# Research Articles

# Seamful Sutures

## Gender Exploration and Identity Expression Using Augmented Reality Facial Filters

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**Abstract**

This paper examines gender performativity and identity as expressed through facial beauty filters, as mainstreamed on dominant social media platforms Instagram and TikTok. It provides a framework for the widespread use of augmented reality (AR) filters on social media, which we theorize in relation to feminist and queer methodologies, as well as screen theories of "seamfulness" and "mechanic sutures." With reference to studies of selfie culture, social media, and digital beauty norms, as well as illustrative examples of the facial filters' design and use, we consider idealized forms of cisgender feminine appearance as well as queer and nonbinary forms of identity. Our case studies range from analysis of the viral Bold Glamour makeup filter to custom filters made by musicians Björk and Ariana Grande. We highlight potential benefits to these filters, including their ability to playfully shield the user's face from a critical gaze, to reduce costs associated with presenting idealized forms of beauty, and to offer nonbinary users liminal media spaces through which to explore self-image. Overall, the paper provides a theoretical model for understanding the widespread use of facial filters on social media and their impact for intersectional gendered dynamics. It also provides important historical and conceptual context to dominant critical discourse that foregrounds their negative impact on women over other potential benefits.

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Since their mainstream emergence in 2015, augmented reality (AR) filters have become a dominant feature of image-based social media platforms Instagram, Snapchat, and TikTok.[1] Facial filters combine ephemeral digital content (a digitally superimposed virtual mask) and material existing elements, such as the user's physical body and environment. They generally rely on facial mapping technology and computer vision in order to track and transform the user's face and head in real time.[2] Various filter trends manifest across Instagram, Snapchat, and TikTok, and users can simultaneously share the same content or repost across all three platforms.[3] As with other aspects of digital culture, while the technological mechanisms behind AR facial filters do not prescribe gendered uses, adoption of these filters can lead to distinctly gendered applications and trends. For example, statistically women are more likely to use image-based social media and are also more prone to taking and posting selfies.[4] Up to 90 percent of women who post selfies online use some form of touching-up technology, from built-in filters to a separate app such as FaceTune.[5] Susan C. Herring and

1. Ruggero Eugeni, "Augmented Reality Filters and the Faces as Brands: Personal Identities and Marketing Strategies in the Age of Algorithmic Images," in *Social Computing and Social Media Applications in Education and Commerce*, ed. Gabriele Meiselwitz (Cham: Springer, 2022), 223–34, https://doi.org/10.1007/978-3-031-05064-0_17.
2. Susan C. Herring, Meredith Dedema, Enrique Rodríguez, and Leo Yang, "Strategic Use of Video Face Filter Types: Influence of Audience, Gender, and Culture," *New Media & Society* 0, no. 0 (2024): 2, https://doi.org/10.1177/14614448241230461.
3. Eugeni, "Augmented Reality Filters," 224.
4. See Laura Grindstaff and Gabriella Torres Valencia, "the filtered self: selfies and gendered media production," *Information, Communication, and Society* 24 (2021):733–50, https://doi.org/10.1080/1369118X.2021.1874480; Amandeep Dhir, Ståle Pallesen, Torbjørn Torsheim, and Cecilie Schou Andreassen, "Do Age and Gender Differences Exist in Selfie-Related Behaviours?" *Computers in Human Behavior* 63 (2016): 549–55, https://doi.org/10.1016/j.chb.2016.05.053.
5. Rosalind Gill, *Changing the Perfect Picture: Smartphones, Social Media and Appearance Pressures*, (London: City, (2021), https://www.city.ac.uk/__data/assets/pdf_file/0005/597209/Parliament-Report-web.pdf.

colleagues' recent survey of video filter types across five countries also found that women are much more likely than men to publicly use beauty filters, though with some exceptions.[6]

Within the popular media and selected scholarship, the gendered use of filters is often framed in simplistic and overwhelmingly negative ways, that connects use of AR filters to poor self-esteem, the maintenance of unrealistic feminine beauty standards, and broader trends for cosmetic surgery and other facial modifications. Relatedly, while AR filters have been subject to various empirical studies from computer and social science scholars deploying surveys and interview methods, research on filters' complex intersection of gender and identity remains underexplored from the perspective of screen studies and critical theory. This article thus aims to theorize AR filters in relation to feminist theorists of gender, femininity, and beauty norms.[7] Our approach allows us to examine the complexities of facial filters by considering their potential benefits rather than solely critiquing them, and with detailed reference to specific filters, platforms, users, and creators.

On the one hand, because AR filters can provide an efficient means to touch up a woman's appearance to her digital public, they can be seen to uphold a self-surveillance culture that encourages constant upkeep for women and to strive for on- and off-screen perfection. The design of certain AR filters can also reinforce idealized beauty norms via white, imperialist, and capitalist standards, which reflect centuries of power inequality. On the other hand, as we examine, AR filters can protect their users from the digital gaze and provide a shield from the self-exploitative aspects of digital media. As we argue with detailed reference to their creative use by the cisgender

6. Herring et al., Strategic Use of Video Face Filter Types, 10–12.

7. See, for example, Sophie Bishop, "#YouTuberAnxiety: Anxiety as Emotional Labour and Masquerade in Beauty Vlogs," in *Youth Mediations and Affective Relations*, ed. Susan Driver and Natalie Coulter (Cham: Palgrave Macmillan, 2018), 89–105, https://doi.org/10.1007/978-3-319-98971-6_6; Giuliana Monteverde, "Kardashian Komplicity: Performing Post-Feminist Beauty," *Critical Studies in Fashion and Beauty* 7, no. 2 (2016): 153–72, https://doi.org10.1386/csfb.7.2.153_1; Michele White, "Beauty as an 'Act of Political Warfare': Feminist Makeup Tutorials and Masquerades on YouTube," *Women's Studies Quarterly* 46, no. 1/2 (2018): 139–56.

female artists Björk and Ariana Grande, AR filters have considerable protective and expressive potential. We examine how filter use intersects with their broader approaches to constructing a public image through other forms of costume (such as actual masks and prosthetics) and other media, including music videos. As such, we suggest that filters can help women possess agency over their image and thus highlight their active authorship and control. Furthermore, as we subsequently examine with reference to nonbinary and transgender users, filters can provide valuable liminal media spaces in which to experiment with gender fluidity and critique gender performativity. As we aim to demonstrate with a focus on the use of TikTok's Bold Glamour and Striking Face filters, AR filters interact with intersectional aspects of gender identity and thus engage not only with issues of heteronormativity but also homonormativity and transnormativity.

Overall, while we acknowledge filters can reinforce ideal beauty standards and gender conformity, we demonstrate a significant countertrend for filter users who resist these practices and deploy filters in productive and creative ways. Our article begins with two theoretical sections. After first positioning AR filters within the gendered (digital) media landscape through engagement with scholarship on gender performativity, beauty ideals, and digital manipulation, we develop a theoretical approach to filters that builds on useful conceptions of augmented reality and human-computer interaction more broadly.

## Positioning AR Facial Filters within the Gendered (Digital) Media Landscape

While theoretical research on gendered performance and digital filters is relatively underexplored, scholarship on feminist and queer participation in digital domains has documented how women and marginalized individuals can use these spaces to experiment with conventional gendered expectations. Foundational work on early digital gender play also looked to the first theories of Judith Butler's work on making "gender trouble through

the mobilization, subversive confusion, and proliferation of precisely those constitutive categories that seek to keep gender in its place by posturing as the foundational illusions of identity."[8] As Sal Humphreys and Karen Orr Vered contest, "The trouble we get into when we play with gender online is enhancing our ability to accept and respond to more ambiguous performances of gender in others and ourselves."[9] Speaking to gender play and gender trouble in the digital sphere, they assert:

> One of the key affordances of interactivity is increased opportunity for agency and participation. A growing understanding of audiences as producers align well with a similar shift in thinking about gender as something we have, to gender as something that we do. Adopting a view that gender is less fixed, more fluid, and actively constructed, we come to understand subjectivity as social, discursive, and intersubjective. Gender is never done in isolation. . . . In their give and take, interactive environments highlight the complex layering and dynamic social practices of gender.[10]

In also incorporating Butler's gender trouble, Julia Cook and Reza Hasmath argue that "the potential for such resistance is located in the spaces that emerge within the heterosexual matrix through parody of the norms that construct and solidify it."[11] Cook and Hasmath assert:

> Butler herself points to a potential space for resistance: the inherently unstable nature of the hetero- sexual matrix illustrated by the necessity for subjects to constantly repeat the norms that solidify it. This process

8. Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York and London: Routledge: 1990), 34.
9. Sal Humphreys and Karen Orr Vered, "Reflecting on Gender and Digital Networked Media," *Television & New Media* 15, no.1 (Fall 2013): 7, https://doi.org/10.1177/1527476413502682.
10. Humphreys and Orr Vered, "Reflecting on Gender and Digital Networked Media," 5.
11. Julia Cook and Reza Hasmath, "The Discursive Construction and Performance of Gendered Identity on Social Media," *Current Sociology* 62, no. 7 (Fall 2014): 977.

