

Queer/ing and trans/ing science and technology studies: Material-semiotic insights and outlooks from assisted human reproduction

Zusammenfassung

Queer/ing und Trans/ing Science and Technology Studies: Material-semiotische Erkenntnisse und Perspektiven der Assistierte Reproduktion

Dieser Artikel verbindet STS mit queer- und transfeministischer Theorie. Ich vertrete die These, dass es bei queer- und transfeministischer STS um mehr als das bloße Hinzufügen von queeren und trans Personen zur Agenda der STS geht – genauso wie feministische STS mehr umfasst als Frauen und deren Ausgrenzung, Marginalisierung und Ausbeutung durch Wissenschaft, Technologie und Biomedizin. Aus dem Blickwinkel der queer- und transfeministischen STS zeige ich das Potenzial des „Verqueerens“ und „Transing“ von Assistierte Reproduktionstechnologien (ART) auf. Die Infragestellung von Normen, wer wie reproduzieren kann und die kritische Auseinandersetzung mit der Frage nach intelligiblen Lebens- und Verwandtschaftsformen durch queer- und transfeministische STS haben bereits neue Forschungsperspektiven und Erkenntnisse zu ART hervorgebracht. Durch Bündnisse und Solidaritäten werden diese Perspektiven weiterentwickelt und neue Möglichkeiten von Reproduktion und zukünftigen Technologien, Richtlinien und Politiken eröffnet.

Schlüsselwörter

Queer- und transfeministische Theorie, Assistierte Reproduktionstechnologie, Ethik

Summary

This article draws together science and technology studies (STS) and queer- and transfeminist theory. I argue that queer- and transfeminist STS is about more than simply adding ‘queer and trans people’ to the agenda of STS – just as feminist STS encompasses more than women* and their exclusion from, marginalization within and exploitation through science, technology and biomedicine. Through the lens of queer- and transfeminist STS, I demonstrate the potential of queering and transing assisted reproductive technologies (ART). By challenging the norms of who can reproduce and how, as well as challenging intelligible forms of life and kin-making, queer- and transfeminist STS has already produced new research perspectives and insights on ART. Taken them further with alliances and solidarities, these perspectives open up opportunities for reproduction, future technologies, policies and politics for queer and trans communities.

Keywords

queer- and transfeminist theory, assisted reproductive technology, ethics

1 Introduction

This article integrates science and technology studies (STS) with queer- and transfeminist theory. I argue that queer and trans STS encompass more than including ‘queer and trans people’ in the STS agenda – just as feminist STS encompasses more than women



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and their exclusion from, marginalization within and exploitation through science, technology and biomedicine (e.g. Paulitz/Priestl/Winter 2022).

Based on an understanding of queerness and transness as a structural position of abjection rather than a fixed identity category (e.g. Butler 1990), I argue that STS necessitates a disruption and reconfiguration to address the ways in which (specific) gendered and sex(ualized) bodies, subjectivities, artefacts and practices are coproduced as (ab)normal or (un)natural in and through science, technology and biomedicine. When deployed as “a means of traversing and creatively transforming conceptual boundaries” (Harper et al. 1997: 1), queer and trans STS extends beyond the bounds of sexuality and sexual identity. This, consequently, opens pathways for the queering and transing of science, technology and biomedicine. As Cipolla et al. (2017: 8) argue, queer STS does not solely denote subject matter but also an approach to doing science and technology studies. This approach requires intersectionality (Fishman/Mamo/Grzanka 2017: 382; Subramaniam et al. 2017: 408), as it attends to the simultaneous production of sexual, gendered, racial, class and ableist logics and hierarchies. More importantly, queer and trans STS approaches embody queer theory’s “power to wrench frames” (Berlant/Warner 1995 in Molldrem/Thakor 2017: 8) by troubling, disrupting, reconfiguring and thus queering and transing the assumptions and practices of our world-making (Barad 2015; Cipolla et al. 2017: 5).

Revisiting interdisciplinary STS research that purports to be (but often is not) queer or trans (Gupta/Rubin 2020: 131), I highlight insights gained by studying the ways that (heteronormative) *sexuality* and (gender) *normalizations* have been coproduced with scientific knowledge, technological design and biomedical operations. Additionally, I engage with ways in which a genuine queering and transing of STS’ conceptual boundaries facilitates new and expanded analytical avenues for investigation.

