

Queer Kinship: Privacy Concerns in *Orphan Black*

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The acclaimed Canadian television series *Orphan Black* (2013-2017) poses a question straight out of the pages of science fiction: What would it be like to encounter multiple versions of yourself in the form of clones that you never knew you had? Reared in completely different environments, each clone develops a unique personality, astonishingly portrayed by the actress Tatiana Maslany, who performs twelve different roles (often several in the same scene) over the course of the show's five seasons. From a scientific point of view, the clones' differentiation into distinct identities is the most accurate aspect of the show's premise (Hamner, *Editing* 95). But equally plausible in social terms are the bonds that begin to develop among the beleaguered figures, who are initially being hunted down by one of their own and later learn that they are under constant surveillance by an unethical corporation that is using them as experimental research subjects. As the show progresses, the network of relations they forge – facetiously christened the "Clone Club" – ends up offering viewers an alternative vision of kinship and sociality.

The show's reconceptualization of the nuclear family, as it has been traditionally conceived in Western society, evokes phenomena that are already becoming common in today's world – both the "families of choice" described by Kath Weston in her book *Families We Choose: Lesbians, Gays, Kinship* (1991) and the genetic kin who are brought together via ancestry web sites, genetic testing services, and social media networks of donor-siblings¹ described by Rosanna Hertz and Margaret K. Nelson in *Random Families: Genetic Strangers, Sperm Donor Siblings, and the Creation of New Kin* (2018). This article explores the relationship between the alternative kinship networks in *Orphan Black* and these two real-world phenomena, concentrating on the privacy issues emerging almost weekly in news and other media accounts of individuals discovering new – often unexpected – kin.

Orphan Black is unprecedented in setting both of these alternative family structures in dialogue with one another. The importance of LGBTQIA+ families is foregrounded by the prominence of queer sexuality in the show itself. The series features a range of same-gender sexual relationships, prominent in several storylines, as well as surrogate, adoptive, and voluntary families that cross national, linguistic, educational, generational, class, and lifestyle boundaries. As Hamner puts it, "*Orphan Black* treats *all* of its clones as *figuratively* queer" ("Sterility" 413, italics in original). Consequently, the show's queer allegiances transgress more than heterosexual norms.² The phenomenon of "genetic families" who bond over their newly discovered genetic relationship, is dramatized with equal prominence in the show. Together, these alternative family structures create novel social arrangements that challenge normative assumptions in multiple domains.

Although the clones are genetically identical, they have each been brought up in different environments, and they manifest an array of personality traits and identities: a punk rock con artist named Sarah, who has sex with whomever she pleases and does not feel the need to categorize herself; a lesbian dread-headed graduate student studying evolutionary biology named Cosima; a quirky housewife and soccer mom, Alison, whose marriage reverses stereotypical gender roles by making her the head of household and having her husband take her last name; a trained killer, Helena, who is

asexual for the majority of her life after a voyeuristic but traumatic encounter with a masturbating nun; a sadistic CEO named Rachel, who enjoys acting as a dominatrix when she is not running the Dyad Institute; a ditsy nail artist, Krystal, whose sexuality is unspecified but who performs a campy cisgender role; and a criminal trans man named Tony, who has sex with the (adopted) brother of one of his clones.

The genetic, sexual, and affective bonds depicted in the series become vivid examples of what José Muñoz calls the "vast lifeworld of queer relationality," a realm Muñoz characterizes as possessing both "utopian potentiality" and "encrypted sociality" (Muñoz, *Cruising* 6). *Orphan Black* emphasizes both sides of this equation – the utopian possibilities that arise when one forges new forms of belonging and the need for privacy when a person or group defies normative conventions. Under pressure from all sides, encrypted sociality is a life-or-death matter for these hunted figures – one could hardly think of a more pressing need for their social relations to remain private. Yet despite everything, the enduring message of the show and its final image is of the strong bonds of love that can flourish in unexpected configurations.

The parallel between the Clone Club in *Orphan Black* and the new kind of families that sometimes emerge when people discover unknown kin via genetic ancestry testing is striking. The clones are extreme examples of what Rosanna Hertz and Margaret K. Nelson have called "genetic strangers," people in the real world who discover siblings that they never knew they had. The show underlines the potential of ancestry testing to create "random families" by having a major character – Felix, the foster-brother of one of the clones – use a fictional ancestry testing company to find a half-sister (non-clone) he had never known about. The genetic kinship of clones, of course, only intensifies the emotional and psychological dynamics charted by Hertz and Nelson; instead of sharing half of one's DNA with a stranger, these clones share 100%. Genetically, they are identical, which makes the vast personality differences among the principal clones all-the-more fascinating.

