Surveillance, Biopower, and Unsettling Intimacies in Reproductive Tracking Platforms

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Introduction

On June 24, 2022, the United States Supreme Court stripped women of their constitutional right to abortion healthcare, reversing the landmark 1974 Roe v. Wade precedent and initiating a new era of control and surveillance over women's most intimate health needs.[1] Following the decision of the Supreme Court, and over the last year, news and social media have been flooded with calls for women to delete their menstruation, ovulation, or pregnancy apps (part of the industry commonly known as "FemTech"[2]) based on fears that the intimate data generated from these platforms will not only be sold to third party advertisers, but possibly accessed by enforcement agencies or even subpoenaed to prosecute those seeking now-outlawed forms of reproductive care. These fears are not unfounded – in December 2018, for instance, London-based charity Privacy International reported that many well-known menstruation apps were regularly sharing user data with social media channels. Of the 36 applications they tested, more than 61% immediately transferred data to Facebook when a user opened the app (Privacy International, 2018). Importantly, this seems to be the norm rather than the exception, and is not

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[1] Almost a year later, South Carolina seemed to be following through on such threats, with House Bill 3459. While a "largely performative" attempt, if adopted, this Bill would have seen those who acquire an abortion, even for medical purposes such as a missed miscarriage, prosecuted under the same penalties as assault or murder cases. These offenses, in South Carolina, are punishable by death and the Bill would effectively render abortion a death-penalty worthy crime (Mahdawi, 2022).

[2] It is critical to make clear early here that the "Fem"Tech industry is marketed towards those that identify as women and those who identify as "fem." While intimate digital health and even reproductive health extend far beyond these restrictive categories, my work here focuses on the discursive strategies of an industry and its marketing practices to question how inclusive "women's" digital health truly is. Indeed, as I address the notion of estrangement further in this piece, it must be acknowledged that forms of intimacy and estrangement are exacerbated in bodies that do not identity alongside the narrow categories of "woman" as defined by traditional medical discourse.

just a challenge for start-up platforms. For example, in 2021, the well-known ovulation app Flo reached a settlement with the Federal Trade Commission after allowing the data accumulated by its almost 100 million users to be shared with third party companies, including advertisers (Singer, 2021).

The consequences are clear, and in the months following the decision of the Supreme Court, feminine heath platforms and other companies have rushed to respond to the need for continued access to digital reproductive healthcare, while trying to assure users of safety and data security protocols – many of which, it must be noted, have been revised very recently. These actions began in May 2022 when, faced with the leaked draft foreshadowing that Roe V. Wade would be overturned, many companies began scrambling to update their data protection policies. Flo, as it happens, had already done this as an effect of its FTC fine. Google, which acquired fitness tracker Fitbit in 2019, announced shortly after the Dobbs decision that it will automatically delete location data if people visit medical facilities, including abortion clinics (it still, of course, collects that data). Other major FemTech providers issued statements on their social media platforms vowing to protect user data but many users are still, understandably, unsure about whether or not their search histories, location data and tracking app information could be used to assist the prosecution of abortion in certain states or if apps would have choice themselves to withhold customer's personal data if subpoenaed.

Reproductive surveillance and coercion have much resonance with intimacy and the regulation of embodiment by digital means. I raise the case of reproductive care (and reproductive crisis), then, to point not only to the risks associated with technologically facilitated intimate health platforms, but also to explore the ways in which the phenomenon of digital health raises significant concerns for how we conceptualize platform intimacies in an era where the

digital is no longer external to us but around, among, and even *within* us. Platforms are no longer things outside of or adjacent to us, whether hand-held or screen mediated; instead, they are now embedded, both literally and figuratively, in our lives and bodies. Concerns over the tracking of intimate reproductive health data suggests that the body (and the gendered body in particular) is not only a site of contestation, politics, and biopower, but is a platform itself – producing data assemblages that are bought and fought over in ways not dissimilar to other platforms such as social media and gaming consoles, though certainly with different implication for how we think about intimacy in such contexts. Theorizations of platform intimacy, therefore, are radically shifting to account for new technological changes blurring the boundaries of digital and embodied life. At the same time, feminine technologies and intimate digital health tools bring us *back* to the body in useful ways, not the least of which is questioning how sexuality, gender, ability and race might operate (or be excluded) in platforms narrowly marketed as "femme."