> of repetition illustrates that such norms are not fixed, and instead must be constantly stabilized, which vests subjects with the potential to repeat norms in a different manner, and enact a process through which these norms can be subverted. [12]

Our examination of the productive possibilities of filters is thus aligned with other feminist scholarship that sees the potential for gendered forms of resistance in the digital era of beauty and self-presentation trends. In her work on the 2000s postfeminist era, which also incorporates Joan Riviere and Mary Ann Doane's frameworks of the feminine masquerade,[13] Angela McRobbie asserted that the pressures of maintaining ideal beauty standards when popular media is omnipresent in everyday life leads to a representation of women through a "post-feminist masquerade" that reinforces a traditional gender hierarchy and binary.[14] Like Riviere, McRobbie argues that these norms are ultimately reestablished due to women's new roles in male-dominated public spheres. McRobbie claims the masquerade is another strategy for women in male-dominated public life to "undermine, or at least unsettle" women's new economic and employment potential.[15] She argues that the masquerade is used to thrive in a consumerist, heterosexual-driven patriarchal society. The upkeep of maintaining an ideal mask of femininity is achieved through makeup, hair removal, and hyper-feminine clothing, all of which was later exacerbated through the heightened popularity of cosmetic surgery practices.

Social media platforms can certainly highlight the capitalistic, imperialist, and patriarchal forms of contemporary society, but we also discern how

12. Cook and Hasmath, "The Discursive Construction and Performance of Gendered Identity on Social Media."
13. Joan Riviere, "Womanliness as Masquerade," *International Journal of Psychoanalysis* 10 (1929): 303–13; Mary Ann Doane, "Film and the Masquerade: Theorizing the Female Spectator," *Screen* 23, no. 34 (1982): 74–88, https://doi.org/10.1093/screen/23.3-4.7.
14. Angela McRobbie, *The Aftermath of Feminism: Gender, Culture and Social Change* (London: Sage, 2008).
15. McRobbie, The Aftermath of Feminism, 64.

users can often express creativity and gender exploration through these outlets, particularly those seen as frivolous due to their feminine associations. As Giuliana Monteverde argues, "Interactions with beauty are not necessarily evidence of patriarchal victimhood."[16] Additionally, Michele White's work on YouTube beauty tutorials and the masquerade similarly reveals how some vloggers use the platform to employ feminist critiques that "refute some feminist assertions that cosmetics are an inherently part of an objectifying system that structures and normalizes women."[17] White argues that the vloggers can use "masquerade that enables women to access power through traditional femininity *and* as performance that disturbs women's acceptable representations."[18] In our Bold Glamour TikTok examples, we also highlight these users that play with the ideals of the masquerade by challenging binary thinking rather than adhering to them. Further, in their work on nonbinary gender work on Tumblr, Megan Sharp and Barrie Shannon use Crystal Abidin's conceptualization of "subversive frivolity" to indicate how queer subcultures can thrive: "We posit that online sites should be viewed as cultures, visual and reflexive; where bodies, affects, times and practices converge as doings beyond the implicit narcissism of online engagement that is often relayed in public discourse."[19]

In addition to establishing these connections to gender theory, it is also necessary to provide some broader context to the use of facial AR filters with regard to related forms of digital manipulation. Since the 1990s, digital editing tools such as Photoshop have become widely used, with their standard uses on human subjects (including models and celebrities) assumed to be to improve on faces and bodies in raw recordings (photos, film, video) by correcting perceived issues such as blemishes, wrinkles, discoloration, and

16. Monteverde, "Kardashian Komplicity," 155.
17. White, "Beauty as an Act of 'Political Warfare,'" 141.
18. White, "Beauty as an Act of 'Political Warfare,'" 147.
19. Megan Sharp and Barrie Shannon, "Becoming Non-binary: An Exploration of Gender Work in Tumblr," in *Gender, Sexuality, and Race in the Digital Age*, ed. D. Nicole Farris, D'Lane R. Compton, and Andrea P. Herrera (Cham: Springer, 2020), 138.

unwanted objects (such as stray hairs) or by enhancing the effect of nondigital beauty effects such as makeup. These digital editing tools are typically used in media industries, ranging from print and digital advertisements to traditional media outputs (such as film and television) and publicity materials such as posters, trailers, and album covers, though they are also available to those with access to the software and related training. As Meredith Jones notes, "Photoshop is not necessarily something 'done' to unwilling subjects of photography"; rather, it has become an important part of shaping public images, leading celebrities such as Madonna and Lady Gaga to hire Photoshop technicians "as members of their image-making entourages."[20] Jones surmises that Photoshop is thus "a sort of clothing or mask."[21] Of particular interest to our focus on the expressive potential of filters are filters that work against standard beauty conventions and presentational norms by reimagining the face or facial masks in expressive, unconventional ways or in ways in that foreground the artificiality of the face and its technological mediation. Many of the early Instagram filters, circa 2018, worked against conventional beauty norms and even facial recognition by abstracting the human user.

Much has been written about practices of digital image editing from scholars in disciplines as diverse as media studies, law, and psychology, with a trend for foregrounding their ability to present "perfect images" and the negative implications of this on those who consume these images.[22] As Isabelle Coy-Dibley asserts in relation to beauty-based photo-editing software, "What the body cannot achieve, the image can through apps that serve to reiterate acceptable/desirable standards of femininity," which leads to what

20. Meredith Jones, "Media-Bodies and Photoshop," in *Controversial Images: Media Representations on the Edge*, ed. Feona Attwood, Vincent Campbell, I. Q. Hunter, and Sharon Lockyer (London: Palgrave Macmillan, 2012), 22.
21. Jones, "Media-Bodies and Photoshop," 24.
22. See, for example, Jones, "Media-Bodies and Photoshop"; Ashley Brown, "Picture [Im] Perfect: Photoshop Redefining Beauty in Cosmetic Advertisements, Giving False Advertising a Run for their Money," Texas Review of Entertainment & Sports Law 87, no. 87 (2015).

she has coined as "digitized dysmorphia."[23] For Coy-Dibley, digitized dysmorphia is socially conditioned, in that women within Western, patriarchal, image-driven cultures are reckoned with achieving an untenable standard of feminine ideal beauty, both on and offline. In the digital space, they can view this standard as one achieved through technology and are thus physically competing with a potentially perfect version of themselves online.

## Beautiful Seams and Machinic Sutures: Theorizing AR Filters

Coy-Dibley does not consider facial filters in particular and yet media discourse on facial filters has continued in this vein—foregrounding certain kinds of perfecting and beautifying filters and their consequences for users and viewers, particularly young women who are assumed to be most vulnerable to technologies that reinforce idealized forms of beauty.[24] As Tate Ryan-Mosley puts it in a distinctly gendered article on AR filters, titled "Beauty Filters Are Changing the Way Young Girls See Themselves," filters are resulting in "a mass experiment on girls and young women."[25] For journalist Jia Tolentino, "Instagram Face" idealizes models and celebrities who are ethnically exotic.[26] Instagram Face is "a young face, of course, with

23. Isabelle Coy-Dibley, "'Digitized Dysmorhpia' of the Female Body: The Re/Disfigurement of the Image," *Palgrave Communications* 2, no. 16040 (2016): 4.
24. See Trudy Hui Hui Chua and Leanne Chang, "Follow Me and like My Beautiful Selfies: Singapore Teenage Girls' Engagement in Self-Presentation and Peer Comparison on Social Media," *Computers in Human Behavior*, no. 55 (2016): 190–97; Anna Haines, "How AI Avatars and Face Filters Are Altering Our Conception of Beauty," Forbes, December 19, 2022, https://www.forbes.com/sites/annahaines/2022/12/19/how-ai-avatars-and-face-filters-are-affecting-our-conception-of-beauty/.
25. See, for example, Tate Ryan-Mosley, "Beauty Filters Are Changing the Way Young Girls See Themselves," *MIT Technology Review*, April 2, 2021, https://www.technologyreview.com/2021/04/02/1021635/beauty-filters-young-girls-augmented-reality-social-media/.
26. Jia Tolentino, "The Age of Instagram Face: How Social Media, FaceTune, and Plastic Surgery Created a Single, Cyborgian Look," *New Yorker*, December 12, 2019, https://www.newyorker.com/culture/decade-in-review/the-age-of-instagram-face.

poreless skin and plump, high cheekbones. It has catlike eyes and long, cartoonish lashes; it has a small, neat nose and full, lush lips." Tolentino also speaks of the eerie realization that "professionally beautiful" famous women with Instagram Face began to all appear strikingly similar with a "single, cyborgian face."

Beautifully filtered women thus serve as just the latest in a long line of fictitious female cyborg characters represented in screen media, further highlighting the value of theorizing AR filters with reference to screen studies. Like the bride in *The Bride of Frankenstein* (1935), the suburban robots in *The Stepford Wives* (1975), or the beautiful femme fatale androids in *Blade Runner* (1982) or *Ex Machina* (2014), facially cyborgian women are more threatening precisely because they use beauty to lure in and manipulate their audience, often assumed to be men. These associations extend into the reception of digital facial filters, and particularly beautifying ones. Articles such as "The Online Dating Beauty Filter Trap" acknowledge that both men and women can filter photos for use on their online dating profiles, yet the examples in the article are exclusively of women using filters to look better and thus potentially "trap" someone as a result of this bodily deception.[27] As Brooke Erin Duffy notes in relation to beauty filter discourse, "Women are particularly vulnerable to accusations of fakery—which is nothing new." In the Victorian era, makeup was associated with sex workers who were disparagingly called "painted women. It was this idea that if you wore too much makeup, you were morally corrupt and trying to conceal your true self."[28]

To date, academic research into AR filter use (from fields such as marketing and human-computer interaction) has tended to prioritize empirical surveys and/or interviews with users. These methodologies provide useful indicative findings, including that filters can have a positive impact on

27. Hanna Kozlowska, "The Online Dating Beauty Filter Trap," *NBC News*, December 5, 2021, https://www.nbcnews.com/think/opinion/online-dating-beauty-filter-trap-ncna1285338.
28. Brooke Erin Duffy, quoted in Kozlowska, The Online Dating Beauty Filter Trap.

mood and self-confidence,[29] that deceptive filters are of concern,[30] and that filters that radically change users' appearance can provide playful pleasure or facilitate identity exploration.[31] However, empirical approaches to filters can lack a theoretical grounding of AR filters as screen-based cultural objects that bring together, and rework, complex theories and histories of screen media and visual culture, including theories of the screen gaze, the screen apparatus, gender performativity, and self-portraiture. Furthermore, survey driven approaches can lack detailed close analysis of individual filters as creative design works with nuanced aesthetics and distinct creators.