The privacy concerns raised by genetic ancestry services in real life are legion. It has become routine to hear about the shock of children who learn that the man they regarded as their father is not their biological parent, of spouses who uncover their partner's infidelity, of gamete donors who are contacted by offspring they never intended to meet. Sometimes these surprises can be gratifying – uniting adopted children with biological parents who welcome the connection, finding unknown relatives, revealing treasured details about one's cultural heritage (Nelson 5, 8). In many other cases, however, the social consequences can be destructive. As a growing number of people are discovering, genetic information has the potential to reveal private details not only about the individual who submitted a DNA sample but about family members, more distant relatives, and even total strangers. A disturbing but little-known consequence of seeking information about one's ancestry is that this act may disclose private, potentially upsetting or harmful information about an ever-widening circle of people. For the fact is that revealing data about one person's genome unavoidably reveals information about the DNA of their biological parents and children, their cousins, and even more distant relatives, extending outward to hundreds of people, many of whom might be total strangers. A single disturbing revelation can have rippling consequences for others who never agreed to have their DNA sequenced or dreamed that someone else's decision might have an impact on their lives. These are merely the personal risks that one runs by taking a simple genetic test. By now, most people have heard of the uses of this information by government agencies, ranging from law enforcement to immigration control, that come with depositories of genetic data, whether collected by the government or uploaded by well-meaning relatives to open-

access databases. In 2018, it was estimated that 60% of white Americans could be identified by existing ancestry databases, and that within three years, that number will have risen to 90% (Murphy). In this context, the surveillance the clones are subjected to in *Orphan Black* begins to seem too close to reality for comfort.

In this article, we will examine how social media and direct-to-consumer genetic testing (DTC-GT) are revolutionizing kinship systems and creating novel forms of sociality. The critic Kirsten Dillender emphasizes both the positive and negative potential of the genetic families portrayed in *Orphan Black* (410). Similarly, we highlight the potentially positive implications of these novel kinship systems, such as how they destabilize heteronormative restrictions on sociality, while also illuminating the difficulties and potentially negative side effects: the assimilation of new kinship structures to traditional familial norms; the difficulty of finding a language for reconstructing notions of sociality; the commodification and capitalization of queer bodies; the risk of new forms of eugenics; and the difficulty of obtaining user consent since the scope and implications of such future research is immeasurable.

“Just one, I’m a few”: The Riddle of Alternative Kinship

Traditional conceptions of the nuclear family in Western societies have come under pressure from diverse sources for decades. Today, however, norms about what constitutes a family are being subjected to additional challenges from the rise of ancestry and kinship testing. What counts as your family when the stranger standing next to you might share your DNA? Hertz and Nelson recount the story of two girls, Joy and Sophie, who attended the same school, were bandmates, and who shared lunches in the same cafeteria – all without knowing they were half-sisters or “donor siblings” (59). Joy and Sophie, like the other 154 children in Hertz and Nelson’s study, were conceived through the process of invitro fertilization (IVF) with the use of donated sperm. Hertz and Nelson identify “seventeen discrete examples of unanticipated contact” within their sample (59). This phenomenon extends beyond the scope of Hertz and Nelson’s study as well. In an article published by the *New York Times*, “A Family Portrait: Brothers, Sisters, Strangers” (2019), Eli Baden-Lasar recounts an eerily similar story that could have been ripped from an episode of *Orphan Black*. At 19, Eli was shocked to find out that he not only had 32 siblings, but also that he had shared four months with one of them at a boarding school where they had spent a great deal of time “reading each other’s work and sleeping on the same floor of a dorm, all the while unaware that [they] were half brothers” (Baden-Lasar). He discusses his feelings of surprise and horror at this discovery: “I had this suspicious feeling that scientists were conducting an experiment, had taken a lunch break and then forgotten to check back. But no one was watching through the two-way mirror, and instead we were stuck looking at each other, reflected and refracted, different people, but the same, mouths agape” (Baden-Lasar). Furthermore, Eli explains, “The sheer quantity of [siblings] gave me a feeling of having been mass-produced” (Baden-Lasar). Eli’s feeling of mass production is precisely why this parallel with real life genetic strangers brings the characters in *Orphan Black* closer to today's reality than its currently improbable science fiction premise of human cloning would seem to warrant.