Using queer and trans positionings as a lens, I demonstrate the potential for queer and trans STS to contribute to our understanding of the normalization, domination and epistemic violence in contemporary societies. These insights have the capacity to illuminate and destabilize entrenched, hegemonic gendered and sexualized logics as well as hierarchies that are embedded in the material-semiotic constellations in the world in which we live.

To develop my argument, I focus on human reproduction with the help of assisted reproductive technologies (ART) as a very overt exemplification of gendered and sexualized paradigms. While ART in principle offers technoscientific opportunities to expand human reproduction beyond heteronormative and ableist constellations, ART also enforces and coproduces dominant concepts of gender, sexuality, race, ability and class (Leibetseder 2018). At the same time, the queering and transing of ART challenge the norms of who can reproduce, how and what forms of life and kin-making are socio-culturally intelligible (Mamo 2007).

As an interdisciplinary field, STS analyses the entanglements and transformative possibilities between science, technology and society (Felt et al. 2017: 1). STS focuses on how scientific knowledge, technologies, and societies are co-constructed alongside the continuous remodelling of people, bodies, identities and material objects and procedures (Felt et al. 2017: 7; Jasanoff 2004; Latour 1993).

Catalysed by the work of feminist theorist such as Evelyn Fox Keller (1992, 1985), Londa Schiebinger (1993, 1989) and Donna Haraway (1991), feminist STS integrated feminist theory into STS. Most importantly, assumptions of ‘objectivity’ were called into question. Rather, greater epistemological reflexivity was called for, acknowledging that the lived realities of one’s particular experiences, power relations and standpoints can facilitate valuable forms of scientific knowledge (Harding 1991, 1993, 2004). It is argued that the summation of partial views is more illuminating than the myopia of a sole perspective or one restricted by presumptions of ‘objectivity’. This is particularly evident in the inequalities that influence who can produce, access and benefit from scientific knowledge and technologies. As Banu Subramaniam et al. ask: “How did applications and technologies of technosciences affect women and our conceptions of gender, race, and sexuality?” (2017: 408). Consequently, feminist STS illustrates the inter-relatedness of sex, gender, and sexuality “as material, embodied, *and* discursive sites in and through which power and power relations coalesce” (Fishman/Mamo/Grzanka 2017: 379) rather than as distinct or isolated entities.

The structure of this article is the following: First, I introduce my understanding of queer- and transfeminist STS, followed by an overview of feminist discussions on ART in general. In the fourth part of this contribution, I continue with semiotic concepts for a queer- and transfeminist analysis of ART and suggestions for a more inclusive European ART access, followed by an outlook on further research needed.

2 Queer- and transfeminist STS

The critique of upholding the hierarchical distance between research object and research subject fostered conceptual shifts regarding materiality that led to the development of New Materialism. Karen River Barad’s theorization of intra-actions is key in New Materialist perspectives. Barad articulates how intra-actions reveal that objects are active during experiments and phenomena and have the power to change themselves and the other agents in the setting (Barad 1996, 2011: 126; Engel 2024: 135). Applying Butler’s concept of gender performativity to the physics of objects and materials, Barad argues for the existence of material “queer” performativity (Engel 2024: 135). Building on the optical concept of “diffraction”, Haraway and Barad further argue for perspectival shifts in understanding the construction of materiality not as direct reflections, but as intra-active couplings altered by their sociotechnical transmission (Barad 2007: 72; Engel 2024: 135). This has contributed to the development of a performative turn in STS (see e.g. Law 2017: 35ff.) implicating an opening towards queer-, and trans-feminist STS analyses to engage with the subjective, situated and evolving interplay of gender, sexuality and technology. This is tangibly exemplified in the manifesto of the Queer STS working group in Graz, Austria, which acknowledges:

“Queer STS research can thus also be understood as a (research) practice of constant questioning in the sense of deconstructing categorisations (cf. Butler, 1991) in order to counteract their permanent consolidation – and thus the assumption that they are ‘given by nature’ – in science and society” (Queer STS working group n.d.).

While the Queer STS manifesto expresses concern for the multifactorial enmeshing of gender, sexuality in performative technoscience within the wider landscape of STS gender and sexuality are still assumed as heteronormative concepts of gender and sexuality. Endo'sex and binary gender have become more common within STS. However, sexuality still seems to be relegated to a feminist STS concern. Therefore, the construction of the heteronormative matrix (and therefore hetero- and cis-normative bodies, gender, identities and sexualities) through technosciences and society needs to be analysed by a more critical iteration of STS (Fishman/Mamo/Grzanka 2017: 381). If not, hetero- and cis-normativity remain the assumed default within STS (Fishman/Mamo/Grzanka 2017: 381). Queerfeminist STS critiques the "heteronormativity of science and technology studies, which have often reinforced hegemonic points of view" as Hannah McCann and Whitney Monaghan (2019: 210) summarize Catharina Landström's (2007) article on queering feminist technology studies.