In what follows, then, I turn to the relationship between bodies and selves, and the burgeoning industry of feminine health technologies (i.e., "FemTech") such as menstruation and ovulation trackers as a particularly fraught domain of the platform economy. The knowledge produced by FemTech allows users to experience technology at the level of the body in a way that seems safe, intimate, helpful, and easy to understand. Virtual or not, the process still connects deeply to our biology and we *feel* it working. Such intimate technologies allow us to feel at ease in a sea of devices managing our daily lives. They produce a knowledge of what we call the quantified self[3] (Lupton, 2016) that is equal parts reassuring and alarming, using the familiarity and comfort of the body itself to assuage fears about the digital unknown.

[3] Coined but Deborah Lupton, quantified self refers both to the cultural phenomenon of self-tracking with technology and to a community of users and makers of self-tracking tools. Such self practices overlap with the

Following both Lauren Berlant and Shaka McGlotten then, I use "intimacies" in a digital context to denote "contacts and encounters, from the ephemeral to the enduring, made possible by digital and networked means" and as a "vast assemblage of ideologies, institutional sites, and diverse sets of material and semiotic practices that exerts normative pressures on large and small bodies, lives, and worlds" (McGlotten, 2013; 7). Further, I follow Ley and Rambukkana's reflections on the distinction between media and platforms and, in particular, their insistence that "while critical intimacy studies addresses the impact of media on the intimate public sphere broadly (Berlant, 1997), critical intimacy studies explorations of digital platforms remain rare" (Ley and Rambukkana, 2021; 62). Even more rare are intimacy studies that consider the body as its own platform. No longer the stuff of science fiction and dystopian visions of the body's internal computing systems, or microchips and digital implants turning against us, we are entering what Isabel Pederson and Andrew Illiadis refer to as the "next computing revolution" (2020; 21). Indeed, if *platform intimacies* designates the ways in which our intimate lives are increasingly mediated, managed and surveilled via digital platforms, I would also like to think beyond that – not only because such relations are often no longer separated from technology, but also in the sense that platform itself has come to mean far more than the hardware and software that act as foundations for digital media development. We are now, intimately and irrevocable, as O'Riordan (2011) muses, "biodigital bodies." Pedersen elaborates: "as society expects computing to be increasingly seamless, the idea of a networked body working autonomously through data assemblages seems less futuristic than before" (2020; 39). To be sure, relationality remains both social and data-driven and the new forms of "togetherness" now made possible (but

practice of lifelogging and other trends that incorporate technology and data acquisition into daily life, often with the goal of improving physical, mental, and/or emotional performance (see Lupton, 2016).

often also foreclosed) by mobile applications, media sharing, and networking websites should continue to be interrogated. But what if such intimacies were negotiated not at the landing site of a Facebook group, or TikTok trend but, rather, across the threshold of skin and flesh, not to mention the body's own interiority, neural and circulatory pathways, and reproductive tracks?

This contribution, then, explores three interrelated critiques of platform intimacy in the context of reproductive tracking technologies – both those used to prevent pregnancy (also known as digital contraception) and those that *enhance* chances of conception by digitally charting fertility and ovulation. I organize this critique around the central theme of biometric tracking to ask a series of questions: How is the body leveraged as a platform for intimate surveillance? To what extent do biopolitics and governmentality reproduce through body platforms? And what happens when the promises of digital intimacies collapse into patriarchy, data brokerage, or even violence? To unpack these questions, I begin with a discussion of biometric surveillance within the reproductive tracking capacities of many FemTech platforms. Next, I move into a discussion of intimacy and estrangement in reproductive platforms (software and hardware), where such technologies function as a form of what Richard Kearney (2014) calls "excarnation", whereby the body no longer registers, through our own interpretation, how we "feel" but how the machine feels us. I conclude by considering the material dangers of platform intimacy, particularly forms of tracking, violence, and reproductive coercion that are potentialized through digital fertility and contraceptive applications. Ultimately, I present FemTech as a rich lens through which to consider the benefits and limits of a particular facet of platform intimacy in desperate need of critical reflection.

Biometric surveillance and intimate reproductive health

The phrase “FemTech” was coined in 2016, by Ida Tin, the founder of Clue, a Danish digital menstruation application. “FemTech,” is a portmanteau of “feminine” and “technologies” that refers to the wide range of products designed with women’s digital health in mind. FemTech includes both hardware, such as wearable, embeddable and even ingestible devices, along with software; for example, digital applications, tele-health, and other web-based platforms. These products are designed to reach a range of women’s health needs, including menstruation and ovulation; diet and fitness; sexual health, pleasure, and wellness; contraception and maternal health; and, less frequently but still crucial, tools for conditions such as endometriosis, polycystic ovary syndrome (PCOS), menopause, mental health, and more. FemTech’s growth has been explosive. While in 2016, investments in feminine technologies totalled only 100 million (USD) worldwide (FemTech Analytics, 2021), in 2019, however, just three years after the phrase entered our vocabulary, FemTech was valued at almost 19 billion. It is predicted to be worth 60 billion by 2027 (Emergen, 2021). This estimate might even be conservative given the industry’s history of outperforming expectations.