Orphan Black dramatizes one of the most interesting aspects of relationships among donor siblings – that no bond exists among these individuals other than the one that they choose to build. As Hertz and Nelson put it, “Biology – not sociability – opens the connection” (8). In this way, genetic kinships systems that are based on choice expand on something Weston notes in *Families We Choose*: that reproductive technologies of the 1980s “reconfigure[ed] the terrain of kinship” and discourse

surrounding the American family. Even though these families are not traditional, they rely on the only discourse that is available to them: one that is patriarchal through and through. And unfortunately, this discourse oftentimes keeps them tethered to patriarchal ideology. Priscilla Wald discusses "the emotional pull of the conventional heteronormative nuclear family in the longing of the characters who have grown up without it.... *Orphan Black* shows, that is, how the pull of biology is a function of deeply rooted stories and a desire for stability – in relationships and in definitions" (370-71). This problem prompts Weston to ask whether "gay families are inherently assimilationist" or if "they represent a radical departure from more conventional understandings of kinship?" (2). Weston leaves this issue as an open question, but it seems clear that the assimilationist logic inherent in the language and structure of familial relationships makes it hard to escape the shadow of the heteronormative family. This is an interesting notion to consider, but it cannot be adequately discussed within a simple binary or oppositional framework.

The lingering assimilationist tendencies in *Orphan Black* reveal themselves not through similarities in personal preferences but rather in the limitations of language. The clones of *Orphan Black* share the same struggle to categorize themselves as do many of the donor-siblings in Hertz and Nelson's study. There is little terminology that accurately describes these (dis)connections. Even though these kinship systems vary vastly from traditional family structures and "cannot be placed on any known shape of a family tree" (Hertz and Nelson 4), the clones of *Orphan Black*, like the real-life genetic strangers, still often resort to heteronormative nomenclature.

We can see this restrictive logic as the clones fluctuate between the female-centric solidarity of what the show calls "sestrahood," reminiscent of the women's empowerment strategies of the 1970s, and the more gender-fluid alliances of the Clone Club, a fluidity that even bursts the fourth wall by extending to the diverse fandom communities that developed around the show. *Orphan Black* was innovative in incorporating the responses of its dedicated, cos-playing fans into later episodes of the series, and it featured these extended "co-creators" in a heart-warming video collage during the credits of the final episode. This collage celebrated an array of gender presentations, dramatizing how the Clone Club had grown past sestrahood to embrace a wide range of LGBTQIA+ identities.

The show explicitly highlights the limitations of language on the new types of relationships that technology affords. At the simplest, the clones of *Orphan Black* resort to calling each other "sisters" as the most accurate way of describing their relationship to each other, although that in no way captures all the dimensions of their genetic or their interpersonal relationships. We can see the terminological difficulty in the episode titled "History Yet to Be Written," in which the clones meet Kendall, the woman from whom their DNA was harvested. Kendall is two generations older than the Clone Club sisters. A genetic chimera, who acquired the DNA of her male twin in utero, Kendall's cell line was acquired under false pretenses when she was in prison and used as the source of both the Clone Club sisters and their male counterparts. To complicate matters, Kendall's natural born daughter adopted one of the Clone Club sisters as an infant, making Kendall both a "grandmother" and an identical twin sister of all the members of the Clone Club generation. One clone calls her "our original mother-sestra"; another, the scientist Cosima, says "It's way more accurate for us to call you older sister" (S3, E10). But none of these terms adequately capture the generational, adoptive, and biological complexities of their relationships. Cosima's reference to Kendall as a "sister" here highlights how alternative families end up resorting to the assimilationist logic that Weston questions, even though this logic does not adequately

capture the essence of their kinship ties. This scene dramatizes, through the lens of science fiction, how variegated and complex today's new forms of kinship and sociality are.

One response to the limitations of language is the riddling passcode or shibboleth they use to identify themselves to one another. The riddle speaks to, without naming, the paradox of their identity, and sheds light on their queer relationality which resides in the liminal space of ambiguity and dichotomy that these new family structures represent: "Just one, I'm a few. No family too. Who am I?" (S1, E2). This passcode also reveals an existential questioning of oneself. Each discovery of another version of oneself brings about a new crisis. Relatives, in the most fundamental sense, help to situate us in juxtaposition to other people who are genetically related but who all have different lived experiences and therefore can help us to understand and navigate the world. It is through bonding and the creation of their new family structure that Sarah and her many clones triangulate their identities, so to speak, and gain a renewed sense of self (see Higgins 392-93).

Gayle Rubin, in an interview about her influential essay "The Traffic in Women" (1975), asserts that "the imprint of kinship arrangements on individual psyches is very durable. The acquisition of our sexual and gender programming is much like learning of our native cultural system or language. It is much harder to learn new languages, or to be as facile in them as in our first language" (76). Although Rubin is speaking figuratively here by using language fluidity as an analogy for gender fluidity, her insight speaks to the difficulty of divorcing kinship and language from normative rhetorics of sociality. In short, it is challenging to describe family in any other way than to use the given language that is bound by a reductionist, often binary, logic.

