The Gender of the Interface: Coding Masculinity, Crafting Femininity among Berlin's Creative Class

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Abstract

For many cosmopolitan urban Germans and Europeans in Berlin in the late 2000s, social media platforms were a site where gender and class were enacted through articulations of emergent nerd masculinity or hip, ironic femininity. But these platforms, such as Facebook or Pinterest, encoded normative assumptions about masculinity and femininity in their visual and interaction design, excluding women and acceptable femininity as subjects of technological expertise. Sites that presented themselves as neutral spaces for connection and interaction, like Twitter or Facebook, instantiated gendered understandings of technology that rendered public space implicitly masculine, white, and middle class. Visually based sites like Pinterest and Etsy, in contrast, were marked as domains of feminine domesticity, representing not only a shift to visual communication but to visual modes of interaction that structured gender online. Although many young people resisted hegemonic notions of gender, their social media practices stabilized their class status as aspiring urban cosmopolitans. In this article, I consider how gender and class stabilized temporarily through material-semiotic engagements with technology interfaces.

Keywords

gender, social media, cosmopolitanism, technology, Europe

Introduction

Anja plugged in her iPod as we drove to meet her client in Leipzig, Germany, while checking the route on her GPS unit. She had let me tag along as part of my research on social media among an emerging urban middle class in late 2000s Berlin. While stopping for gas, she paused the music to take a call on her smartphone, explaining after that “it was my best friend calling.” After chatting, she hung up and turned the music back on. Anja was highly tech savvy, navigating between her smartphone, music player, and GPS and between social media, email, and text messages. Yet, when I first mentioned my research on social and mobile media—then nascent communication platforms among Anja and her friends—she seemed reticent to participate. I observed this pattern repeatedly—few women in contrast to men in my fieldwork identified themselves as appropriate subjects of research on emerging media. One woman, for example, shyly volunteered, but then said, in effect, “Oh, but I’m not sure I’d be a good person to talk to.” Among men in the same social circles (what many called “friend circles,” *Freundeskreise*), however, media technologies comprised part of a broader ecology of technology practices, such as electronic music production, through which many articulated and enacted masculinity, especially an emerging “nerd” masculinity. Although few discussed gender explicitly, tech competences operated as a key site through which urban, middle-class forms of masculinity and femininity were produced and negotiated.

Gendered practices, however, took place on media platforms whose interface design already encoded assumptions about gender. My prior work investigates the production of multiscale social spaces on and through social and mobile media (Kraemer 2014, 2018, forthcoming), which entail implicit (and sometimes explicit) assumptions about gender. Many social media apps and platforms replicated binary, heteronormative understandings of gender, through branding, marketing, and interface design. Social network sites such as Facebook, Twitter, and Reddit, for example, involve cool, dark color schemes—typically black text on white backgrounds with blue accents—and bold or angular fonts and logos. Most interactions (clicking, scrolling, posting) take place through text, although users can upload and share visual media. In the early 2010s, a number of visual apps and sites launched, such as Pinterest, a virtual pinboard, and Instagram, a mobile photo-sharing app. These platforms featured warm, bright color schemes with central feeds comprised of image blocks; text was secondary to key interactions like clicking, scrolling, or posting. These visual sites also focused on style and domestic consumption—fashion, makeup, home decor, and other conventional domains of feminine activity. Social media were becoming more visual rather than text-based, as many scholars noted (e.g., Marwick 2015; Miller and Sinanan 2017; see also Nakamura 2007), but I argue this shift represents not only a new mode of communication, but a new mode of *interaction*, structured by binary gender. Engaging with platforms and people through visual rather than textual elements

mapped, in many cases, to feminine consumption practices, while text-based social media remained the implicit domains of masculine tech competence.

Of course, these platforms operated in a broader media ecosystem of apps and sites that do not always align with binary gender—YouTube, for example, encompasses content from video blogs to music videos to makeup tutorials (e.g., Lange 2019). Other sites like Tumblr became popular among queer, trans, and nonbinary communities, with the support of designers and safety features in Tumblr’s case (Cavalcante 2018; Byron et al. 2019). But on and through the platforms I analyze, young people in my research enacted and negotiated gendered selfhood in ways that intersected with gendered design features. Many men in these friend circles, for example, discussed electronic music, music production, and technology on their social media accounts and customized their profiles with imagery of cartoon robots and other nerdy signifiers. Women in the same friend circles pursued forms of creativity linked to visual media and crafting—photography, multimedia art, fashion, and crafts like jewelry making, sewing, or knitting. Although some circles formed around electronic music, it was typically women in these groups who participated in events such as indie craft fairs, art exhibitions, or a monthly “Knitting Club” (StrickenClub).