As referenced in the introduction however, it has been in the last couple of years especially that FemTech has both been celebrated and come under fire for its tacit (and sometimes explicit) acquiescence to faulty data privacy practices. This becomes especially concerning in the wake of the Roe v. Wade decision in 2022 and the possibility that tracking data from reproductive apps might be used punitively against those seeking “outlawed” forms of reproductive care. By biometric surveillance, then, this chapter means to expose the regimes of tracking that leverage personal and intimate data, such as menstrual cycles and ovulation records, not only to identify and target users for product promotion, but also to regulate women’s bodies. To do so, I draw on classic Foucauldian biopolitics as a form of political power generated vis-à-

vis the (re)productive capacity of human populations. Through intimate platforms such as menstruation or ovulation apps, I argue, both state and corporate biopower operate at their peak, whereby gender and surveillance converge to produce and regulate the reproductive body. Such forms of data surveillance have always been a concern of those in the digital health industry, but they take on new and urgent resonance in a post Roe vs. Wade society. Saika and Doshi (2022), for instance, argue that "the increased criminalisation of reproductive health care has serious ramifications for the lack of robust digital privacy protections for health apps, such as period trackers." Yet while such overstepping of the state in punitive ways may seem to veer away from the *productive* forms of control recognised by Foucault, it is the narratives of self-management in particular so deeply espoused by tracking technologies that allow FemTech to remain as tools of disciplinary power that are ostensibly consensual. In other words, and as Sanders deftly explains, "digital self-tracking devices expand individuals' capacity for self-knowledge and self-care at the same time that they serve the convergent interests of biopower and gender retrenchment" (Sanders, 2017; 38). Neither forced nor *en*forced, intimate health platforms must be considered problematic but ultimately voluntary mechanisms through which users subject themselves to be "govern[ed] at a distance" (Sanders, 2017; 39) but also simultaneously from within.

This is not an entirely new phenomenon; while not writing on feminine technologies specifically, Deborah Lupton – pioneer of studies of the "quantified self" – identified over a decade ago, how "various kinds of social relations and interactions, including power relations, are created in and through surveillance technologies…[that are] part of the production of the citizen in neoliberal societies" (Lupton, 2012; 235). This becomes especially fraught, however, in the context of intimate platforms that govern and regulate the reproductive body, as family planning becomes a sub-technology of Foucauldian biopower made possible in large part

through the long reach and capital of Big Pharma and the biotech industry. Not only are reproduction and the intimate building blocks of such rendered over to the political task of governing life via fertility tracking; the responsibilization and individualization of fertility is encouraged vis-à-vis these intimate platforms. Better use of the app = better chance of conception. Often referred to as "dataveillance," (Lupton and Michael, 2017), "the cultural imaginary of surveillance celebrates intimate and intrusive forms of surveillance. Consumers also want to be intimately seen, known, and understood, which suggests that they embrace surveillance that is convenient and entertaining and digs deep into their social world (Ruckenstein and Granroth, 2020; 15). More than record our external experiences and movements however, FemTech platforms rely on embodied data that comes not only from skin contact, but from the most intimate processes our body undertakes – sleep, BMI, hydration, menstruation, arousal – all that which happens not just on the surface of the flesh but beneath it. These close, intuitive, "natural" things that are so familiar we do them without thinking are now projected externally as data, estranged from our bodies and sold back to us in the form of tools that interpret things like basal body temperature recording and cervical mucus levels, purportedly increasing fertility awareness. This estrangement, as I discuss below, is carefully calculated.