For example, Herring and colleagues divide video face filters into three broad categories (beauty filters; exaggerated, silly filters; identity-modifying filters), which are subdivided into seven different types: touch-up appearance, beauty enhancement, glamorous, silly, distorted, gender/age, and face swap.[32] This kind of taxonomy can vastly oversimplify the range of filters that exist while disregarding their links to earlier forms of screen and bodily modification effects. In categorizing filters that distort facial effects or provide playful overlays as "silly," their taxonomy seems to devalue a wide range of experimental filters, such as those that approximate earlier artistic styles or movements (e.g., surrealism, cubism). By grounding our study of AR filters in critical theory and more detailed case studies, this article thus develops a greater understanding of filters as a screen media phenomenon that intersects with a long history of visual culture and related identity politics.

29. Chua and Chang, "Follow Me and like My Beautiful Selfies."
30. Susan C. Herring, Meredith Dedema, Enrique Rodríguez, and Leo Yang, "Gender and Culture Differences in Perception of Deceptive Video Filter Use," in *HCI International 2022–Late Breaking Papers: Interaction in New Media, Learning and Games* (Cham: Springer), 52–72, http://dx.doi.org/10.1007/978-3-031-22131-6_5.
31. Ana Javornik, Ben Marder, Jennifer Brannon Barhorst, et al. '"What Lies Behind the Filter?' Uncovering the Motivations for Using Augmented Reality (AR) Face Filters on Social Media and Their Effect on Well-Being," *Computers in Human Behavior*, no. 128 (2022): 107–26, https://doi.org/10.1016/j.chb.2021.107126.
32. Herring et al., "Strategic Use of Video Face Filter Types."

Our approach is in keeping with broader research into AR by screen media scholars such as Geoffrey Alan Rhodes, who maps the complex relationship between cinematic apparatus theory of the 1970s to early forms of AR technology in the twenty-first century.[33] Unlike studies of AR facial filters that foreground the potential damage of users experiencing themselves via filters, Rhodes argues that AR "plays with the combination of the evidently unreal and the real. . . . AR doesn't attempt to embed the viewer in an objective reality, the spectator identifies with a mediation."[34] Also of significance to our foregrounding of the playful and expressive aspects of facial filters, Rhodes argues that AR's juxtaposition of the virtual with the real can be mined for both expressive and conceptual expression, in which cases it constitutes a new form of avant-garde art. Other media scholars, Maud Ceuterick, Jennifer O'Meara, and Kata Szita, theorize augmented reality technology with reference to specific case studies and as a format that provides distinctly transitional or liminal media spaces.[35] As our subsequent case studies will reveal, this liminality can be a significant aspect of users' experiences of AR filters.

Though facial filters can be recorded when working optimally (in the form of photos or videos), their activation via both facial recognition software and distinct camera angles means that they are often glitchy when in "real-time"—appearing and disappearing based on the user's body movement and the camera movement. Facial filters can thus "slip off" much more easily than actual makeup or cosmetic surgery, for example, to suddenly

33. Geoffrey Alan Rhodes, "Augmented Reality in Art: Aesthetics and Material for Expression," in *Augmented Reality Art: From an Emerging Technology to a Novel Creative Medium*, ed. Vladamir Geroimenko (Heidelberg: Springer, 2018), 163–72.
34. Geoffrey Alan Rhodes, "Augmented Reality in Art," 265.
35. Maud Ceuterick, "Queering Cultural Memory through Technology: Transitional Spaces in AR and VR," *Alphaville: Journal of Film and Screen Media* 21 (2021): 89–110, https://doi.org/10.33178/alpha.21.05; Jennifer O'Meara and Kata Szita, "AR Cinema: Visual Storytelling and Embodied Experiences with Augmented Reality Filters and Backgrounds," *PRESENCE: Virtual and Augmented Reality* 30 (2023): 99–123, https://doi.org/10.1162/pres_a_00376.

reveal the real face underneath.[36] This slippage can be seen as a kind of "seamfulness," a form of human-computer interaction in which technological systems strategically reveal the complexities or errors of their workings, through what Mark Weiser and others term "beautiful seams."[37] This aspect of facial filters also differs from traditional digital image manipulation, where the audience is usually only shown the final edited photo or video. In keeping with the conceptual potential that Rhodes places on AR in general, we will thus consider the value of overtly unreal or surreal facial filters and those moments when the "beautiful seams" of the filters are revealed. Such filters and moments can lead to increased awareness of both gendered facial norms and real or digital facial modifications and to AR filters as an increasingly dominant form of digital bodily modification. This analysis builds on the aforementioned conception of AR as providing liminal media spaces and in this case with the slippage of ephemeral facial filters allowing for a valuable liminal space in which to experiment with gendered self-image and stereotypes.

In this and other respects, AR facial filters are thus a new form of what Bernadette Wegenstein terms "machinic sutures," in reference to twenty-first-century technologies of beauty and her concept of the cosmetic gaze.[38] For Wegenstein, the cosmetic gaze captures "how humans experience their own and others' bodies as incomplete projects that await the intervention of technologies of enhancement, which will help them better approximate their true self or natural potential," with machinic sutures

36. See Herring et al., "Strategic Use of Video Face Filter Types," for a compelling example of this slippage that took place in China.
37. Mark Weiser et al. "The origins of ubiquitous computing research at PARC in the late 1980s," *IBM Systems Journal* 38, no. 4 (1999), 693–696, https://doi.org/10.1147/sj.384.0693. See also Sarah Inman and David Ribes, '"Beautiful Seams': Strategic Revelations and Concealments," In *Proceedings of CHI '19: CHI Conference on Human Factors in Computing Systems* (2019): 1–14, https://doi.org/10.1145/3290605.3300508.
38. Bernadette Wegenstein, "Machinic Sutures: Twenty-First-Century Technologies of Beauty," in *The Cosmetic Gaze: Body Modification and the Construction of Beauty* (Cambridge, MA: MIT Press): 109–50.

beings those technological operations "through which the supposedly prior or pure aspects of selfhood—my true self, how I desire to be, my body—have become so via the performative influence of augmented realities."[39] Wegenstein uses the term "augmented realities" here in a more general sense to refer to the merging of reality with virtual media content of varying kinds, including virtual avatars and computer-generated facial compositing for criminal profiling. Yet her analysis of machinic sutures, which predate AR filters, including the rise of self-directed forms of the cosmetic gaze in digital spaces (what she and Rhodes describe as "self-[ex]ploitation"), provides the kind of critical theoretical underpinning that can feel lacking in more data-driven studies of AR filters.[40]

Returning to Herring and colleagues' taxonomy of filters, our case studies also depart from their survey findings that beauty filters are shared the most with *public* digital audiences while "silly filters" and identity-based filters such as those that switch one's gendered facial features are shared most often with *nonpublic* audiences (either family and friends or kept to oneself).[41] Even if, as their survey of forty-eight people across five countries suggests, beauty filters are the type used most often with public audiences, our case studies reveal some of the significant benefits of sharing more radical forms of AR filters in public digital spaces, both to everyday users and to female celebrities (who are, by definition, especially public-facing figures).[42] This will further demonstrate the need to critically examine discourse on filters that foregrounds their capacity for deception and role in maintaining

39. Wegenstein, *The Cosmetic Gaze*, 100, 109.
40. Wegenstein, *The Cosmetic Gaze*, 148; Geoffrey Alan Rhodes, "'Selfpolitation': Participatory Pornography in Web 2.0," Paper presented at Politics: Web 2.0: An International Conference, Royal Holloway, University of London, April 17–18, 2008. https://www.yumpu.com/en/document/read/7084851/selfploitation-geoffrey-alan-rhodes.
41. Herring et al., "Strategic Use of Video Face Filter Types," 10.
42. The positive potential of digital filters is only briefly considered in L. A. Miller and Joanna McIntyre's thematic analysis of popular commentary on Instagram filters. See L. A. Miller and Joanna McIntyre, "From Surgery to Cyborgs: A Thematic Analysis of Popular Media Commentary on Instagram Filters," *Feminist Media Studies* 23, no. 7 (2023): 3615–31, https://doi.org/10.1080/14680777.2022.2129414.

unrealistic (gendered) beauty standards at the expense of other uses for AR filters.