In this article, I contrast everyday gendered practices, onscreen and off, with the interaction design of social media apps and platforms among this emerging European middle class. Social media offered connected, cosmopolitan sites to articulate and enact gendered selfhood, which I approach as contingent, felt experiences of identity and embodiment. Gender identity was neither static, essential, nor binary, but stabilized temporarily through material and semiotic engagements with technology, coalescing from rather than preceding social relations (Landström 2007; see also Butler [1990] 2006). Since its inception as a domain in the eighteenth and nineteenth centuries, technology has excluded and produced women as a category, as feminist theorists have repeatedly demonstrated (Oldenziel 1999; Wajcman 2004, 2009; Hicks 2017). But technology is not a stable category, either, and takes shape in relation to shifting enactments of gender. This article builds on feminist and queer theorizing on the mutual production of gender and technology, to approach these domains as inseparably embodied *and* representational. Drawing on extended ethnographic fieldwork in Berlin between 2007 and 2015, I turn to ways masculinity and femininity were encoded on and through social media and technical competence, from an emerging nerd masculinity to ironic articulations of urban, middle-class femininity. This field research included long-term participant observation (co-present and online) during ten months from 2009 to 2010, a follow-up visit in 2015, semi-structured interviewing with nineteen participants and countless informal conversations, and visual content analysis of social media interfaces.

Despite disavowals of technical prowess, many women organized craft events and fairs through Facebook, managed websites for their art, shared digital photography, and participated avidly in online communities. They often viewed typically feminine practices skeptically, recognizing them as stereotypical, and pursued professional lives and egalitarian romantic partnerships. Gendered practices unfolded on technology platforms that, in Cynthia Cockburn's words, constituted "men as capable and women as inadequate" (1981, 51). Sites that appeared to be neutral spaces for connection, like Twitter or Facebook, precluded women (or normative femininity) as technically competent agents, rendering public space implicitly white and masculine. In contrast, sites like Pinterest and the popular online marketplace Etsy were marked as domains of feminine domesticity. As feminist scholarship has repeatedly shown, technology design reflects and instantiates understandings of gender, race, and class, excluding acceptable femininity—in this case, of white, predominantly straight women—as appropriate subjects of technological expertise. Through alternative articulations of nerd masculinity or ironic femininity, many young people in Berlin resisted hegemonic constructions of gender while consolidating their class status as hip, urban professionals. These ways of negotiating gender and class raise more broadly the question of what gender *is* online and how gender is enacted not only through signifying practices but through material interactions with digital interfaces.

Gender of/as Technology

Feminist scholars of technology have long chronicled the mutual production of gender and technology as categories (e.g., Cockburn 1981; Oldenziel 1999; Wajcman 2004, 2009; Bray 2007; Hicks 2017). In particular, feminist technoscience has grappled with how "woman" as a category, like "nature," represents a resource for the workings of capital (Haraway 1991; see also Butler [1990] 2006). As Donna Haraway contends, male-dominated capitalism is grounded in "the appropriation of nature as resource for the productions of culture" (1991, 150). In Cockburn's account of the industrialization of printmaking, the "gendered character of technology" excluded women by privileging male competence and bodily effectivity, acquired through social practice: "Thus the appropriation of bodily effectivity on the one hand and the design of machinery and processes on the other have often converged in such a way as to constitute men as capable and women as inadequate" (1981, 51). Similarly, in Ruth Oldenziel's history of technology as a masculine domain, the new profession of engineering in the late nineteenth and early twentieth centuries became a redoubt of white, educated men, in which technological competence conferred both gender and class status: "The public association between technology and manliness grew when male middle-class attention increasingly focussed its gaze on the muscular bodies of working-class men and valorized middle-class athletes, but disempowered the bodies of Native Americans, African Americans, and women" (1999, 10). The gendered meaning of technology shifted in the mid-twentieth century with the

advent of digital computing, as typing transitioned from deskilled clerical labor to new source of economic value—and esteemed masculinity, as historian Mar Hicks details: “In the 1940s, computer operation and programming was viewed as women’s work—but by the 1960s, as computing gained prominence and influence, men displaced the thousands of women who had been pioneers in a feminized field of endeavor, and the field acquired a distinctly masculine image” (2017, 1; see also Light 1999; Agre 2002, 179).