One potential way to tackle this problem is to work toward designing a new language that is more representative of queer kinship systems and these novel forms of sociality. Hélène Cixous's exhortation to reinvent insurgent language, published in the same year as Rubin's "Traffic in Women," proposed an approach to solving a problem that still bedevils us forty years later. In "The Laugh of the Medusa" (1975), Cixous pleads that "Women must write through their bodies, they must invent the impregnable language that will wreck partitions, classes, and rhetorics, regulations and codes" (1527, 1531). Today, it is not just "women" who seek to wreck partitions and rhetorics – probably it has never been. But the idea of writing the body, drawing language for the self from the very constituents of one's physical identity, one's DNA, is still an urgent strategy. We see it in the riddling words of a popular television serial like *Orphan Black*: "Just one, I'm a few. No family too."

The Art of Variation

Once the clones become aware of one another, most assume a certain role to play in the group, each with its own set of responsibilities. Cosima is the brains of the Clone Club. She uses her background in the biosciences to run tests on herself, to decipher her own and her sisters' genetic code, and to find a cure for a genetic disease that afflicts some of the clones; Helena is the brawn of the group, killing anyone who gets in the way of her or her family; Beth was their connection to law enforcement before her death; Sarah takes over Beth's role and becomes something of a spy for the Clone Club, sneaking into corporate headquarters, a police station, and elsewhere, while getting herself into some very sticky situations in the process; and Alison is the financial supporter of the group.

Because they are genetically identical and were raised in diverse environments, they have a unique opportunity to see what their lives would be like had their life

experiences been different. The show toys with this idea most explicitly in Season 1, Episode 3, "Variation Under Nature." In this episode, Sarah is disoriented as she finally meets two of her clones, Cosima and Alison. She becomes overwhelmed as she watches two other versions of herself, who have long been aware of one another and have grown adjusted to their uncanny physical similarity. The scene is particularly striking to viewers as well, as we watch Tatiana Maslany, acting multiple roles and changing clothes and makeup between takes, seamlessly assume the embodiment of three radically different personas, all of whom share a visual frame.

Felix, Sarah's adopted brother, captures the variegated unity of his many cloned sisters in his first solo art show, an exhibit titled "In the Company of Goddesses," filled with portraits of the many incarnations of his adopted sisters. Similarly, two of the episode titles in Season One – "Variations under Nature" and "Variations under Domestication" – echo Darwin's chapter titles from *The Origin of Species* to make a similar point: that environment will induce variations in progeny. But with identical clones, variation manifests much more powerfully in personality than in biology. The clones vary according to the economic, social, psychological, sexual, and cultural circumstances they have encountered. Variation is intersectional and overdetermined. It isolates difference in the realm of social construction, as if conducting a postmodern thought experiment, except were human cloning ever to become a reality, this is how things would turn out. From a genetics point of view, *Orphan Black* tells a truth rarely acknowledged in popular culture: that clones would be anything but faceless, soulless automatons or carbon copies of one another. The nightmare vision of indistinguishable copies could only be achieved by an environmental regimentation as perfect and unvarying as their DNA.

The climax of Felix's art show is a performance piece featuring Sarah, Alison, and Cosima posing as a single person, the adopted sister that Felix's friends have long known. As Felix's adoptive sister appears to transition from one social identity to another in front of the amazed eyes of the audience, this brilliant moment of performance art enacts for the television audience a central paradox of genetic kinship. Biological relation takes much of its meaning from social relations. At moments such as these, *Orphan Black* contributes to the formation of what José Muñoz describes as "counterpublics," forms of life that "contest the hegemonic supremacy of the majoritarian public sphere" (*Disidentifications* 1). According to Muñoz, "the importance of such public and semipublic enactments of the hybrid self" is immeasurable (*Disidentifications* 1). Forging a counterpublic of the sort *Orphan Black* created among many of its fans is an impressive achievement for a popular television serial.

Eli Baden-Lasar, the young man who was shocked to discover he had 32 siblings, responded to his queasiness with art as well. The profile of Eli in the *New York Times Magazine* describes a photo essay he created that has parallels with Felix's art exhibit. Peering through the lens of his camera, Eli's feelings resemble those of the clones as they meet and interact with each other for the first time. Eli takes an auto-theoretical approach to his photo essay, merging a form of (self)representation and a study of the diversity of the subjective lived experience. The result is like a descent into the uncanny valley, the eerie experience of seeing something that looks strange and familiar at the same time. In his photography sessions, Eli encounters genetic strangers who bear a physical similarity to him within the context of difference:

Looking through the camera, I had a feeling I couldn't shake: that these people were all versions of me, just formed in different parts of the country.