Part II: Intimacy and estrangement in FemTech platforms

Perhaps the crux of platform intimacy in the context of reproductive technologies is the way in which such devices render the body as fundamentally estranged from itself. This is especially complex when considering that these platforms do not operate as external to the body but, in many cases, are worn, tracking internal processes, and rely on various forms of touch (via digital sensors) and skin contact to produce data. One such example, of course, is the Apple

Series 8 watch, which uses sensors (that collect a reading every five seconds) to measure temperature spikes that increase as ovulation occurs. In what follows, then, I want to focus on the sense of *touch*, its technological necessity, and specifically how the kinds of touch involved in FemTech products operate on the threshold of the foreign and familiar. Thinking about the extent to which reproductive trackers and sensing technologies offer affects of comfort or uncertainty, the success and ubiquity of touch technologies raise a number of serious questions: How is it that touch, as a sense (and sensor), can be both comfortable, familiar, and *homely*, while at the same time unfamiliar, strange, unsettling and uncanny? Moreover, how might we read the excarnation[4] of reproductive technologies as a kind of estrangement, but one brought back to the body as an unfamiliar metric, making us – in Kristeva's words – strangers to ourselves? Finally, how do the embodied experiences of fertility and contraceptive technologies reinforce the mechanisms of tracking and biopower that render the reproductive body subject to surveillance, scrutiny and even coercion and violence?

Working thorough these questions, I pay particular attention to the space in between – where carnal and code, body and bot converge in a way that conjures the Freudian unheimlich and renders the foreign familiar, and the familiar strange. Recalling Freud, the uncanny is that which produces an "affective experience of the uncontrollable responses of our own internal drives" (Ravetto-Biagioli, 2019; 2). The *digital* uncanny refers to that which mimics the human – its gestures, actions, even emotions and relationships – through nonhuman technologies such as surveillance, collated data, predictive algorithms and digital body management systems, like Fit

[4] Etymologically speaking, excarnation refers to the removal of flesh, or separation of soul from body (Merriam-Webster, 2023). My use here follows that of Richard Kearney, who speaks of the importance of touch in a digital age where our carnal (flesh and touch) senses may be diminishing. To close this gap that alienates us not only from others but from ourselves, Kearney suggests we return "from iCloud to earth" and reclaim our humanity through touch (2014). While my own analysis resists firm distinctions between the digital and the flesh, the concept of excarnation is important to thinking through the ways in which FemTech often forsakes intuitive and carnal (self) knowledge for the primacy of data.

Bit and the AppleWatch and, increasingly as I argue, feminine technologies such as menstrual tracking. The uncanny affect here, is both that we are becoming more like machines, and machines more like us. The touch technologies of intimate wearable tech platforms are thus both a source of familiarity and foreignness. Just like sensory human touch can be both a source of both pain and pleasure, this sublimity amplifies in the touch of the wearable device first and foremost because it is primarily non-reciprocal: we can't touch back. Hub Zwart argues that the uncanny "comes into play whenever technical contrivances come too close, and / or become too biocompatible, too real" (Zwart, 2017; 26). For Sara Danius "sensory technologies have gone from prosthesis, the 'essentially external relationship between the senses and their technological supplements', to aisthesis, the 'interiorization of technological modes of perceiving' (in Paterson 2007). In other words, we come to know our own bodies, even their most intimate reproductive functions such as temperature and fluid viscosity, by the manipulation of our interiority into a data set, where interpretations and recommendations are determined in virtual space then beamed back to the body to be implemented.

Remarkably, then, we can't actually distinguish between the familiar and foreign in these devices and their corresponding platforms. They are strange in their closeness and their "sensory" capacity – a closeness that in psychoanalytic terms was once familiar but from which we have become estranged. Our own bodies – blood, fluid, skin – through data, are made strangers to us. Again, following Freud, these unsettling intimacies (private systems, secrets buried beneath the flesh, culturally taboo processes, and even repressed desires) are those which were meant to stay hidden and are now disclosed. They disturb the boundary between exposed and veiled, artificial and natural, and that which we would have ordinarily rendered non-human. Rather than skim the surface, they *broadcast* from within and blur the line between the biological

and the technological. The tracking technology, then, far from being the object-replacement to stand in for that repressed or lost object of desire, both displaces the fear (as the fetish is supposed to do) but also exposes it. It is through Freud's interpretation of this story in his essay *The Uncanny* that we are given language to understand this phenomenon: what he terms the *heimlich* and *unheimlich*, a parasitical word pair in which the familiar always carries the anticipation of its phantom other, the strange. In David Simpson's words "what is unheimlich is also, at the same time, heimlich…[The terms] are bound together etymologically as codependent and perhaps even interchangeable: every host is a guest in the making, every stranger is familiar" (2006; 55). We are turned inside out, and the experiences we used to call familiar and intimate – temperature, heartrate, menstrual flow, even the *pain* and discomfort associated with conditions such as pre-menstrual syndrome and PCOS – are no longer ours. They are external to us, datafied, and governed. Such technologies do not just reveal our desires. They give us new ones by way of targeted fertility windows, Bluetooth thermometers, and subscription services to uncover what's beneath the surface of our skin. Skin is what connects us to the world around us, through which we experience our surroundings but it is also that which registers harm. As the philosopher Edward Casey elaborates, "It is on this surface that the depths come to expression, thus to our notice; but the same skin surface, precisely because of its acute sensitiveness, is vulnerable to exploitation by others—to their unwanted incursion in situations of trauma or torture" (Casey, 2015; 170). If we extend Casey's thinking here in relation to reproductive tracking, significant questions around vulnerability and relationality arise not the least of which is: How do these skin or "touch" relations change when the source of knowledge and contact is a gendered body?