Men’s association with technology was naturalized as inherent interest when computing transitioned to a prominent and male-dominated field. By the 1980s, the first personal computers were marketed to men and boys: one Apple II ad by Chiat/Day from 1985, for example, showed a young boy in a classroom dreaming of becoming an astronaut. Leaning over and smirking, he hits a key on a girl classmate’s keyboard when she looks away, undermining her work.¹ In Brian Pfaffenberger’s analysis, personal computers became symbols of male power and competence, making available “the prowess and prestige” of high-tech artifacts to men who were not necessarily technologically proficient: “The home computer, in this sense, may very well have served to decentralize, but what it did in the end was to make available to many more men the opportunity to achieve technically-affirmed prestige in a world conceptualized as exclusively male” (1988, 44). Similarly, the digitally networked virtual communities of the 1980s and 1990s, such as the WeLL, were designed to be democratizing and non-hierarchical by a new postwar generation of countercultural programmers (Agre 2002; Turner 2005). But these platforms reflected the values and assumptions of predominantly white, middle-class men (Turner 2005), often associated with a decidedly unhip figure of white masculinity, the nerd (Bucholtz 1999, 2001).

Computing domains such as open-source software and social media architecture continue to operate as realms of masculine domination. Dawn Nafus, for example, recounts how women were disproportionately underrepresented among open-source software developers (Free/Libre Open Source Software or F/LOSS) in comparison to proprietary software developers (1.5% versus 28%; Nafus 2012). In Nafus’s account, claims to “openness,” which were grounded in notions of democracy, freedom, and neutrality, masked gender bias and excluded women programmers: “women’s exclusion is part of the broader problem of socio-technical construction, where both the material aspects of computing and the social identities that people create for themselves through engaging with programming are cultures made by and for men” (2012, 671). Programming cultures, she contends, sustain “certain forms of masculinity which make women concerned about being ‘unfeminine’ in their connection to technology or ‘too feminine’ by attracting unwanted male attention” (2012, 671).

Similarly, the participatory framework of social media embraces rhetorics of horizontal, peer-to-peer connection, equality, and democratic participation

(Rheingold 2003; Birdsall 2007; see also Wesch 2007). Yet social network sites like Facebook encode binary gender through their database architecture, as Rena Bivens (2015; see also Bivens and Haimson 2016) details. Since 2008, Facebook required new users to select from two gender options (“male” or “female”). When trans, nonbinary, and gender-nonconforming advocates pushed Facebook to expand available gender identity options, the company restructured the visible “surface” of the site by adding fifty-six identities to user profiles in 2014 (Bivens 2015, 881). Those who chose one of the fifty-six options, however, were collapsed in the site’s database to a singular category of “Other.” In Bivens’s view, the company compromised fluid, diverse gender possibilities to satisfy marketers requesting a normative, binary gender system, for advertising purposes: “This technique maintains public-facing progressive politics while bolstering hegemonic regimes of gender control” (2015, 886). Facebook’s decisions recall earlier internet communities and virtual worlds, such as Lambda MOO, where the available identity options structured experiences of race and gender (Nakamura 1995).

In contrast, women’s work with technology often takes the form of affective or emotional labor, such as among women content producers (Duffy 2014, 2015, 2017; Jarrett 2016; Kanai 2019). Brooke Erin Duffy describes women social media entrepreneurs for whom blogging is a “labor of love” that allows them to get “paid to do what you love,” in creative industries such as fashion, media, entertainment, and design (2017, 6). Women bloggers and entrepreneurs embrace logics of flexibility, autonomy, and self-realization in their aspirations to achieve success and “insta-fame” (see Marwick 2013, 2015). Duffy terms such efforts aspirational labor, in which “self-expression is articulated through a patterned set of highly individualized, value generating productive activities” (2017, 7). Women bloggers negotiated tensions between authenticity and self-promotion, creativity versus commercial success. Here, leisure activities rather than wage labor generate value for social media companies. Aspirational labor constitutes a feminine means of productivity, in which women visually present their bodies as site of consumption, for example, by modeling purchases and goods. These modes of gendered self-branding are frequently built into social media platforms, from profile photos to Twitter bios to managing “likes” and micro-celebrity. Akane Kanai (2019) similarly details how femininity is produced through intimate digital publics (after Berlant 2008), through *relatability*, in which shared attachments produce gendered belonging through the participatory visual culture of women’s blogs. But relatability disciplines feminine subjectivities, as women must manage the contradictions of neoliberal life through the affective labor of self-improvement (Kanai 2019).

