender from one’s appearance.<sup>465</sup> There are ways to go even further, too. David Cruz, in a groundbreaking article, argued for not only “disestablishing” gender but also enabling an affirmative right to the free exercise of gender at the same time.<sup>466</sup> Here, Cruz advocates for a principle of “inclusive neutrality,” which would essentially create a public realm in which gender divisions are not reinforced or enforced, enabling all individuals, including nonbinary and transgender persons, to self-identify, reducing the power of the state to use its own criteria to determine sex.<sup>467</sup>

Some of these suggestions have been taken up by companies who have realized the value of inclusiveness.<sup>468</sup> For example, in June of 2019, Mastercard announced that it had decided to stop requiring legally binding names on its cards in order to accommodate the transgender and nonbinary community, noting that 32 percent of individuals who presented identification that did not match their name or gender presentation had a negative experience.<sup>469</sup>

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DALL. MORNING NEWS (Dec. 21, 2019, 1:19 AM), <https://www.dallasnews.com/business/airlines/2019/12/20/american-airlines-adding-non-binary-gender-options-when-buying-tickets> [<https://perma.cc/V3CN-GNDY>].

465. Shona Ghosh, *Google AI Will No Longer Use Gender Labels Like ‘Woman’ or ‘Man’ on Images of People to Avoid Bias*, BUS. INSIDER (Feb. 20, 2020, 12:12 PM), <https://www.businessinsider.nl/google-cloud-vision-api-wont-tag-images-by-gender-2020-2> [<https://perma.cc/NA3Q-XBD6>] (“Given that a person’s gender cannot be inferred by appearance, we have decided to remove these labels in order to align with the Artificial Intelligence Principles at Google, specifically Principle #2: Avoid creating or reinforcing unfair bias.”).

466. David B. Cruz, *Disestablishing Sex and Gender*, 90 CALIF. L. REV. 997 (2002). See also Laura K. Langley, Note, *Self-Determination in a Gender Fundamentalist State: Toward Legal Liberation of Transgender Identities*, 12 TEX. J. ON C.L. & C.R. 101, 117 (2006) (“Asserting a right to gender self-determination disestablishes the state’s power to define the categories of male and female . . .”). Others have adopted a similar disestablishment approach in family law. See generally Alice Ristroph & Melissa Murray, *Disestablishing the Family*, 119 YALE L.J. 1236 (2010).

467. Cruz, *supra* note 466, at 1042.

468. For an excellent discussion of how commercial datasets can be more inclusive, see Arjun Subramonian, *The Future of Commercial Deep Learning*, MEDIUM (Jan. 17, 2021), <https://medium.com/fair-bytes/the-future-of-commercial-deep-learning-ee5ecbdbb9b8> [<https://perma.cc/PPL8-VN4A>].

469. See Lauren DeBellis Appell, *Mastercard’s ‘True Name’ Cards for Trans People Won’t Require Legal Name*, NEWSMAX (June 24, 2019, 1:10 PM), <https://www.newsmax.com/laurendebellisappell/mastercard-true-name-security/2019/06/24/id/921779> [<https://perma.cc/93D2-J5ME>]. If this “community is not being served in the most inclusive

Mastercard's choice was notable for two core reasons: first, because it signified a move toward centering the client's gender self-determination; and second, because it represented a move away from the state monopolization of identity categories. The ability to express one's gender identity without and to define one's gender represents not only quality-of-life changes for transgender or nonbinary individuals but also a substantial reframing of how gender is determined and produced within technology frameworks. Rather than seeing gender as immutable and binaristic, the notion of gender self-determination enables gender to be defined by the user rather than the platform or state.

Within the AI industry as a whole, there are calls for increased accountability through increased transparency of algorithms and diversifying algorithm developers and engineers.<sup>470</sup> From the computer side of reforming AGR, proposed changes include avoiding the question of gender classification altogether by centering a user's self-identified gender as the focus. Other changes aim to have more inclusive methodologies by moving away from gender as an immutable binary and performing more audits to see the scale of inaccuracies.<sup>471</sup>

Last, other proposed changes include a call to avoid AGR altogether and to develop alternative methodologies.<sup>472</sup> These alternative methodologies could go by gender inference, taking clues from a user's pronoun usage, rather than using an algorithmic analysis alone.<sup>473</sup> The focus of these alternate methods would be to prioritize the autonomy of a user and their gender expression in addition to their preferences in creating a community to share content.<sup>474</sup> Instagram, for example, has created a "close friends" feature that allows a preselected group of close friends to have special viewing permissions. This content is subject to less moderation, since content is only taken down if a friend flags.<sup>475</sup> For

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way, we want to be a force for change to help address and alleviate unnecessary pain points," Randall Tucker, Mastercard's chief diversity and inclusion officer, stated. Hannah Denham, *Inclusivity Comes to Credit Cards: Mastercard Creates 'True Name' for Transgender, Non-Binary Customers*, WASH. POST (June 18, 2019, 1:23 PM), <https://www.washingtonpost.com/business/2019/06/18/mastercard-launching-true-name-its-transgender-nonbinary-cardholders> [<https://perma.cc/U4KE-T4R8>]; James Issokson, *It's Time to Enable People to Use Their True Name on Cards*, MASTERCARD (June 17, 2019), <https://newsroom.mastercard.com/news-briefs/its-time-to-enable-people-to-use-their-true-name-on-cards> [<https://perma.cc/Y4KU-97DY>].

470. OSONDE OSOBA & WILLIAM WELSER IV, *AN INTELLIGENCE IN OUR IMAGE: THE RISKS OF BIAS AND ERRORS IN ARTIFICIAL INTELLIGENCE* (2017).

471. Keyes, *supra* note 67, at 16–17.

472. *Id.* at 17.

473. *Id.*

474. *Id.*

475. See Samuel Leighton-Dore, *How Instagram's 'Close Friends' Feature Is Changing the Way Queer People Connect*, SBS (June 19, 2019, 11:54 AM), <https://www.sbs.com.au/topics/sexuality/agenda/article/2019/06/18/how-instagram-close-friends-feature-changing-way-queer-people-connect> [<https://perma.cc/7LNH-AZSQ>].

some queer individuals, the creation of this space has enabled them to share content that may otherwise be flagged and to build confidence and community within a safer space for intimate connection.<sup>476</sup> By reducing the legal and technological structures that favor gender surveillance and focusing on design alternatives to identity-based assignments, we can imagine solutions beyond the primacy of identity altogether.

#### CONCLUSION

As we have argued in this Article, technology has produced a panopticon of gender surveillance, limiting the safety and dignity of transgender and nonbinary persons. However, as we have argued, it is indeed possible to take certain steps toward both entitling, embedding, and encoding gender self-determination, both on social media and in real space. By taking greater steps toward entitling—and embedding—gender self-determination, the law can enable the empowerment of a previously excluded community.

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476. *Id.*