"As it has developed throughout the 2000s, queerfeminist STS examines identity and sexuality in virtual worlds, queer interactions between bodies and technology as well as broader relationships between sexuality and technology. This in turn produces diverse critical perspectives around race, class, ethnicity and nation." (McCann/Monaghan 2019: 210)

Within queer- and transfeminist STS, I contend the intersectional considerations of power relationships are just as crucial as in queer and trans studies. Intersectional approaches show that science produces social inequalities through mechanisms such as racist, ableist, homo- and transphobic assumptions and behaviour. Life sciences exemplify this, where medical pathologies are coded within categorisations such as "disability, homosexuality, nonwhiteness, Jewishness, and womanhood" (Fishman/Mamo/Grzanka 2017: 388). Therefore, it is crucial for STS not to focus solely on one aspect of identity, such as gender, but to examine the intersectionalities, interdependencies and power structures that articulate the lived experience of the world (Kennedy 2005 in Fishman/Mamo/Grzanka 2017: 393). For instance, discussions around medical-scientific topics such as sexual orientation or "therapies for gender nonconforming, nonbinary, and trans children" need critical engagements with STS-informed perspectives reflective of "consideration of what gender, hormones, and the body actually are" (Bryant 2006 in Fishman/Mamo/Grzanka 2017: 396).

Queer- and transfeminist STS research groups demonstrate how intersectional queer- and transfeminist STS research concerns can be prioritised and addressed. The UC Davis Queer, Trans and Feminist STS Research Group, for instance, focuses on "transgender studies, trans health, and body sovereignty" and frames the intersection of disability and queer studies in crip studies, as an analytical tool for investigating intersectional and interdependent power relations (UC Davis Humanities Institute n.d.).

Similarly, transfeminist scholar Aren Aizura (2010) analyses the science of gender and sexuality on how technologies of race, gender, transnationality, medicalization, and political economy have an impact on queer and trans bodies and how queer and trans bodies conversely influence those technologies. Sharing similar concerns as Aizura, I argue that the material-semiotic relations and performativities between tech-

1 This is the normed version of biological sex (e.g. either male or female bodied according to medical norms, whereas intersex does not correspond to the male and female medical norms).

nologies and queer and trans communities are reciprocal. However, the need for and potential implications of queering and transing STS extend beyond current concepts of STS. Queer- and transfeminist STS also encompass the queering and transing of STS, gender studies and philosophy (bio/ethics). Within these intra- and multi-disciplinary paradigms, queer- and transfeminist STS grapples with questions around the definition and production of just technologies as well as entrenched norms in technological procedures and scientific research (Mamo/Fishman 2013). These considerations and debates are also present in the field of ethics, for example regarding the norms of reproductive medicine (Gül/Leibetseder 2024) and especially bioethics, where biopower and bodily implications of biomedical practices are prominently discussed (Campo-Engelstein 2023; Sudenkaarne/Blell 2022). The focus on justice in STS also represents another potential benefit of integrating queer- and transfeminist STS into other disciplines, where inequality, technoscience practice and society more broadly can be positively impacted (Fishman/Mamo/Grzanka 2017: 392ff.), as mentioned before, e.g. in philosophy (bio/ethics), natural sciences, and medicine (Pickersgill 2013).

The concepts of justice and inequality play a significant role in queer and trans ART and kin-making. Although these terms traditionally originate from philosophy and ethics, my research also reveals that a lack of interdisciplinary discourse has led to a gap in the development of queer- and transfeminist ethics. While queer- and transfeminist STS research has sought to address this void there is still significant room for development. My focus on the (bio)ethical implications of queer and trans ART illustrates the necessity and benefits of expanding the conceptual boundaries of technosciences and world-making across disciplines.