The implications of wearables for reproductive tracking are thus far more than the philosophical. Even as they get under our skin in an uncanny way, they also project what is intimately internal back to ourselves as a form of knowledge, giving us a bird's eye view of our own corporeal strengths and limits and a status like fertility becomes simultaneously physiological and affective: an affect of elation, fear, or perhaps both, made possible by the sensory technologies of a wearable tracker. With wearables we are rendered transparent but also made into Gods as, with reproductive trackers, it is possible to *see* the data and *be* the data at the same time. In an article entitled "The Data Driven Life," published in *The New York Times Sunday Magazine* in 2010, before the release of either FitBit or the Apple Watch and their menstrual tracking capabilities, Gary Wolf suggested that these forms of data can serve as a tool for "introspection," a reflection made possible by the digital through which we glimpse and learn new things about ourselves. According to Natasha Schüll, for Wolf "tracking tools become ethical tools, technologies of the self … a pathway from self-knowledge to self-transformation" (2016; 198). Ultimately, however, I argue that wearable platforms resonate with Kearney's notion of "excarnation," insofar as we no longer register and interpret our own "feeling" but rely on the machine to feel us, and feel for us. We are estranged from our own flesh, an experience of unfamiliarity that takes on even more significant resonance, I want to suggest, when viewed through the lens of gender and the particular forms of wearable biotracking that manage women's bodies. Here, wearable tech mimics culture and proves not so new after all – women have always been taught to feel estranged from their own bodies. This is likely no more obvious and fascinating than in the vast promises of the broader FemTech industry, where wearable devices have emerged to help "women" (still a broad categorization used unproblematically by

most in the wearables industry)[5] manage their fitness, reproductive health, sex lives, and even their safety.

Estrangement here is thus not only gendered but also monetized. Schüll's critique is not in regard to gender per se, but it's easy to see how the unease produced by these devices might be exacerbated in the bodies of those who identify as women. She writes: "The wearable tech industry plays on this anxiety and pressure, addressing a market of consumers who "fly blind" through their daily routines, unsure whether to trust their own senses, desires, and intuitions as they make mundane yet vital choices—when, what, and how much to eat, drink, move, or rest" (Schüll, 2016; 201). These fitness trackers are worn with consent of course and require we have enough control over our bodies to give it, but then flip the narrative by suggesting we do not actually know our bodies; they are unfamiliar to us and that the device is necessary to augment our lack of knowledge about our own selves. Through reproductive health functions, especially those that use a touch sensor, self-management is subsumed by self-estrangement and the information gleaned by such platforms is often of more use to the platform itself than the user. For Sanders, such phenomena raise questions "about how current users' intimate body data – endowed with surplus 'commercial, managerial, and research value' – is being extracted, commodified, and resold to marketing corporations, employers, and other third parties in a new

[5] As I touch on also in a note earlier, I use "women" here to designate a particular language used by those who design and market biometric tracking products, and I do so with a recognition of the ways in which such a category glosses over the diverse experiences and identities of those who menstruate. As one reviewer suggested, we could also contextualize further the intersectional marginalization within wearable tech, and expand the notion of estrangement here to consider Afro, trans, and crip ideas of estrangement. While incredibly important, this is beyond the scope of this paper, beyond underscoring how these FemTech products are sadly marketed mostly to white, cis, able-bodied women. Further, these assumptions that the industry and even the medical field make around what constitutes a woman (i.e., having a uterus and able to biologically reproduce) elides the multiple forms of oppression and exclusion faced by non-binary, trans, and other queer or non-confirming bodies who may menstruate but *not* identity as women, and vice versa. See Caroline Colvin's (2021) essay for *Health.com* for a critical narrative of non-binary menstruation and discussion of how transphobia and period stigma are linked in dominant health discourse.