. . . Every once in a while, I would see something eerie about myself in one of the other siblings that could completely scramble my sense of self – the way that one’s neck became splotchy when she was uncomfortable or the way another one bit his lip. Once, I heard a sibling laugh, and it was so much my own laugh that it made the hair on my neck stand up. (Baden-Lasar)

The dichotomy between biological determinism and social construction is less dramatic than in Felix’s art show, for half-siblings are not genetically identical, which makes it harder to attribute difference solely to environmental influences. But that only makes Eli’s photo essay resonate with more viewers – indeed, only identical twins raised apart would find Felix’s portraits of clones more pertinent to their experience than Eli’s photos. *Orphan Black*’s fusion of science fiction with everyday, realistic settings frequently succeeds in getting viewers to forget that the future is not yet here. Eli’s autotheoretical photos, however, have the opposite effect. They force us to realize that a world that feels like science fiction has already become reality.

José Muñoz borrows the term “identities-in-difference” from Chicana womanist theorists such as Gloria Anzaldúa, Cherríe Moraga, and Norma Alarcón to highlight the existence of subjects who “emerge from a failed interpellation within the dominant public sphere,” and as a result, “contribute to the function of a counterpublic sphere” (*Disidentifications* 40). We can certainly see this collision of identities-in-difference in both the real-life portraits in Eli’s photo-essay and in Felix’s fictional paintings in *Orphan Black*. In real life, these genetic strangers contribute to the counterpublic sphere, often connected via communications technologies like the private social media networks and sibling registries that are based on the sharing of genetic information drawn from consenting and nonconsenting relatives and ancestors. These counterpublic safe spaces are oftentimes reliant on privacy as the risks can be great for those who do not fit in or do not want to be part of the dominant public sphere.

Queer Sexuality and Genetic Privacy

Despite the positive potential of technology for queer individuals and nontraditional kinship systems, there are, perhaps, just as many potential negative implications for members of queer communities and other marginalized groups. Marginalized groups have had a troubled past as it relates to privacy and consent, and their situation is even more complicated by technology. Sexual acts that the majoritarian public sphere views as “transgressions,” such as masturbation, same-gender relations, and miscegenation, have been met with humiliation, conversion therapy, genital mutilation, and even public executions. Vulnerable women and men have been and continue to be raped, abused, and trafficked. People of colour have suffered these horrors and others – displayed as freaks like Sarah Baartman and made the subject of unethical medical experimentation to advance women’s reproductive health.

Orphan Black, which features the most thoughtful depiction of genetics in relation to sexual orientation and gender identities in television history, underlines the risks even more powerfully than the rewards of inhabiting a counterpublic sphere. The main characters or their families have no right to privacy. Every minute of their lives is omnisciently surveilled even through the loved ones they hold in confidence: Alison’s husband is recruited to spy on her, as is Cosima’s girlfriend, Delphine. Violations of the clone’s privacy include video surveillance spyware implanted in Rachel’s bionic eye (S4, E7); forced blood draws for health screenings from the clones and their genetic original, Kendall (S4, E6); involuntary implantation of a body-mod worm in Sarah’s cheek (S4, E1); and the continuous, coerced physiological testing of Sarah’s daughter,

Kira (S5, E2). As a child, Helena is held captive, brainwashed, and trained to kill those who are like her. Later in life, she is drugged and forced to marry the leader of a religious cult, who harvests her eggs against her will and subsequently impregnates her (S2, E3). Sarah agrees to give up one of her ovaries under pressure (S2, E10). The clones have virtually no autonomy or control over their own bodies or the products that come out of them, though they are tricked into occasionally believing that they do. After they become aware that they are being surveilled, Alison demands to get "her privacy back," though she never really had it to begin with (S1, E10). The scientist in charge of handling the clones for his research center, Dyad, develops a contract that "enshrines [Rachel's] family's freedom . . . and ensures [she will] be unmonitored" (S1, E10). In return, however, she must "agree to twice-yearly medical testing" (S1, E10). This charade of a contract only offers the illusion of consent and free will, because once she signs the contract, she loses all rights to privacy and Dyad then has full, legal consent to access her body twice a year.

These horrendous violations exaggerate our own lack of privacy and informed consent over who has access to our data, but their lessons are worth contemplating. The rise of DTC-GT companies like 23andMe has exacerbated an already troubled landscape where data privacy is concerned. In a study of the 90 DTC-GT companies operating in the U.S., two researchers from our project found that only roughly a third of the companies had adequate privacy policies, and those policies were subject to change at any time (Hazel and Slobogin). The legal landscape provides few protections either. Another study from our research team examined the relevant laws in this area – GINA, HIPPA, and ADA – and found that "few, if any, applicable legal doctrines or enactments provide adequate protection" (Clayton et al. 4). Their pessimistic conclusion is that "The first step to meaningful protection of genetic privacy may be the societal recognition that health privacy including genetic privacy, is now largely a mirage" (36).