Another important aspect of queering and transing STS originates from discriminatory laws and public policies, which evoke queer and trans ethical and political solidarities based on various intersectionalities and interdependencies. Dean Spade, a lawyer, writer and trans activist, critiques legal inequalities around employment, marriage and the family for their disproportionate impact on queer and trans communities (Spade 2011). Spade suggests different approaches on how to tackle key problems in and for queer and trans communities, especially on how queer and trans families are penalized by “legal intervention and separation from the state” (Spade 2011: 64). These legal inequities overwhelmingly result from a denial of rights, services and legal protections that are accessible to non-queer or non-trans individuals producing unique vulnerabilities for queer and trans individuals. One proposed solution is to legalize same-sex marriage and prohibit “adoption discrimination on the basis of sexual orientation” (Spade 2011: 64). This agenda has been championed by “the most visible and well-resourced gay and lesbian organisations” (Spade 2011: 62). Spade and others, however, criticize such single-issue politics for many reasons, including an absence of “resisting [sic] social-welfare support” (Spade 2011: 62), since it has substantial ramifications for low-income queer and trans people as well as for queer and trans people of colour, their families and communities (Spade 2011: 64f.).

Instead, Spade proposes “critical queer and trans political approaches”, informed by intersectionality, which advocate for queer and trans individuals and families to “(j)oin with other people targeted by family law and the child welfare system (poor families, imprisoned parents, native families, families of color, people with disabilities) to fight

for community and family self-determination and the rights of people to keep their kids in their families and communities” (Spade 2011: 64).

Spade’s proposal adopts the strategic tactic of “differential consciousness” developed by Chela Sandoval in *Methodology of the Oppressed* and subsequently used by social justice movements (Sandoval 2000 in Spade 2007: 239f.). Supporting “effective coalitional work” differential consciousness is achieved through a “tactical subjectivity” (Sandoval 2000 in Spade 2007: 243), which understands different identities and engages with them strategically. This allows for “affinities inside of difference” and “coalitions of resistance” (Sandoval 2000 in Spade 2007: 243). Spade’s proposal and strategic shift underscore that single-issue equality politics are largely unsuccessful. They often address the needs of those who already have privileges in society, with the exception of “their sexual orientation and/or gender identity” (Spade 2007: 245). They ultimately fail to expand beyond these isolated groups to reach and support other oppressed groups.

The concept of differential consciousness underscores the need for intersectionalities and interdependencies in addressing oppression. Intersectional approaches foster greater solidarity among various social groups by acknowledging a shared oppressive power mechanism. This collective resistance of dominant structures finds commonalities of oppression amid different identities and backgrounds, finding ways of integrating rather than ignoring intersectional factors.

3 Discussions on ART: From feminism to queer- and transfeminist STS

Since the birth of Louise Brown, the first in-vitro-fertilization (IVF) baby, in the UK in 1978, ART have become an accepted facet of fertility (Kamel 2013). The history of ART is linked to medical contraceptive methods and fertility treatments and consequently to the regulation of populations, (new) eugenics and family planning with “geopolitical and socio-economic agendas” (Franklin 2022: 5) in addition to bio-capitalism and bio-colonialism (Leibetseder 2018: 141f.; Mingus 2015; Preciado 2008: 32f.; Roberts 2009, 2011; Thompson 2005, 2016) or as Laura Mamo calls it to “Fertility Inc.” (2013: 230; Leibetseder 2018: 141). Adele Clarke described ART as the twentieth-century project of “disciplining reproduction” (Clarke 1998; Franklin 2022: 5).

Jutta Weber indicates that queer theories have substantially impacted recent ART debates relating to transformations in society (Weber 2017: 344). When viewed through a queer lens, it becomes evident that various feminist perspectives continue to rely on hetero- and cis-normative assumptions regarding sex, reproduction, sexuality and gender. According to Weber, this holds true for: a) the feminist liberal view, such as Shulamith Firestone’s belief that technological progress will eliminate male privilege and sex distinction all together (Franklin 2010: 6); b) the FINRRAGE perspectives, which are mostly hostile towards ART (as for them it is a tool of patriarchal domination, however, some of them found subversive ways of applying ART for cis-women); and c) the deconstructive-postmodern feminist viewpoint. Haraway, for instance, claims that technology can be gendered in different ways and is not merely a patriarchal or feminist tool. However, these views contrast with lesbian, queer and trans people’s lives,

for whom sexuality and reproduction have largely been separated (Weber 2017: 344f.; Nordqvist: 2008).