'digital knowledge economy'" (2017; 38). Foucauldian bio power thus resurfaces here – indeed, as 'technologies of the self,' FemTech apps oscillate between self-knowledge, and self-estrangement. Moreover, while the wearable device becomes a threshold – a site of landing perhaps, between the actual technology of power (i.e., patriarchal, capitalist surveillance) and the interiority of the body and its intimate function, it is the body itself that becomes a platform and the unique assemblages of intimate data and body platform work together to produce self-estrangement as not only normative, but also paradoxically remedied through the use of the tracking device. Yet while the regimes of self-estrangement produced by body platforms are problematic for identity and self-actualization, and are often disproportionately gendered, there remain consequences of FemTech tracking platforms that have even more dangerous and material consequences.

Part III: Material dangers of platform intimacy

While platform intimacies, generally, are caught up in a complex web of affective and destructive relations, potential surveillance, and self-estrangement, such relations also reflect the actual lived embodiment of platforms and, as such, it is critical to exposes the extent to which intimacy itself can be dangerous and risky. In other words, thinking about the body as a platform also has material consequences that can be downright violent. In what follows, I outline several forms of platform intimacy vis-à-vis reproductive tracking applications that are potentially leveraged as tools for gender-based violence. While recent news and social media has detailed the use of tracking apps and devices such as Map My Run, AirTags, and Bluetooth earbuds as potential avenues for stalking and surveillance,[6] my focus here is specifically on the use of

[6] Sadly, the cases here are too numerous to recount. Briefly, as an example, in December 2022, 39-year-old Stephanie Forster was shot and killed outside her Coquitlam, British Columbia home by her estranged husband

reproductive FemTech apps and the potentials of intimate partner surveillance (IPV). This final section thus draws on the same threads of surveillance and biopolitics as I have outlined above, but reduces the scale from forms of governmentality and politicization of women's reproductive health, to the intimate space of a home or domestic partnership where such forms of surveillance are brought to the immediate fore.

FemTech tools, enabled with technologies meant to ostensibly empower women with information to track cycles and symptoms, are part of a larger trend that is increasingly seeing a shift in technologically enabled stalking and intimate partner violence (IPV) no longer facilitated by spyware and phone hacking, but by devices and services willingly adopted by victims and then misused by perpetrators. We often think of stalking and gender-based surveillance as a tactic used by unknown offenders; however, in reality, women are usually subject to tracking or violence by those *known* to them (see Jones et al., 2004; UK Office for National Statistics, 2022; Women's Aid, 2022).

Reproductive tracking platforms are, to be sure, tools that are designed to make our lives easier, more efficient, and healthier. At the same time, they initiate new and taken for granted forms of intimacy and, again, reveal the extent to which thinking about the body-as-platform collapses binaries between humans and technology. As Kember and Zylinska describe:

(Charlebois, 2023). Despite a restraining order, change of phone number, and several relocations, Forster is presumed to be have tracked down via an Apple AirTag. Despite reporting this to the police when she discovered the device in her vehicle, the harassment from her former partner was allowed to continue. Recently, news and social media have been flooded with similar stories of women finding AirTags or similar tracking devices (such as wireless earbuds) in handbags, vehicles, and coat pockets (see Nader, 2022; Tomchak, 2023). UK Charity Suzy Lamplugh Trust reports that while digital forms of stalking are on the rise, prosecution of such crimes in England is actually falling, with only 5% of reported stalking offenses resulting in criminal charges (Tomchak, 2023). Such examples reflect a growing trend whereby perpetrators engage in what is often termed Technologically Facilitated Sexual Assault (TFSA), a form of platform enabled intimate stalking that Angela Marie MacDougall calls "homicide in slow motion" (*Vancouver Sun*, 2022).

> we human users of technology are not entirely distinct from our tools. They are not a means to our ends; instead, they have become part of us, to an extent that the us/them distinction is no longer tenable. As we modify and extend "our" technologies and "our" media, we modify and extend ourselves and our environment. (2015; 13)

One consequence of this is a failure to think through how we situate ourselves in both the physical and online world as "status" sharing has become a ubiquitous element of most social media platforms. From influencer advertising and sponsored content, to celebrity product endorsement, social media is becoming increasingly saturated with the sharing of reproductive health data, both consensual and not. This extends of course to the sharing of intimate status updates, even those related to fertility and ovulation, particularly after Roe v. Wade was overturned as many women (including those with very public profiles) not only disclosed their own abortion stories via Twitter and Instagram, but publicly named and shamed FemTech companies that had sub-par data privacy safeguards (e.g., see Asher-Hamilton and Reuter, 2022; Page, 2022; Morrison, 2022; Wetsman and Song, 2022). Yet while much of the media attention centred on such data being used by law enforcement where abortion healthcare has been outlawed, the ways in which such data can also be used as an intimate form of coercive control and surveillance by known perpetrators demands attention. The leveraging of intimate data thus also reminds us that surveillance itself, even when it does not result in direct physical harm, *is* and should be considered a form of violence.