In addition to the potential lack of privacy and informed consent, there are other social complications in the use of reproductive technologies. For example, Jennifer Lieberman notes that *Orphan Black* insufficiently addresses the "complex power dynamics of the patient/doctor/fertility-science assemblage" (402), a failure that "threatens to flatten some of the important feminist work that *Orphan Black* has been celebrated for doing" (401). We would add that this omission elides some of the racial and class dynamics that we will discuss shortly, as well as the commodification and capitalization of human bodies that Sherryl Vint emphasizes. The reproductive technologies that are largely responsible for the alterations of kinship and social systems are dependent upon one's financial status, which limits access and reinforces existing forms of class privilege. Demographics on donor-conceived children show that more people of European descent use these services than do people of colour. Hertz and Nelson note that "In all but six couples" out of the 212 parents they interviewed "both parents were white" (227). Financial factors are likely a contributing factor to this disparity with "40 percent" of the families they interviewed earning "incomes between \$100,000 and \$200,000" and "9 percent" with "family incomes of \$200,000 or more" (229).

One reason why fewer families of colour use donor-conception might stem from the racial disparity within existing sperm banks. Signey Olson, a queer, Caucasian nurse practitioner and midwife specializing in fertility, explains that "There is a shortage of sperm donors who are people of color" (qtd. in Pérez), which is hardly surprising given the historically well-founded distrust of the medical enterprise among communities of colour. It is also quite possible that many donors of colour are filtered out during sperm

banks' rigorous screening process. Scott Brown of California Cryobank, one of the largest sperm banks in the U.S., boasts that "Less than 1 percent of applicants actually qualify to become donors" (qtd. in Pérez). One wonders how much systemic racism is a factor in contributing to the rejection of 99% of their applicants for sperm donation. If donor-conception can "counteract generational thinning, creating for [donor parents] and their [white] children whole new sets of 'relatives,'" as Hertz and Nelson assert (17), then unequal access to reproduction could contribute to the growth of a queer white elite while diminishing the number of families made up of queer people of colour. Looking at the demographics and statistics of donor-conceived families, it becomes clear that donor-conception is a predominately white enterprise that screams capitalist exploitation and whispers eugenics.

Additionally, these donor-conceived kindred networks can foster a new form of nepotism. Kate, a mother in one of the donor groups that Hertz and Nelson aptly names "The Social Capitalists", speaks of the potential opportunities that she imagines will arise from the social ties that she has secured for her children: "Maybe [our daughter] Audrey someday decides she is going to travel across the country; she will have a place to stay when she is in Chicago. A [genetic relative] in California opens the door for [our daughter] Scout to have an internship somewhere" (182). Hertz and Nelson point out that "Some even suggested that the donor sibling group provides an insurance policy in the sense that, should one of these children need matched blood or a matched organ, they might find that within the group" (184). Nepotism and the provision of a biological reserve for one's offspring exacerbate economic disparities already present in the population at large.

Finally, donor-conception produces what might be called guided selection or even eugenics, as people inevitably select what they feel are the best genes they can for their family. We know from the history of eugenics, that best and perfect do not mean the same for everyone. As Rebecca Wilbanks notes, *Orphan Black* "does not extensively explore the ways in which notions of the ideal human type have long been racialised" (398). In the past, eugenics research has focused on eradicating traits considered undesirable: largely consisting of those who are not straight, white, economically viable, and free of physical or cognitive differences that are seen as disabilities. There are signs that consumer choice and sperm bank policies are leading to similar ends.

We can turn to *Orphan Black* to glean insight on this last topic. The fourth season of the series takes up the issue of eugenics with the transhumanist group Neolution (Comfort). Neolution's goal is to take control of human evolution. A section of their research includes the fertility program, "BrightBorn." Reminiscent of the sci-fi film, *Gattaca* (1997), BrightBorn's advertising claims that the company's services "can provide you with a healthy thriving newborn, but why stop there? All of our children are born stronger and healthier. At BrightBorn Technologies we're making the world a better place, one baby at a time" (S4, E5). When Cosima learns of Neolution's research, she cautions BrightBorn director, Evie Cho: "You can't perfect the human genome. You can't know what perfect is" (S4, E6). Viewers later learn that Neolution's ultimate goal is to sterilize everyone but the top one percent of the population. We do not have to offer a paranoid reading to deduce that the top one percent excludes, or limits, many individuals from marginalized groups; we can turn to historical documentation and current financial statistics for that.