ART enable queer and trans people to reproduce biologically despite the fact that ART were originally intended to assist heterosexual and cis-normative fertility. The cis-hetero origins of ART have been subverted through the creation of queer and trans families. This allows for an expanded conception of families and kin both in structure and genetics and expands procreation beyond the confines of heterosexual and cis-gendered intercourse. The queering and transing of ART is also evident in the fact that the body for pregnancy does not necessarily have to be a woman's body (Beatie 2008: 24; Beetham 2010; Halberstam 2008: 267; Kalender 2012: 199; Leibetseder 2018: 140; Mamo 2013, 2007: 97; Nordqvist 2008: 282). As Gwendolyn Beetham phrased it, it is "queers reproducing and queering reproduction" (Beetham 2010: 3).

4 Material-semiotic insights

Queer theory and trans studies should be integrated into STS and bioethics, while upholding foundational political tenets seek to challenge hetero- and cis-normative identitarian structures in order to build alliances and solidarities towards a common goal. This way, queer- and transfeminist STS will focus on queer and trans people and will go beyond fixed identity politics (or identity categories) and hierarchical diversity politics instead of constantly adding one category to another. This approach was used in my first project on ART, the Marie Skłodowska Curie Individual Fellowship titled: "QTReproART. Towards an Inclusive Common European Framework for Assisted Reproductive Technologies (ART): Queer Transgender Reproduction in the Age of ART".² It contributes insights to inform the development of a more inclusive access to ART in Europe that is thoroughly inclusive.

In order to avoid hetero- and cis-normativity in reproduction with ART without eradicating differences and diversity, conceptual contributions and insights for analysing ART should include the following aspects:

1) *Bioprecarity* is created through normalized/normed and regulated categories and affects certain groups and their bodies in society, making them more vulnerable than others (Griffin/Leibetseder 2020: 5ff.; Leibetseder 2020: 41f.). This concept does not require a shared identity, only shared experiences. Therefore, it is suitable for diverse groups without erasing differences between them. The common ground of bioprecarity as an analytical tool and a political strategy lies in the interdependencies of these groups in precarity.

In my second project on ART, the Elisabeth List Fellowship Program "Reproductive Justice and Queer and Trans* Reproduction" at the University of Graz, Austria, running from September 2023 to spring 2025, we found out that the queering and transing of reproduction with ART in Europe is possible, but with taking care of who is involved in the reproductive processes (Kalender 2012; Leibetseder 2018: 140f.), as to avoid

2 For details, see: <https://cordis.europa.eu/project/id/749218>.

2) *stratified reproduction* which exists through economic imbalances that lead to the empowerment of only some reproductive futures while disempowering others who perform paid reproductive labour (Leibetseder 2022: 264; Smietana/Thompson/Twine 2018: 117f.).

A similar concept, not restricted to economic inequalities is

3) *queer necropolitics* (Haritaworn/Kuntsman/Posocco 2014; Leibetseder 2018: 143f.; Nebeling Peterson 2015). It refers to the parasitism and devitalization of other lives that are not white queer and trans and is also applicable to issues beyond reproduction. Within queer and trans kin building, it is most suitable for adoptive and surrogate processes.

4) *Reproductive justice* as an activist movement and theoretical framework focuses on intersectional reproductive injustices in many different power constellations (not only on economic ones as stratified reproduction does). One of the main points of queer and trans reproduction is that no one's human right should exploit or trump another one's (Gül/Leibetseder 2024: 123ff.; Leibetseder 2022: 267; Ross 2021).

5) *Political and practical alliances* are needed in queer and trans reproductive processes in Antke A. Engel's sense of *queerversity* (2013: 39). This is also suggested by Spade's critical queer and trans political approaches (2007, 2011). As a practical example, new registration documents are suggested (compare section 5 of this article).

Intersectional factors such as citizenship, class, race, dis/ability, religion determine the challenges of queer and trans reproduction with ART in Europe (Leibetseder 2018: 139, 142f.). Depending on where the queer or trans intended parents live, they might have legal access to certain ART procedures or not (Jasanoff 2005: 147; Jasanoff/Metzler 2018: 1006; Leibetseder/Griffin 2019). Obstacles for queer and trans reproduction with ART in Europe lie in the law and guidelines on ART in the individual EU state; the legal situation of the newborn (citizenship, parenthood) in the respective state; terminology in the administrative forms and documents; treatment by medical staff; and in medical processes (Leibetseder 2022: 262). Proposals for addressing these challenges are: Standardization of ART, parenthood, and citizenship laws across Europe guaranteeing EU-wide LGBTIQ family rights; removing sterilization and modification laws for trans and intersex people; enabling storage and use of one's own gametes in all EU countries; using correct and inclusive terminology in forms and official documents for queer and trans kinship realities; LGBTIQ-feminist training for medical staff; and implementing a standardized protocol for queer and trans reproduction (without obligatory counselling and no obligation for "trying to conceive" before ART) (Leibetseder 2022: 262f.).