It is critical, therefore, to recognize the potential risks of IPV that are enabled in reproductive tracking, because as much as I have outlined the dangers of data from such platforms being sold to third parties, used to prosecute particular health procedures, or leveraged by would-be assailants, they are also used in even more intimate ways, by known abusers and

within the domestic sphere. The mechanisms for tracking itself, in fact, are also often *more* accessible in such scenarios as abusive partners often have control (either to grant or withhold electronic usage) or password access to individual devices where tracking apps may be stored. As Dell, et al. outline,

> what's unique about intimate partner violence is that the very nature of the relationship allows abusers to easily skirt the kinds of security mechanisms that stop ordinary hackers. Intimate abusers don't even need to be technically sophisticated. Abusers often have physical access to their partners' devices, and they either know their passwords and PINs or can guess them (or can compel disclosure, sometimes by physical threats). (2018; 2)

In this final section, then, I want to explore how intimacy, violence, and the body platform come into alarming relation, where both the digital and material worlds collide in what I term platform-enabled intimate partner reproductive surveillance. If anything, the reversal of Roe v. Wade, combined with the potential threats of surveillance within the domestic sphere, should remind us of the wide spectrum of digital harms that platform intimacies can possibly facilitate.

While platform-enabled intimate partner reproductive surveillance (PEIPRS) as a facet of IPV is generating more research attention, the exact distinction between the digital and material, and which of the two make such violence more or less possible is difficult to entangle. In general, I argue that digital violence and online harm is a reflection of wider socio-cultural and structural forms of violence, whereby platforms to do not so much create violence as give such harms a site to flourish, and often with anonymity and impunity, while PEIPRS leverages *specific* tools to target *specific* users. In defining PEIPRS I draw on the work of Bellini, et al., whose work shows how technology plays a large role in [partner surveillance], a sub-type of IPV in which a perpetrator "deliberately monitors an intimate partner, with or without their

knowledge, through a combination of technical and non-technical means" (Bellini, et al., 2021; 3). While this can take on many forms, including restricting access to technology such as social media platforms, online banking, and setting data limits, my focus here is again on the reproductive body and in so doing, I shift the scale of biopolitical surveillance and governmentality to the eco-system of the domestic sphere. Perhaps the most disturbing facet of this again involves the interiority of the body, the intimate processes of menstruation and ovulation, and the information such tracking platforms generate that are of particular interest to unsupportive or abusive partners. Whether a couple is intending to get pregnant or not, and especially in cases where opinions on contraception and conception are divided, such data may become a tool for not only surveillance but control. Indeed, in a recent study conducted by Balfour, Carter, and Whelan on the efficacy of digital platforms for domestic violence support and recovery, workshop participants suggested such digital interventions would merely *arouse suspicion* rather than provide pathways to safety (Balfour, et al., 2022). Survivors of abuse detailed the extent to which they would have to hide such platforms from abusive partners, a tactic they also claimed is often used with reproductive tracking apps. Such an inference – that platform data could be accessed and weaponized to either withhold sex *or coerce it* – is well supported by research on the relationship between PEIPRS and more traditional (non-digital) forms of reproductive health. In a study of what the authors call "birth control sabotage," Miller at. Al (2010), for instance, found that over one third of respondents who reported PEIPRS also reported reproductive control using tactics such as flushing birth control pills, damaging condoms and in some cases, physically removing patches or implants, proving just how closely reproductive tracking aligns with physical violence. In a platform era, we can now add accessing (and possibly hacking or manipulating) fertility tracking data to this list of tactics.