The United States itself has a troubling history with unwanted sterilization. In *Three Generations, No Imbeciles: Eugenics, the Supreme Court, and Buck V. Bell*, Paul Lombardo chronicles the forced sterilization of Carrie Buck and the sixty thousand

involuntary sterilizations that followed under a state law introduced in 1924 and designed to prevent those considered to have hereditarily undesirable traits from reproducing. More recently, in a *PBS* article, Lisa Ko writes: "Used as a means of controlling 'undesirable' populations – immigrants, people of colour, poor people, unmarried mothers, the disabled, the mentally ill – federally-funded sterilization programs took place in 32 states throughout the 20th century." Ko also points out that "More recently, California prisons are said to have authorized sterilizations of nearly 150 female inmates between 2006 and 2010." There have been reports of sterilization at migrant detention centers run by ICE as recently as 2020 (Moore). Since marginalized groups are incarcerated at higher rates than those who live at the center of our society, it is quite possible that they face greater rates of sterilization.

The *Orphan Black* episode "Human Raw Material" touches on these (un)ethical issues as Cosima witnesses unwanted BrightBorn babies killed. In their pursuit of creating the perfect designer baby, Susan Duncan admits to Cosima that not all their creations have met their gold standard and were therefore disposed of. Viewers are later offered an image of the "perfect" baby according to BrightBorn: the blonde-haired and blue-eyed, Georgie.

People of colour are not the only marginalized groups that are targeted at greater rates in the name of eugenics. Queer sexuality and gender identities have long been categorized as undesirable traits. Lesbian, gay, and bisexual orientations were classified as a mental disorder according to the Diagnostic and Statistical Manual (DSM) until as late as 1973. While sexuality has been less stigmatized in the medical community in recent years, gender variance has not. Many in the LGBTQIA+ communities and their allies believe that "Gender Dysphoria" and "Transvestic Disorder" should be removed from the DSM because they do not view their dysphoria as an illness but, instead, as a justified response to a rigidly gendered society.

For this reason, renewed interest in the connection between gender, sexuality, and biology is potentially worrisome. A 2012 study headed by 23andMe's Vice President of Business Development, Emily Drabant-Conley, "sought to clarify some of the questions surrounding the possible genetic underpinnings of sexual orientation . . . [by] conducting the first ever genome-wide association study (GWAS) on sexual orientation" (Drabant-Conley et al.). This study was expanded by Andrea Ganna et al., and the results were published in a 2019 article titled "Large-Scale GWAS Reveals Insights into the Genetic Architecture of Same-Sex Sexual Behavior." Using data from 75,000 individuals from 23andMe's rapidly-growing customer base (an increase from the 23,874 participants in their 2012 study), coupled with the data of more than 400,000 people from the UK Biobank and three other biobanks, Ganna et al. set a new record for the largest GWAS study of sexual orientation.

Ganna and his team seem to be politically and culturally aware of the sensitive nature of genetic research regarding sexuality. Ganna's team consulted with LGBTQIA+ advocacy groups prior to presenting their finding to ensure that the terminology and methodology that they used was sensitive to the concerns that the community might raise. They were careful not to oversimplify sexuality or "make any conclusive statements about the degree to which 'nature' and 'nurture' influence sexual preference":

Our findings provide insights into the biological underpinnings of same-sex sexual behavior but also underscore the importance of resisting simplistic conclusions . . . because the behavioral phenotypes are complex, because our

genetic insights are rudimentary, and because there is a long history of misusing genetic results for social purposes. (Ganna et al. 6, 7)

They also cautiously “emphasize that the causal processes underlying these genetic correlations [between mental illness and drug use in non-heterosexual people] are unclear and could be generated by environmental factors relating to prejudice against individuals engaging in same-sex sexual behavior, among other possibilities” (Ganna et al. 5). But will the marketing strategies of companies like 23andMe who sell their data for research purposes result in unethical lines of research despite 23andMe’s assertion that they are not looking for “any ‘gay gene’” (Drabant-Conley)?

Drabant-Conley, who self-identifies as a lesbian, likely considered the larger implications and uses of her research and how it might affect members of the LGBTQIA+ community. But *Orphan Black* suggests that there are unforeseen risks in sequencing one’s genome. Cosima sequences her own in the hopes of discovering what is killing her and her fellow clones, only to have her data stolen by her trusted companion, Delphine. Although Delphine has good motives for giving Cosima’s genetic data to Dyad, she is unaware of the many unethical ways that Dyad plans to use what they learn. Admittedly, this example is extreme, but when genomic data passes into the hands of third-party users, it is hard to control what will be done with the information.