## Facial Filters' Protective and Expressive Potential

At perhaps the most obvious level, facial filters have value in that they can remove the labor and cost of other forms of beauty enhancement or traditional forms of feminine masquerade, such as the time and money involved in buying and applying makeup, skincare, and related activities, including facials and eyebrow and eyelash treatments. This perceived value of AR filters as a viable substitute for these processes naturally depends on individuals spending considerable time in digital environments.

Perhaps a more valuable aspect of facial filters relates to their ability to quickly, cheaply, and playfully provide their users with forms of protection from the public gaze in digital spaces. AR filters can thus be seen as a digital extension of the shielding costume choices of musical artists, including Björk and Sia, whose public performances typically involve them hiding most of their face. In Björk's case, this is done with a range of avant-garde sculptural masks, many of which have adapted into Instagram filters in recent years, as we examine later. In Sia's case, the majority of her face is hidden by dramatic wigs that stop just above her mouth. Celebrity anxiety regarding how they are photographed or filmed has also been discussed in relation to other major female celebrities, including Mariah Carey, Ariana Grande, and Barbra Streisand. Grande, who released a prismatic Instagram facial filter in 2019 (examined later), reportedly has a strong preference for shots of her left side, leading to multiple articles that provide evidence for this insecurity and thus underscore the critical gaze to which female celebrities are subjected.[43]

43. See, for example, Lexi Novak, "What Ariana Grande Has Taught Us about Our 'Good Side,'" *Allure*, September 18, 2014, https://www.allure.com/story/ariana-grande-left-side-good-side.

By covering all or most of the face, public performers and the nonfamous masses can thus escape the critical gaze by moderating what parts of the face are visible to be perceived (and thus potentially judged and critiqued), but also by controlling what is viewed in their place (masks, wigs, etc.). As noted, the existing scholarship and popular media discourse on facial filters focuses almost entirely on beautifying ones. Yet this is just one genre of facial filter, disregarding the diversity of options available to users when it comes to expressing themselves in digital manipulated form, including a whole range of cyborgian filters that reflexively thematize the merging of a human subject with technological apparatus. And like Björk's "real" avant-garde costumes and masks and Sia's cartoonish pop art wigs and bows, the AR filters can manipulate the face in experimental and playful ways, offering new technologically mediated ways to see the self and to experiment freely with self-portraiture and self-presentation.

Consider the AR filters on Instagram, where there are many varied filters that remediate aesthetic trends from the histories of art, film, and television. These include mirroring effects, kaleidoscopic lens effects, glitch effects, and a range of other artistic movements and effects, such as those invoking cubism, pop art, and impressionist watercolor effects. The expressive, avant-garde and gendered potential of early Instagram's facial filters came more fully to fruition from late 2019 onward, when Björk and her creative team created a series of AR masks for Instagram based on various other real and virtual masks that the performer has worn in music videos and live performances (figure 1). The filter masks include "Medusa" (2019), based on a virtual graphic headpiece Björk wears in a music video for "notget", and "Utopia Silicone" (2020), based on a series of hand-sculpted and painted silicone masks designed by Björk's frequent creative director, James Merry.

As Andrezza Valentin, the digital creative director for Björk's AR filters, describes, the filter masks "emulate floral orchids and female anatomy."[44]

44. Andrezza Valentin, "Björk AR Masks," Andrezza.com, accessed June 27, 2024, http://www.andrezza.com/#/bjrk-ar-masks/.

These filters represent just one recent instance of Björk continuing her decades-long experimentation with emergent technologies, as explored at length in music and media scholarship.[45]

Björk's AR masks work to disrupt the dominant discourse on how filters reinforce beauty ideals in damaging ways. As with Björk's broader creative outputs (albums, music videos, gallery exhibitions, publicity materials, and costumes), the Instagram filters offer unusual expressions of femininity and beauty. In many of Björk's works, the feminine is simultaneously embodied (visually referencing female reproductive organs, for example) and distinctly nonhuman, channeling the natural and technologically produced world. Susan George notes how Björk's engagement with technology "pushes the boundaries of both body image and the functions of voice," with "the themes of Björk's visual-scapes link the human and technological in an evolutionary projection, placing her hyper-designed and hyper-produced body in the scheme of the posthuman."[46] Björk's branded Instagram filters offer another example of this in practice.

In 2020, Björk posted a video to her Instagram in which she uses one of the Merry/Valentin-designed filters while sharing news about concerts she was planning to support musicians impacted by the pandemic, as well as voicing solidarity with Black Lives Matters activists (figure 3.1).[47] Comments on the video support our take on the disruptive nature of Björk's filters, relative to others on Instagram, as well as to the broader value of filters as a form of protective shield from the critical gaze of others. Indirectly addressing Björk's use of the filter, one poster complains that "If you don't express your eyes, we can't see your soul . . . ", while others draw attention

45. See, for example, Jennifer Iverson, "Mechanized Bodies: Technology and Supplements in Björk's Electronica," in *The Oxford Handbook of Music and Disability Studies*, eds. Blake Howe, Stephanie Jensen-Moulton, Neil Lerner, and Joseph Straus (Oxford: Oxford University Press, 2015), 155–75.
46. Susan George, "Björk's Posthuman Hypomnemata and the Future of Music Video," in Globalization and Sense-Making Practices: Phenomenologies of the Global, Local and Glocal, eds. Simi Malhotra, Zahra Rizvi, Shraddha A. Singh (Abingdon: Routledge, 2023), 26; 23.
47. Björk (@bjork), "{streaming tickets link in bio}," video, Instagram, July 20, 2020, https://www.instagram.com/p/CC3Pt-EFa5M/?utm_source=ig_web_copy_link.

to the filter's design, referring to it as "Vagina core" or asking, "Why you wearing a vaginie on your face tho?" (*sic*).[48] Yet "wearing" a filter appears to make Björk feel more comfortable in what is a very rare video address to her nearly two million Instagram followers, a feature that aligns with Björk's self-described introversion. Interviewers such as Barbara Ellen have described Björk's "paralysing" shyness as "off-stage fright" – distinguishing that she seems comfortable on stage but is "nervous and shy in interviews."[49] Thus, when recording the Instagram video Björk presumably didn't want her two million followers to "see her soul" during the video recording, and so the filter's partial shielding of her eyes, and face more generally, is a pro rather than (as her critical followers suggest) a con.

Figure 3.1: Björk with a digital graphic mask in the video for "notget" (2017); Björk's creative collaborator James Merry demonstrating the related AR filter mask on Instagram in 2019; Björk using one of her self-branded filters in a video posted on Instagram (2020).
*Source:* Author's collage of screenshots from YouTube and Instagram.

Close analysis of Ariana Grande's Instagram profile and official Instagram filter provides further insight into the protective and expressive benefits of facial filters to female celebrities, revealing her to be the kind of

48. Comments on @bjork, "{streaming tickets link in bio}," Instagram.
49. Barbara Ellen, "'I Used to Think I'd Live Forever . . .'" *Observer*, July 22, 2001, https://www.theguardian.com/theobserver/2001/jul/22/features.magazine27

knowing, active (as opposed to passive) subject that McRobbie and Rosalind Gill classify as post-feminist.[50] In June 2018, Grande was one of a small group of high-profile figures to release a custom-designed Instagram filter. Like Björk, when it came to launching a self-branded filter, Grande and her creative team channeled visual effects featured in one of her music videos, "No Tears Left to Cry," released in April 2018. Recalling early trends for filter effects on Instagram, segments of the video feature prismatic visual effects that segment and multiply the face and fragmented parts of the face (such as the lips). Grande is both recognizable and distorted, with these features extended to users of her subsequent Instagram filter. Elements of the filter's soft-focus glow and sparking light render this abstract representation of Grande as glamorous and might thus seem to align with the filters as upholding feminine beauty ideals. However, another segment of the music video features Grande with a literal blank face, holding up and putting on a mask from a collection of Ariana Grande masks displayed on stands. This sequence overtly highlights Grande's face as a mediated, constructed object engaged in a digitally facilitated form of feminine masquerade (figures 3.2 and 3.3)[51] and alludes to the rising popularity of facial filters as transformative masks at this time.

The prismatic effects in Grande's music video and Instagram filter also connect back to Grande's supposed insecurity about one side of her face, which received considerable attention in the popular media. The *Atlantic*, *HuffPost*, and *Allure* all published on this in 2014.[52] The pieces generally

50. McRobbie, *The Aftermath of Feminism*; Rosalind Gill, "From Sexual Objectification to Sexual Subjectification: The Resexualisation of Women's Bodies in the Media," MR Zine, May 23, 2009, http://mrzine.month-lyreview. org/2009/gill230509.html.
51. "Ariana Grande—No Tears Left to Cry (Official Video)," YouTube, April 19, 2018, https://youtu.be/ffxKSjUwKdU?si=vcTyA0DGNNbk9ad9.
52. Trey Taylor, "Sympathy for the Celebrity's Bad Side," *Atlantic*, September 11, 2014, https://www.theatlantic.com/entertainment/archive/2014/09/the-humanity-in-ariana-grandes-right-cheek/379958/; "Proof Ariana Grande Only Likes her Left Side." *Huffington Post Canada*, September 23, 2014, https://www.huffpost.com/archive/ca/entry/proof-ariana-grande-only-likes-her-left-side-photos_n_5868422; Novak, "What Ariana Grande Has Taught Us."