The consequence here should be clear. Despite the affective potential of platform intimacies, the reality of intimate lives and bodies, mediated in online space, is also troubling, particularly with regard to gender and platform-facilitated violence.[7] Platforms become complicated sites of encounter where traditional codes of conduct surrounding gendered forms of intimacy and relationality fall into greyer territory. Writing specifically on the negotiation of intimacy within haptic platforms – those that, for instance, simulate touch and sensory encounter – Ley and Rambukkana (2021) argue for new forms of consent that take such new relationalities, no longer proximal but still profound, into account. "The #metoo movement," they argue, "has spurred macro-level cultural conversations about the nature of sexual consent, ones that need careful consideration when translated to "digital haptics" (Ley and Rambukkana, 2021; 10). Indeed, the ability to "exten[d] physical control across distances" (Ley and Rambukkana, 2021; 12) with the use of remote technologies is not dissimilar to the ability to use digital networks not only to track and surveil but to leverage cloud technologies to access and alter intimate data. In the future, as reproductive technologies advance, the capacity to remotely control digitally released hormonal birth control could also be realised, allowing abusive partners or even unknown hackers to engage in a kind of reproductive subterfuge without the target even aware. As such, the forms of stalking and violence enabled by intimate platforms, in which the body itself becomes a platform for data surveillance, and even remote *embodied* interventions, demand more interrogation of the inherent risks of platform intimacy.

[7] Again, while space does not allow in this particularly analysis; it should be noted here (and throughout) that all the forms of surveillance discussed here also disproportionately target those who identify as raced, classed, queer, neurodiverse and those marginalised in a variety of other ways. The intersectional construction of reproductive surveillance is critical and, as I have argued elsewhere (see Balfour, 2023; Balfour, 2021), biometric tracking is but one way that the feminine technologies industry fails to address the problem of what "fem" or "woman" means, not to mention that gaps in safety, access and equity for underserved populations.

Conclusion

Globally, provisions are continually being made for the safety of intimate platforms, but sadly at a rate that falls short of technological innovation. In other words, questions around safety, privacy, and harm prevention are too-often raised only *after* a new digital tool hits the market, rather than before. One widely touted starting point is to think practically about de-linking self-tracking platforms from the biopolitical and corporate dataveillance "norm" by shifting data storage from a server/cloud paradigm to a singular device paradigm. Under this shift, intimate data would not be stored at the site of platform itself (i.e., on its servers), but on the individual mobile, tablet, or computer, allowing users a greater degree of control over their own information (Whitson, 2015; Sanders, 2017). Moreover, deeper thinking is required to understand how conventional definitions of consent and privacy operate in a digital context where the violence and violation may be virtual or simulated, but the effects are very real. Sadly, these questions have been slow to materialise, particularly in an industry such as FemTech which, primed for growth and innovation, moves much faster than the ethical considerations necessarily for justice and sustainability. Indeed, more than a decade ago, Deborah Lupton asked "can the spatial meanings of privacy, which represent privacy as a kind of personal zone from which others are excluded unless given permission to enter, remain meaningful in a context in which wired consumers are available for surveillance and data gathering for much of their waking day?" (2012; 244). Fast forward 15 years and the question remains, one that should be at the heart of any interrogation into platform intimacy: who owns the data, and who can use it for harmful intentions?

As a conceptual tool, thinking about the possibilities and relationalities of an intimate public made possible by social – and even health-tracking – platforms generate new forms of

intimacy, particularly between bodies and selves who might not have other recourse to the generative benefits of belonging and affect that such platforms afford. Moreover, it is difficult to think about intimate health platforms in particular, without consideration of our emergence out of global pandemic, in which women especially (alongside others who menstruate and may also track reproductive health) not only turned more than ever to technology to meet their intimate health needs, but also found in the digital an invaluable tool in democratising healthcare and bringing self-managed tools to those without access to regular healthcare providers. The potential benefits and even emancipatory uses of intimate reproductive tracking platforms should not be wholly disregarded.

But they must be approached with caution, and taken up with consideration of "how the body is imposed upon to become a platform across a series of technologies that are increasingly interdependent" (Pederson and Illiadis, 2020; 23). Platforms that purport to assist those who identify as women in their intimate health journey are but one text within platform studies, but provide a rich lens through which to consider both the benefits and limits of platform intimacy as it manifests in both corporal and digitally embodied experience. In a postdigital culture where the proliferation of reproductive health platforms is inevitable, the body serves as locus of platform intimacy that is intensely personal at the same time as it is subject to public scrutiny and display. Or, as Berlant maintains, "the inwardness of the intimate is met by a corresponding publicness" (1998; 281). Ultimately, "women's bodies" risk being used as free labour in an intimate platform economy that not only produces discourses of self-estrangement and neoliberal self-management but inherently *relies* on it. Making both those who identify as women those materially interpellated in that frame simultaneously responsible for both the maintenance of

platform capitalism *and* their own safety – the two of which are paradoxically intertwined – is perhaps the most problematic irony of all.

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