Another challenging issue is the interdependence of queer and trans reproduction and the state's homonationalism (Leibetseder/Freude 2024). Queer and trans people's reproduction depends on the laws of the state and at the same time the state depends on the reproduction of its population. Thus, queer and trans people might prefer a homonationalist state, which most Western EU states seek to embody through LGBTIQ-friendly policies and culture. However, homonationalist objectives can still carry risks such as homonormativity and the fostering of other modes of exclusion. Recent political shifts have demonstrated that inclusive liberal LGBTIQ politics and cultural practices can incite a backlash in the form of (extreme) far-right nationalism, racialisation as well as overt racist and discriminatory rhetoric and policies.

5 Outlook on future technologies, political measures, and further research

Applying the concepts and material-semiotic insights outlined in the previous sections to ART introduces new possibilities for future technologies as well as for queer and trans-inclusive policies and politics.

Future ART: ART procedures which are developed today could positively impact queer and trans reproduction in the future. For example, the creation of gametes from gonadal tissue could allow trans people to preserve their fertility even prior to puberty. Furthermore, in-vitro gametogenesis becomes a more likely possibility for human reproduction. This means that the origin of gametes would not be tied to biological differentiation, so in the future it could be possible for sperm to be produced from a body with ovaries and vice versa (Leibetseder 2025: 72). Uterus transplantation might be a potential option for trans, cis gay and inter people without a uterus. Ectogestation could also help to overcome challenges for this group of queer and trans people (Leibetseder 2025: 72).

Use of AI in ART: With unforetold implications, the integration of Artificial Intelligence (AI) into ART presents a lacuna in ART research. Currently, private fertility companies use AI for processes such as “time-lapse embryo imaging” for visual IVF embryo preselection and “ovomatch” to facilitate egg cell donor selection (Leibetseder/Prietl 2025). This not only carries profound ramifications for society but may also present challenges for queer and trans people’s reproduction and kinship constellation. These e-reproductive tools are hiding certain sociocultural values, such as Western heteronormative biological kinship and ableist assumptions about the kind of life that should be born. These values are hidden under the veil of objectivity, portending the potential future of technologically enabled eugenics.

Change of documents for birth, parenting & co-procreator: The development of new legal and the change of existing documents concerning childbirth and parenthood and the introduction of a new co-procreator document (private and accessible only to those involved) require inclusive policy developments for the implementation of such registers (Leibetseder/Griffin 2019).

Political development: The ongoing emergence of extreme right-wing governments around the world that are anti-gender, anti-LGBTIQ and anti-migration calls for caution and for LGBTIQ family, refugee, migration, abortion, and ART rights to be constitutionally secured at both national and EU levels.

The following three points concern still open research questions, which would require further studies.

Bioprecarity and Queer and Trans Reproduction: Bioprecarity is introduced through categorisations and norms by states and their laws, but other actors and organisations might have a role in this as well. Further research on involved actors, institutions, organisations promoting bioprecarity is needed.

Homonationalism and queer and trans reproduction: Further research is needed into the connection between homonationalism and trans and queer reproduction in different geopolitical locations, examining how homonationalism manifests in state policies, in the lived realities of queer and trans people, and in the neoliberal agenda of fertility clinics.

Alluring normative biological kinship through ART: Another suggestion for prospective inquiries is to explore why queer and trans people are drawn to the biological kinship facilitated by ART. What cultural, social, economic and historical contexts contribute to this? Do ART make legal procedures easier? Or is it because of the assimilation to a societal norm (which is heteronormative)?

6 Conclusion

In this article, queering and transing STS means taking intersectionalities and interdependencies within power structures rigorously into account. Moreover, when ART are under investigation, the interdisciplinary approach of queer- and transfeminist STS needs to be expanded towards philosophy (bio/ethics). Examining Spade's critical queer and trans political approaches, I argue that the aim of queer and trans theories and politics must be preserved with a focus on intersectional considerations and collective solidarity, as outlined by Chela Sandoval's concept of differential consciousness. However, unlike STS, the queering and transing of ART appears to be a more arduous endeavour, as current conservative political shifts and technological developments portend restrictions or exclusion to queer and trans ART.

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