Figure 3.2: Screenshots of Ariana Grande's digitally manipulated face in the music video for "No Tears Left to Cry" (2018).
*Source:* Screenshot, "Ariana Grande—no tears left to cry (Official Video)," YouTube, April 19, 2018, https://youtu.be/ffxKSjUwKdU?si=vcTyA0DGN-Nbk9ad9.

Figure 3.3: Screenshots of Ariana Grande's digitally manipulated face in the music video for "No Tears Left to Cry" (2018).
*Source:* Screenshot, "Ariana Grande—no tears left to cry (Official Video)," YouTube, April 19, 2018, https://youtu.be/ffxKSjUwKdU?si=vcTyA0DGN-Nbk9ad9.

include a range of pictures angled toward her left side as "proof" that she makes a concerted effort to appear in photos from that angle, as well as citing a rumor that she walked off a photo shoot due to a violation of this rule.[53] In *Allure*, Lexi Novak uses digital mirroring tools to demonstrate the "real" asymmetry in Grande's face (providing photos that show Grande if both sides of her face were symmetrical images of either her left or right side). By contrast, the prismatic effects used in Grande's music video and Instagram filter also deploy mirroring effects but in more distorted and abstract ways—a fitting rejoinder to the articles so fixated on Grande's facial angles.

By 2019, Grande's distinct approach to facial angles had developed to her posting a range of Instagram portraits and selfies at unconventional angles (with portraits rotated at a ninety-degree angle, for instance), with the cover for her album *Sweetener* also featuring an upside-down portrait of Grande. It's unclear if this was a playful response to earlier attention on her facial angles but, from 2019 to 2021, Grande's unconventionally skewed Instagram portraits appeared alongside a range of images captured using Instagram filters. These included selfies using the conspicuous "comic book" (imitating a drawn aesthetic) setting, as well as ones that projected clouds or a second set of paler eyes over her face (figure 4).[54] In doing so, Grande demonstrated notable agency when it came to her publicized self-image—no longer just controlling more of her appearance in images using physical positioning (angling her left side towards the camera), but choosing to manipulate particular aspects of her photos on social media platforms by posting at an unconventional angle, or using a filter that obscures the face in a noticeable way. Notably, the filters and literal masks Grande chose were generally not of the beautifying variety. Instead they veer strongly toward artistic, whimsical, and horror- or cyborg-coded disfigurement. As with

53. Novak, "What Ariana Grande Has Taught Us."
54. Ariana Grande (@arianagrande), Instagram, October 7, 2021. https://www.instagram.com/p/CUvA456p34s/

Björk's mask-filtered Instagram video, there is a sense that Grande felt more comfortable sharing overtly off-kilter selfies or portraits with her some 380 million followers.

Alongside these, Grande posted images of two Halloween costumes featuring extensive facial prosthetics, which further signal her willingness to experiment with themes of female masquerade and beauty ideals. In 2019, Grande dressed up as one of the pig-like characters from the "Eye of the Beholder" episode of sci-fi television series *The Twilight Zone* (1959–1964). The episode cleverly foregrounds the social pressure to uphold established beauty standards by foregrounding the story of a conventionally attractive woman who undergoes multiple cosmetic surgeries in order to fix her face and fit in. The medical staff (on whom Grande's costume is based) discuss how hideous the woman is while their own faces are kept out of shot until they are finally revealed as pig-like figures, with large upturned snouts and asymmetric downturned gaping mouths (figure 3.4). Grande committed over five hours to the prosthetics process for the costume and her Instagram posts underscore her interest in the episode's ironic take on impossible beauty standards. In one close-up of her prosthetic-hidden face, she jokes, "I feel like I need a touch up do my lips look ok:(."[55] In 2021, Grande's Halloween costume of "Miss Creature from the Black Lagoon" continued to foreground her interest in merging disfigurement with conventional associations of beauty.[56] The costume adapted the fish-face prosthetics of the sci-fi film *Creature from the Black Lagoon* (1954) while Grande's silvery swimsuit emulated that of the female victim in the poster of the original film—thus merging characters associated with beauty and body horror (figure 3.4).

As with Grande's use of facial filters, or rotated portraits, the message seems clear: she is unafraid to look unattractive or to experiment with

55. Grande (@arianagrande), Instagram Story Highlight, October 31, 2019, https://www.instagram.com/stories/highlights/17842160914772236/.

56. Grande (@arianagrande), Instagram, October 31, 2021, https://www.instagram.com/p/CVtA237v6sk/?utm_source=ig_web_copy_link.

Figure 3.4: Images from Ariana Grande's Instagram profile, in which she uses a disfiguring AR filter (left, 2021) and facial prosthetics as part of Halloween costumes based on historic sci-fi works *The Twilight Zone* (center, 2019) and *Creature from the Black Lagoon* (right, 2021). *Source:* Screenshot, "Ariana Grande—no tears left to cry (Official Video)," YouTube, April 19, 2018, https://youtu.be/ffxKSjUwKdU?si=vcTyA0DGNNbk9ad9.

publicly displaying her face in a range of conspicuously manipulated ways. Like Björk, her use of filters is thus much more nuanced than the dominant discourse around Instagram filters as reinforcing or intensifying existing beauty ideals. Instead, Grande's overtly modified (self)portraits display a post-feminist sensibility for constructing and controlling her own image, the kind Monteverde attributes to Kim Kardashian for her selfie book *Selfish* (2015).[57] As Monteverde explains, while the book could be "dismissed as a vain woman capitalizing on her beauty," it should instead be seen "as a collection of self-portraits in an innovative form, in an unusual medium."[58] Grande goes further, crafting a public image that merges her natural beauty with elements of body horror and reminding us of the layers of manipulation behind Instagram images and beauty ideals more broadly. In these ways, she purposefully reveals the kind of "beautiful seams" and "machinic

57. Monteverde, "Kardashian Komplicity."
58. Monteverde, "Kardasian Komplicity," 161.

sutures" theorized, respectively, by Weiser (in relation to human-computer interaction) and Wegenstein, in relation to the cosmetic gaze.[59]

## Exploration of Gendered Identity using Facial Filters

This section will address how heteronormativity, homonormativity, and transnormativity is circulated through discourses of the Bold Glamour TikTok filter, largely through users' critiques that build resistance and create new counterpublics, and counternarratives, outside of normative gendered representations. Although these individuals may not have the resources and skills to create filters at the level of Björk and Grande, the identity-building work they engage in reveals their own agency and authorship over hegemonic beauty standards based on masculine/feminine binaries of traditional beauty standards. In alignment with Jed Samer's concept of vidding and remixing transfeminist futures, our queer examples particularly work to remix "our transphobic, transmisogynistic, cissexist reality and make perceptible a future when trans people, queer people, people of color, and all women and femmes are free."[60]

Critical algorithm studies discern how AI technologies, as cultural technologies, can essentialize gendered identities and sexualities, reinforcing hatred and discrimination with potentially dangerous consequences for marginalized groups.[61] Automated gender recognition, for example, does not allow for self-identification and is thus especially harmful to trans and

59. Weiser, "Ubiquitous Computing"; Wegenstein, *The Cosmetic Gaze*, 109.

60. Jed Samer, "Remixing Transfeminist Futures," *Transgender Studies Quarterly* 6, no. 4 (2019): 540, https://doi.org/10.1215/23289252–7771695.

61. See Páraic Kerrigan and Marguerite Barry, "Automating Vulnerability: Algorithms, Artificial Intelligence and Machine Learning for Gender and Sexual Minorities," in *Routledge Handbook of Sexuality, Gender, Health and Rights*, ed. Peter Aggleton, Rob Cover, Carmen H. Logie, Christy E. Newman, and Richard Parker (New York: Routledge, 2024); Katta Spiel, " 'Why Are They All Obsessed with Gender?'—(Non)binary Navigations through

nonbinary individuals. Early emerging research on nonbinary youth and online behavior has also shown that these young people are more exposed to risks such as misinformation and cyberbullying.[62] It is thus worth analyzing how women and queer online users also take to digital creation and AR use on social media to promote nuanced understanding of gendered identity, expectations, and community-building.[63]

As previously discussed, debates on the selfie often circulate around their own binaries of good/bad or self-indulgent/empowering while the most prescient scholarship on the subject suggests nuanced attention to digitized self-portraits beyond value judgments.[64] Feminist and queer scholars have previously identified how other self-representational practices from outlets such as YouTube, TikTok, Tumblr, Instagram, and Twitter can reveal counterpublics to dominant hegemonic discourses. As Nicole Erin Morse asserts, "Selfie aesthetics allow us to rethink how performativity theory has shaped queer theory's understanding of iterative self-constitution, as well as political possibilities of deconstructing selfhood."[65] Significantly, facial filters can also allow trans, nonbinary, and gender-curious persons opportunities to explore their identity without physical, social, or financial constraints, which can vary from makeup to medical treatments. They can also allow for cisgender and homonormative users to question their gendered identity in new and unprecedented ways, bringing to light gender as performance. Users' initial reactions to gendered beauty filters can lead to stark results, from

Technological Infrastructures," Proceedings of the ACM Designing Interactive Systems Conference (DIS '21), Association for Computing, online,, 2021.