Considering that scientists correlate same-gender sexual orientation with increased rates of mental illness and drug use, and that conversion therapy to attempt to change a person’s sexuality or gender identity is still legal in 29 U.S. states and many countries worldwide, it is clear that the stigma surrounding the LGBTQIA+ community remains prevalent in the twenty-first century. Like other scientists and researchers exploring the biology of human sexuality, Ganna and Drabant-Conley cannot control how this information will be used in either future studies or screening processes. This concern is exacerbated given the current lack of regulation regarding the use of genetic data once it has been sold or published. Anyone who pays for access to this data can develop services that claim to detect and screen for certain genetic variants. Genomic Prediction is one such company and their mission statement sounds almost like *Orphan Black*’s BrightBorn. The one thing missing is BrightBorn’s ominous suggestion that they do not plan to stop at improving health:

Genomic Prediction provides advanced genetic testing for IVF. We have developed a novel, genome-wide molecular genotyping methodology for pre-implantation genetic testing of embryos. Our approach reduces disease risk and improves newborn health outcomes by identifying candidate embryos for implantation which are not at elevated genetic risk for known disorders. (Genomic Prediction)

The information gleaned from both Drabant-Conley and Ganna’s studies, along with data from future studies that these are sure to inspire given the renewed interest in queer genetics, leave marginalized people and their futures even more vulnerable. There is an ever-growing need to protect people’s information as genetic data continues to be collected and sold by DTC-GT companies and shared via the communications technologies of donor sibling networks and social media platforms. Failing to collect data will not solve the problem, since there are many important uses for this information – both scientific and social. How we control the use of our data, though, is a matter for law and cultural practice.

Conclusion

The need for privacy can be great for those who do not fit in or do not want to be part of the dominant public sphere because those who inhabit a counterpublic sphere often incur serious risks. If history has taught us anything, it is that all bodies are not created equal. That is to say, some bodies are protected while access is more readily granted to other bodies. Some bodies have historically experienced a greater risk of violation. The special vulnerability of marginalized groups including women, people of colour, individuals with low socioeconomic status, and queer subjects is prominent throughout our history.

Although privacy concerns and access to bodies might have historically been directed toward queer or otherwise marginalized communities, today there is growing concern for white bodies too. Historically, much unethical medical research was conducted on people of colour and other marginalized communities to benefit others, not them. Ironically, the situation has changed with the proliferation of DTC-GT kits, as demographics show that most people buying these products are of European descent. As of 2016, 81% of all genome wide association studies had been done on people of European ancestry, with the great majority of the remaining participants being of Asian descent (Popejoy and Fullerton). For this reason, genetic sexual orientation studies like those conducted by Drabant-Conley and Ganna have largely featured participants of European ancestry.

Orphan Black, with its generous and diverse representation of sexual orientations and gender identities, highlights the concerns of both the LGBTQIA+ community and of donor-conceived children. Now, however, the bodies of white, affluent families, which might previously have been off limits, are newly vulnerable to the risks that come with unregulated research. Elsewhere in this issue, Taylor and King highlight a related risk, noting that even those that benefit from racial hierarchies may become vulnerable because "any person within racial capitalism can slide into the vulnerable underclass and become subject" to exploitation. Preliminary results from a study by our research team show that many members of the LGBTQIA+ community are supportive of genetic research and see value in learning about genetic components of queerness, even taking into account the potential risks (Hammack-Aviran and Clayton). But, in view of the long history of misuse of genetic research into sexuality, strict controls over data collected in such studies are imperative. Even with rigorous informed consent requirements and robust governance of access to the data, other concerns remain. Can the consent agreements signed by overwhelmingly white populations take into account the intersectional risks for non-white LGBTQIA+ populations? Will the results of such research be inappropriately generalized to people of non-European ancestry?

Tatiana Maslany's cast of clones is ethnically diverse, but the range of that diversity is circumscribed, extending only from Eastern to Western European ancestry (Wilbanks 396). The virtuosity of the show's display of difference is dazzling. Its fan base is empowered by the social variation the show captures. Its very success, however, prompts an intriguing speculation. If films such as *Get Out* (2017), *Sorry to Bother You* (2018), and *Us* (2019) gave voice to long running concerns of black communities around genetic research, does *Orphan Black* dramatize the new vulnerability of white bodies to risks and harms from genetic data?

Notes

1. There are numerous digital platforms that foster communication among genetically related strangers. Many of these platforms are closed access groups that allow users who have paid for a service and gleaned genetic information from a site such as ancestry DNA testing or gamete donation registries to share such information to a larger group of people who might not have gained access to that information under other circumstances.

2. In this article, we use the term, "queer," not as an umbrella term to refer to lesbian, gay, bisexual, or transgender people, relationships, or issues, but rather in a broader sense, to describe any relationship among individuals that seems to complicate the heteronormative framework of today's society.

Acknowledgement

This paper was supported by funding from the National Institutes of Health for Vanderbilt's Center for Genetic Privacy and Identity in Community Settings (GetPreCiSe), 5RM1HG009034. We would like to thank all the members of GetPreCiSe who discussed this paper with us, especially Catherine Hammack-Aviran, Ellen Wright Clayton, and Ayden Eilmus, who commented on drafts.

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