62. David De Coninck and Leen d'Haenens, "Gendered Perspectives on Digital Skills and Digital Activities: Comparing Non-Binary and Binary Youth," *Comunicar: Media Education Research Journal* 75 (2023), https://lirias.kuleuven.be/retrieve/699907.
63. Megan Sharp and Barrie Shannon, "Becoming Non-binary: An Exploration of Gender Work in Tumblr," in *Gender, Sexuality and Race in the Digital Age*, ed. D. Nicole Farris, D'Lane R. Compton, and Andrea P. Herrera (Cham: Springer, 2020), 137–50.
64. Senft and Baym, "What Does the Selfie Say?"
65. Nicole Erin Morse, *Selfie Aesthetics: Seeing Trans Feminist Futures in Self-Representational Art* (Durham, NC: Duke University Press, 2022),47–48.

gender euphoria to dysmorphia.[66] Gender euphoria allows a trans individual, one whose gender they identify as different from their assigned sex and birth, to witness their external appearance align with their gender identity. As Teddy Goetz states, "Digital selfie filters offer an opportunity for visual gendered fantasy exploration."[67] As a result, this fantasy "enables trans persons to seek externalization of the internal. Fantasy enables trans persons to seek the opportunity to finally be seen."[68] For scholars like Ace Lehner, these social media practices provide an unregulated and thus democratizing space for trans and nonbinary trans persons to create their own form of digital self-portraits as art.[69] Laura Horak has stated that self-published trans youth videos on YouTube "has almost single-handedly transformed the trans mediascape" while Rachel Reinke asserts that these types of videos "allow trans individuals to be experts of their own experiences."[70] TikTok, in particular, provides a convenient tool kit to edit short videos while engaging with filters, yet scholarship on cisgender and queer users' experimenting with these forms remains under-examined.

Our focus here is on the 2023 viral Bold Glamour filter across cisgender and queer TikTok users, including trans and nonbinary individuals. Unlike other widespread beauty filters, the popular Bold Glamour does not use a 3D face mesh "layer" over the face but incorporates generative adversarial

66. See Teddy G. Goetz, "Swapping Gender Is a Snap(chat): Limitations of (Trans) Gendered Legibility within Binary Digital and Human Filters," *Catalyst* 7, no. 2 (2021): 1–31, https://doi.org/10.28968/cftt.v7i2.34839; Goetz, "Self(ie)-Recognition: Authenticity, Passing, and Trans Embodied Imaginaries," *Studies in Gender and Sexuality* 23, no. 4 (2022): 256–78, https://doi.org/10.1080/15240657.2022.2133525.
67. Goetz, "Self(ie)-Recognition," 258.
68. Goetz, "Self(ie)-Recognition," 262.
69. Ace Lehner, "From Self-Portrait to Selfie: Contemporary Art to Self-Representation in the Social Media Age," in *Self-Representation in an Expanded Field: From Self-Portraiture to Selfie, Contemporary Art in the Social Media Age*, ed. Ace Lehner (Basel: MDPI, 2021), 7–8.
70. Laura Horak, "Trans on YouTube: Intimacy, Visibility, Temporality," *TSQ: Transgender Studies Quarterly* 1, no. 4 (Fall 2014): 572; Rachel Reinke, "Embodying Resistance Online: Trans Youth Reconfigure Discursive Space(s) of Visibility on YouTube," *Spectator* 37, no. 2 (Fall 2017), 58–64.

network (GANS) technology to regenerate every pixel on a user's face. While other forms of AR filters are often unrealistic or cartoonish—in part due to real-time slippage of the filter that reveals the unedited face underneath—Bold Glamour uses machine learning to sculpt around a user's face. This technology creates a much more "realistic" reconfiguration than the simple layering or application over the face. Additionally, the GANS technology identifies traditionally masculine or feminine features, as users scanned as men do not receive a makeup makeover but a general enhancement that includes face smoothing, jaw and cheekbone sculpting, and shiny eyes.[71] Bold Glamour's advanced technology thus suggests that the future of filters is aligned with the trajectory of "deepfakes," which also deploy GANS technology. Journalists Jess Weatherbed and Mia Sato describe the distinct effects of the filter: "It adds sharp contouring on the sides of the face and nose over a matte, even complexion. Eyebrows are lusher and symmetrical. Lips are plumper. There's a sparkly, glazed-over look to the eyes."[72] The Bold Glamour filter reflects the popularization of the laborious process of applying contouring makeup. Popular press articles noted how users were able to view themselves in an ideal form and the subsequent disappointment with their unfiltered face, which reflects Coy-Dibley's digital dysmorphia.[73] Contouring makeup, by design, is meant to slim face shape and nose, highlight eyes and cheeks, and enlarge lips and eyebrows. The complexities of

71. Rachel Griffin, "TikTok's Confidence-Destroying Bold Glamour Filter Is the Logical Product of Platforms Built for Consumerism," Tech Policy, March 24, 2023, https://www.techpolicy.press/tiktoks-confidence-destroying-bold-glamour-filter-is-the-logical-product-of-platforms-built-for-consumerism/.
72. Jess Weatherbed and Mia Sato, "Why Won't TikTok Confirm the Bold Glamour Filter Is AI?," Verge, March 2, 2023, https://www.theverge.com/2023/3/2/23621751/bold-glamour-tiktok-face-filter-beauty-ai-ar-body-dismorphia.
73. Jamila White, "From Filter to Knife: Will TikTok's Beauty Feature Cause Spikes in Plastic Surgery?," Now This News, March 7, 2023, https://nowthisnews.com/news/tiktoks-bold-glamour-filter-feature-and-plastic-surgery.

contouring thus resemble plastic surgery and lead the user's face to appear vastly different from their natural selves.[74]

As with Instagram Face, Bold Glamour is indicative of contemporary unattainable and manufactured beauty standards, which highlights gender performativity for cisgender women in a seemingly unprecedented fashion. For some cisgender women, Bold Glamour appeared to emphasize that they naturally have stereotypically masculine facial features, which left the users confused or disappointed with the apparent misalignment of their gendered identity and stereotypically masculine traits, from strong jawlines to large noses. Within the context of gender as a binary in a heterosexual matrix, masculine features equate to a loss of identity and self-recognition that one's face departs from the idealized feminine facial features or ratio that drive the facial recognition algorithm. Bold Glamour discourse from cisgender women largely focused on the notion that the filter either emphasized their beautiful (feminine) traits or ugly (masculine) features, and many of these women subsequently remarked that they resembled a drag queen or a man who is emphasizing the gender performance of womanhood. While these self-deprecating remarks can be seen as initially humorous, women who feel they cannot succeed in implementing the viral makeup trend needed may thus view themselves as failures of ideal beauty standards. Furthermore, any masculine traits highlighted are connected to an ugly or undesirable appearance that strips away femininity and, subsequently, beauty. Understanding the heteronormative function of Bold Glamour within McRobbie's post-feminist masquerade, the filter highlights how they are failing at their gendered identity. When maintaining the mask of femininity is necessary, diminishing masculinized features becomes an essential component of cisgendered and heteronormative women's identity. Unlike the common practice of hair removal through waxing or shaving, however, Bold Glamour

74. Ashley McKay, Shannon Moore, and Wendee Kubik, "Western Beauty Pressures and Their Impact on Young University Women," *International Journal of Gender and Women's Studies* 6, no. 2 (2018): 1–11, https://doi.org/10.15640/ijgws.v6n2p1.

suggests intrinsic characteristics of noses, jaws, and cheekbones that indicate masculinity over femininity.

However, some cisgender women on TikTok acknowledge the impossible nature of achieving the post-feminist masquerade and Instagram Face's cyborgian perfection through Bold Glamour. While experimentations with filters can briefly achieve euphoria toward potential beauty, the reality of the imperfect AR mask can also lead to a persistent state of Dibley's digital dysmorphia. Yet despite the perceived gender crisis, these cisgender users nonetheless take to public digital spaces to reveal their gendered imperfections as seen on Bold Glamour rather than solely posting those filters that successfully provide a masquerade of femininity, a seamless beauty that positions their gender conformity. In one example from cisgender female user brookemonk, she uses the display of Bold Glamour to reveal how she believes she looks in the mirror, in an ideal form (figure 3.5).[75] The contrasting disappointment of her appearance when using her phone camera is conveyed through the Striking Face filter, which removes eyebrows, adds a light beard, enlarges lips, and creates an asymmetrical face. The mirror/Bold Glamour allows her to see herself in an ideal way through peak feminine beauty while the camera/Striking Face is a harsh reality of her actual unfiltered appearance. Neither are realities, as the post suggests she balances between the two extremes in the state of digital dysmorphia: her potential to attain the ideal and the stark reality when that potential cannot be achieved. The Striking Face filters present a heightened contrast that aligns with Coy-Dibley's digital dysmorphia after realizing one's potential through filtered technology. Indeed, users who see their best potential selves through Bold Glamour often comment on the unrealistic ability to maintain these beauty standards rather than admonishing their perceived imperfections. The self-conscious and parodic function of displaying these gendered binaries serves as a site of resistance through gender play. Instead of simply perpetuating idealized

75. @Brookemonk, "Does This Happen to Anyone Else," TikTok, June 26, 2023, https://www.tiktok.com/t/ZPR3Ue3rs/.

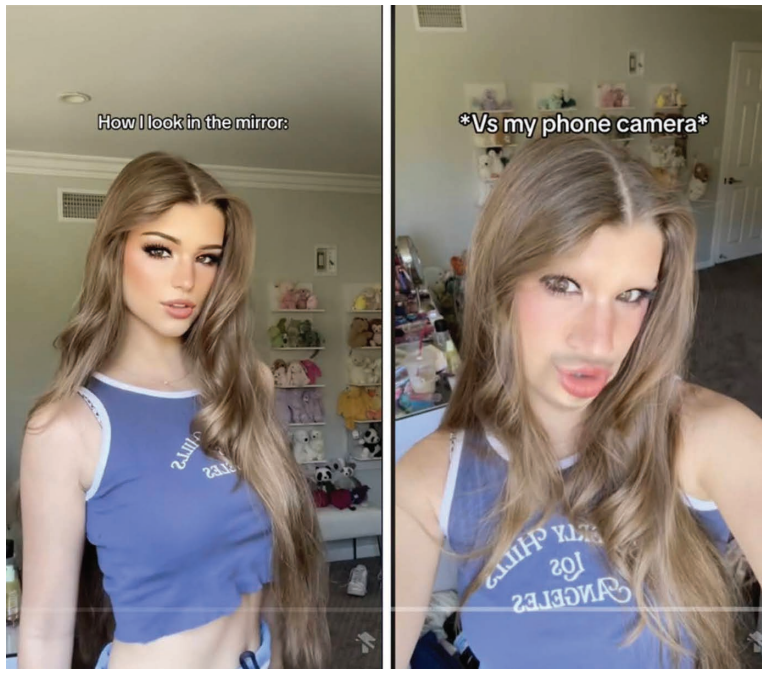


Figure 3.5: White cisgender woman TikTok user @brookmonk likens the starkness between the beautifying and feminizing filter of Bold Glamour with the masculinized "ugly" coded Striking Face.
*Source:* Screenshots from @brookmonk's TikTok account.

gendered norms through the use of beautifying filters, this cisgender TikTok user destabilizes the heterosexual matrix by contrasting Bold Glamour's ideal hyperfemininity with Striking Face's masculinized ugliness.

Reflecting Rhodes' approach to AR technologies as not attempting to reflect an objective "real," these users identify the mediation evident in Bold Glamour's attempt to seemingly perfect their faces into categorizations of femme and masculine. Despite the nature of the GANS technology in Bold Glamour and its precise reconfiguring of pixels, users are aware these hyperreal constructs do not necessarily reflect their own reality of gendered identity. The filters can indicate how binary thinking would improve or enhance their features, but our examples largely refute it rather than attempt

to conform to the logic of the filters' standardization of beauty and gender identity.

Within the queer TikTok community, Bold Glamour also left users questioning their masculine or feminine characteristics as well as the nature of gendered binaries. For the queer comedian Ely Kreimendahl, applying the Bold Glamour filter, which also made her feel like she resembled a drag queen, led her to a self-proclaimed "gender crisis" that questioned whether she was "a masc," or a masculine-presenting lesbian (figure 3.6).[76] Within lesbian communities, the binary of femme or masculine (butch) presenting reveals homonormative standards rooted in binary essentialism. Writing on the common butch/femme binary in 1980s lesbian cultures, Judith Roof posits, "Butch/Femme create a complex re-reading and performance of gender and sexuality in Western culture that reveals the heterosexual stake in gender, the lesbian's stake in heterosexuality and the artificial nature of it all."[77] Femme lesbians thus feel confined to the limits of traditional femininity that straight women also adhere to, unifying them in the cisgender stakes of binary essentialism. In her study of queer identity performance in a YouTube web series, Faithe Day states that "femme-presenting lesbians tend to be more visibly aligned with heteronormative constructions of gender performance" whereas more masculine women, commonly considered the "butch" counterpart, "tend to exhibit a performance that is visibly queer and influenced by racial and gender norms within their own communities."[78] Kreimendahl's post thus questions belonging through the butch or femme binary and how the physical conformity of femme lesbianhood allows for social acceptance and approval in heteronormative spaces.

76. @elykriemendahl "Bold Glamour Gender Crisis," TikTok, March 25, 2023, https://www.tiktok.com/@elykreimendahl/video/7214605917030059306.
77. Judith Roof, *A Lure of Knowledge: Lesbian Sexuality and Theory* (New York: Columbia University Press, 1993) 244.
78. Faithe Day, "Between Butch/Femme: On the Performance of Race, Gender, and Sexuality in a YouTube Web Series," *Journal of Lesbian Studies* 22, no. 3 (2018): 267, https://doi:10.1080/10894160.2018.1383800.


Figure 3.6: Queer comedian Ely Kreimendahl, who is femme presenting, jokes that the Bold Glamour filter leads her to question if she is in fact masculine presenting.
*Source:* Screenshot from @elykreimendahl's TikTok account.

Positioning this binary standard in our current neoliberal twenty-first-century era, Lisa Duggan terms the phrase "the new homonormativity" as "a politics that does not contest dominant heteronormative assumptions and institutions, but upholds and sustains them, while promising the possibility of demobilized gay constituency and a privatized, depoliticized gay culture anchored in domesticity and consumption."[79] If

79. Lisa Duggan, *The New Homonormativity: The Sexual Politics of Neoliberalism* (Durham, NC: Duke University Press, 2022), 50.

lesbian women can function, socially and physically, within these binaries that uphold the heterosexual matrix, they are accepted in neoliberal societies more than their genderfluid counterparts. Social media platforms, and filters that adhere to identity through these binaries, serve as these institutions that further uphold heteronormativity and the new homonormativity. S. L. Crawley and Ashley Green stress that "in the virtual moment, scholars should ask how online settings contextualize identity production in the absence of physical space," which is particularly significant as digital communities can be formed for marginalized individuals.[80] Crawley and Green further address that identity-making in queer social media spaces has shifted from butch and femme lesbian binaries to more fluid nonbinary and queer identity-making. Therefore, as mainstream AR beauty filters perpetuate heteronormative, white European, traditionally feminine conventional beauty, they also reinforce the privileging of femme-presenting queer women in contrast to gender fluid or nonbinary individuals. Savvy and discerning users function to dismantle these norms through remixing Bold Glamour's initial intent and widespread application and adhere to the shift Crawley and Green identify in gender-diverse queer spaces online.

Whereas homonormativity stresses the masculine/feminine binary, transnormativity privileges those that appear cisgender, predominantly through medical procedures. As a result, transnormativity devalues those who do not pass or those with nonbinary identities.[81] By passing as transnormative through filters, social media users can achieve gender euphoria. For user ki.sces, for example, Bold Glamour allows for transmasculine individuals

80. Crawley and Green, "From Butch and Femme to Non-Binary and Queer: Intergenerational Shifts from In-Person Places to Digital Spaces," in *Queering Desire*, ed. Róisín Ryan-Flood, Amy Tooth Murphy (New York and London: Routledge, 2024), 133.

81. A. H. Johnson, "Transnormativity: A New Concept and Its Validation through Documentary Film about Transgender Men," *Sociological Inquiry* 86, no. 4 (2016): 465–91, https://doi.org/10.1111/soin.12127.

to appear cisgender.[82] In contrast, trans users may also experience gender crisis amid gender dysmorphia. In a video from user _alexis_blake, who self-identifies as a trans woman, the TikToker shows how small changes to their appearance allow Bold Glamour to identify them as a man or woman (figure 3.7).[83] Initially, they use Bold Glamour while wearing makeup with their long hair down, which leads to the feminine filter function. While Bold Glamour acknowledges Alexis as a woman here, they are still ambivalent about the application, stating it does not feel "me," even if it is "beautiful." Alexis acknowledges this ideal form may not be their desired true self. Later in the video, simply placing their hair up leads the filter to add features such as a small mustache and chiseled and strong jawline. Alexis laughs that the filter is "triggering" and that they will never use it again. Here Alexis is less concerned with the beauty aspect of the filter but more so as a form of detecting transnormativity.

As a viral trend that promised to compliment any face, nonbinary users were particularly dubious of Bold Glamour. Unlike cisgender female users who embrace their femininity and equate it to their self-worth, users like theythempipeline are largely unfulfilled and underwhelmed by Bold Glamour's hyperreal enhancement of ideal feminine or masculine beauty. When Bold Glamour accentuated feminine features for user theythempipeline, for example, they used the video to state they never knew "how to actually be a girl" and that approaching "girlness" felt much like a mask.[84] As they ambivalently look at themselves through Bold Glamour, it is clear the filter functions as another reminder of the mask of girliness. The user's caption states,

82. @ki.sces, "i can't lie, i am experiencing much euphoria right now," TikTok, March 1, 2023, https://www.tiktok.com/@ki.sces/video/7205549609794505990?_r=1&_t=8mbaQJ6qAo6.
83. @alexis_blake, "This filter thinks im a man," TikTok, April 20, 2023, https://www.tiktok.com/@_alexis_blake/video/7224047940959014170?_r=1&_t=8mbaZw5HDNW.
84. @theythempipeline, "You should have seen my last, best attempt at performing womanhood. Hilarious," TikTok, February 25, 2023, https://www.tiktok.com/@theythempipeline/video/7204097245275295018?_r=1&_t=8mbb3htdqgN.

Figure 3.7: TikTok user _alexis_blake, who self-identifies as a trans woman, notes that when the Bold Glamour filter processes their appearance as masculine with their hair up (left), the result is triggering. While placing their hair down can confirm transnormativity (right), they still remark the filter is not for them.
*Source:* Screenshots from _alexis_blake's TikTok account.

"You should have seen my last, best attempt at performing womanhood. Hilarious." Although a user like theythempipeline may have been assigned a female at birth, they clearly refute any concept that this gender identity was inherently natural or desired. As scholars of transgender experiences assert, "passing" as cisgender may be a goal for some trans persons, but it is not always a priority to every trans individual. Instead of using the filter's cosmetic gaze as an understanding of their incompleteness, which will

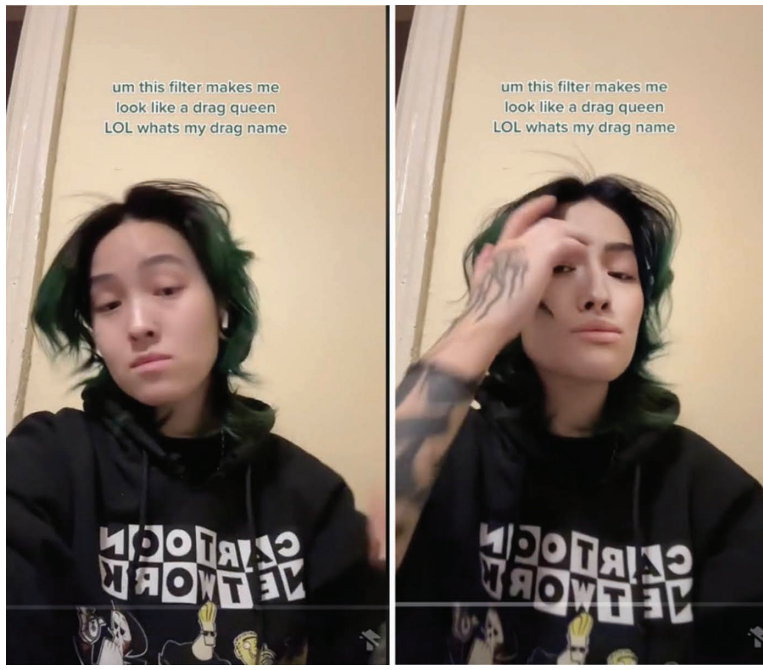


Figure 3.8: Masculine trans TikTok user kyuubra without (left) and with (right) the Bold Glamour filter.
*Source:* Screenshots from @kyuubra's TikTok account.

determine what is further needed to reach their ideal or true form, these users specifically highlight their features that do not conform to gendered forms and that they will also not seek out to change them. For self-identifying masculine trans user kyuubra, Bold Glamour served as a makeup filter that made them feel like a drag queen (figure 3.8).[85] Instead of suggesting a gender crisis, kyuubra instead embraces that Bold Glamour produces this "drag queen" effect, which is usually identified through a gay cis man engaging in hyperfeminine performativity. This is another form of play and

85. @Kyuubra, "So trans makeup looks like drag on me," TikTok, February 25, 2023, https://www.tiktok.com/t/ZPR3UdpvV/.

experimentation, as identity is embraced as nonfixed and fluid. The filter is not used to seek gender confirmation through transnormativity.

Nonbinary users question gender conformity but also reveal the slippages of the filter's GANS technology. Users like jaexo.music use Bold Glamour to show how minor changes lead to "drastically different" perceptions (figure 9).[86] jaexo.music, who identifies as trans and nonbinary, is keen to show the experimentation process here. First, they reveal that when their face is unshaven and their hair is up, a masculinizing effect is provided, emphasizing their brow line and angular jawline, leading them to look like a "very sexy man." Once they have shaved, with their long hair down, the feminine filter is applied. They appear to marvel at their hyperfemininity achieved through these quick changes. This is a lighthearted video that is ultimately a means of gender play for jaexo.music, indicating that they find the shift "interesting" as they ask their followers for their opinion. Bold Glamour and other filters do not serve to validate or confirm their identity, but they are active in breaking down how they can function. For other nonbinary users, Bold Glamour allows them to achieve gender play in fulfilling ways. For, trans nonbinary user robyn_haldaway, using the filter leads to a display of "all the genders" through experimentation with seamfulness and mediation. While Bold Glamour largely acknowledges users with shorter hair as masculine, by parting their hair drastically to one side, robyn_haldaway achieves a femme look in one instance and, in a flick of a head whip that places their hair back, they are acknowledged as masculine. This user also laughs at their ability to identify the seams of Bold Glamour, laughing at these shifts, much like jaexo.music but with only a slight change in appearance through angles. Robyn Haldaway, unlike our other examples, is also a public figure: a nonbinary actor with appearances in series such as *Sex Education* and *Moonhaven*. In both their TikTok profile and acting roles, Haldaway refused to conform

86. @jaexo.music, "Drastically different," TikTok, March 2, 2023, https://www.tiktok.com/@jaexo.music/video/7205977978658950443?_r=1&_t=8mbadMpeZyc

to a gender binary but rather embraces the shifts they can achieve through seemingly minute differences in their self-representation and presentation.

While the GANS technology of Bold Glamour does not allow for technological "slippage" to the extent of other AR filters, these nonbinary users use their gender play to show their ability to shift in and out of the masculine and feminine filters. Again, the video nature of TikTok, unlike Photoshop or Instagram's photos, can allow for users to engage with this process over the final product. Gender fluid and nonbinary users take to using these social media filters that uphold heteronormativity, the new homonormativity, and transnormativity to critique the very binary that they reject, which serves as part of their acceptance of their multifaceted and nonfixed queer identity. These critiques of the filter themselves, rather than of their own features, reveal the performativity of gender and the imperfections of AR technology's identification of gender and beauty.

The wide range of responses to Bold Glamour, from gender crisis to gender euphoria, highlight how users create counternarratives that place gender as performativity at the forefront of understanding gender identity and AR filters. As Sharp and Shannon assert in their work on nonbinary identity formation in Tumblr, "By piecing together various forms of symbolism, communication and information, queers construct identities and embodiments that are representative of their most desired self," which lead to nonbinary individuals' "desire to disrupt homogenous gender performance, thus problematizing how identity is constructed."[87] Ultimately, while these digital spaces—including filters that uphold gender essentialism—are not intrinsically made for gender nonconforming persons, they can still use these modalities to their own liking to reflect their own identity formation. As a result, they provide a lens to view the diverse lived experiences of grappling with, or defying, heteronormativity, homonormativity, and transnormativity. The critiques from nonbinary individuals of Bold Glamour particularly stress that gender performance should not highlight trans or gender-fluid

87. Sharp and Shannon, "Becoming Non-binary," 139.


Figure 3.9: Trans and nonbinary TikTok user jaexo.music reveals how the Bold Glamour filter identifies masculine (left) and feminine (right) characteristics predominantly through details in hair, engaging in a playful exploration of gender fluidity.
*Source:* Screenshot from @jaexo.music TikTok account.

identity as exceptional relative to cissexist and normative notions of what is natural womanliness.

## Concluding Remarks

This article highlights how contemporary practices of gendered play are part of a strategy to perform traditional and more reflexive forms of femininity

and nonbinary identity in the ever-growing digital public sphere. We theorize digital gender exploration in relation to facial filters and within the current hyperreal era of image-based social media platforms that are increasingly infiltrated by AR- and AI-based technologies. Our case studies reveal that filters can highlight the performative elements of gender as masquerade, as society (and social media users) make certain attempts to move beyond idealized forms of beauty and essentialist models of masculine and feminine. Our examples indicate a trend for performing increasingly knowing and diverse forms of femininity as a defense. We indicate that many of the common digital discourses surrounding beauty filters derive from cisgender women's critiques of filters that perpetuate unrealistic beauty expectations that require constant self-maintenance and do not acknowledge the more nuanced ways through which people can knowingly and playfully use filters as part of experimentation with identity. The value of women having agency when experimenting with filters also extends to creating AR filters, as demonstrated through our case studies of Björk's experimental AR mask artistry and Ariana Grande's referential, self-conscious use of both filters and prosthetics. For these public figures, the defensive nature of the filter-as-mask is of considerable benefit in light of pressure on media figures to maintain active social media profiles and share personal portraits and video content with fans. In keeping with Geoffrey Alan Rhodes view that AR's juxtaposition of the virtual with the real can be mined for both expressive and conceptual expression, we have shown how popular artists such as Björk and Grande have deployed AR filters as a transmedia extension of their media works and to make statements on the nature of their selfhood.

A vital component of the article has been to provide an intersectional analysis of how dominant forms of the gendered digital masquerade are intrinsically connected to gender fluidity and queer identities rather than presenting a monolithic definition of woman/womanliness. We have addressed how queer users on social media are particularly perceptive in critiquing gendered binaries through beauty filters and machine learning's own rooted binaries. These online critiques are crucial in understanding the

discursive value of social media users' self-conscious analyses toward ideal beauty standards and hierarchies of power. As we aim to have shown, revisiting and updating notions of gender play and gender trouble in relation to facial filters, and with reference to broader trends for digital editing and manipulation, are thus valuable intellectual endeavors for feminist media studies in today's digital hyperreal landscape. Popular beauty filters may prioritize a cissexist and heteronormative cosmetic gaze, but many users find themselves questioning the performance of gender and essentialist notions of masculine and feminine identities through the mediation and regulation of playing with the Bold Glamour filter. Popular discourse surrounding Bold Glamour's universally flattering effect also reinforces white and ethnocentric standards of beauty practices. We hope that further intersectional feminist research, particularly into AR filters and race and disability, will follow and allow for a more nuanced understandings of the impact and potential of AR as related to mediated identity.

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