Consumers and shoppers are often popularly imagined as women, reproducing dualisms of producer/consumer, active/passive, masculine/feminine. In Kylie Jarrett’s 2016 analysis, the unpaid labor of social media parallels the domestic work of social reproduction. Jarrett proposes the figure of the “Digital Housewife”

to highlight the position of social media users as feminized workers whose cognitive and affective work creates economic value through user-created content and user data. Neoliberal “choice” feminism also informs algorithm design, as Jonathan Cohn (2019) contends, evidenced by the work of MIT computer scientist Pattie Maes. In the 1990s, Maes automated tasks like scheduling and email filtering to reduce the labor professional women, especially mothers, must manage, creating algorithmic tools that influenced the design of the internet *and* contemporary understandings of gender. Although designers and engineers often presume users are tech-proficient middle-class men like themselves, Cohn shows how algorithms are equally linked to new techniques of gendered self-making and management through consumer choice. “Users” increasingly stand in for feminized consumers (see Rommes, Van Oost, and Oudshoorn 1999; Oudshoorn and Pinch 2003; Oudshoorn, Rommes, and Stienstra 2004), particularly as subjects of “user-friendly design,” which historically embraced graphical interfaces over textual ones.

In these accounts, gender and technology are mutually configured through material-semiotic practices that rework boundaries between bodies and information, masculine and feminine, actual and virtual. As trans technology theorists Sandy Stone and Susan Stryker have long argued, digital or virtual spaces are not sites of disembodied meaning and free-floating semiosis, but rather, refigure boundaries of male and female, matter and information, self and Other (Stone 1991; Stryker 2000). In Stone’s words, “The boundaries between the subject, if not the body, and the ‘rest of the world’ are undergoing a radical refiguration, brought about in part through the mediation of technology” (1991, 101). In this view, communication technologies enable new forms of virtuality not by erasing embodiment but through the interactional possibilities of networked spaces.² Katherine Hayles (1999) similarly argues that, although digital technologies purport to overcome bodily differences of gender and race, effacing the body legitimates a view of the self as pure information, divorced from the material world (but cf. Nelson 2002; Nakamura 2007). This separation renders online spaces “free” from marked difference and therefore neutral platforms for social life (as I argue in Kraemer 2021; see also Gillespie 2010; Cramer 2016).

Attending to materially situated, gendered practices online shows how bodily erasures comprise new forms of gendered and racial inequality. As Lisa Nakamura argues, race and gender are constituted of material practices, including “the everyday material activity of information seeking and communicating,” that is, interaction with digital interfaces (2007, 13). She advocates rethinking the subjects of interactivity not as users (coded feminine) but as designers who direct interactional possibilities. She asks instead who are the *objects* of interactivity, emphasizing that the boundaries between objects and subjects are not fixed: “Women and people of color are both subjects and objects of interactivity; they participate in digital racial formation via acts of technological appropriation, yet

are subjected to it as well” (2007, 16). Lauren Cramer (2016) further analyzes non-representational processes of racial formation through interface design, in which Blackness operates through spatial ordering of a hip-hop video website rather than figural representation of Black bodies. Despite allegedly neutral website design, adapted from principles of Modernist architecture, Blackness materializes and becomes shareable through a coherent visual style that renders “blackness in the disembodied space of the Internet” (Cramer 2016, 16).

Feminist technology and design scholarship pushes us to consider how technologies can enable non-hegemonic experiences of gendered selfhood, at the interstices of class, race, sexuality, disability, and other aspects of embodied being (Bardzell and Bardzell 2016; Noble 2016; Forlano 2017; Rosner 2018; Costanza-Chock 2020). As urban Europeans in Berlin negotiated gendered interfaces, they reworked what gender was, a subjectivity that formed through material interactions with gendered interfaces. In this sense, gender coalesced in similar ways offscreen, through bodily style, language, and other embodied, semiotic practices, as they navigated tensions between conventional expressions of gender and ironic or ambivalent stances that connoted class status as urban cosmopolitans. From electronic music production to crafting, gender was assembled through embodied and signifying practices, as urban young people contended with the implicit norms that structured both digital and co-present spaces.

Coding Masculinity

In contrast to Anja’s reticence, her friend Tobias was effusive about his favorite smartphone apps. One evening, at a weekly kitchen gathering typical among their friends, Tobias left his phone out on the kitchen counter. When I glanced at it, he picked up his phone and eagerly demonstrated a transit planner app and a jogging and fitness app, enthusing about the former: “This one covers all of Germany!” Although Tobias described himself as a “late adopter,” he was one of the first of his friends to own an Apple iPhone (3G, 16GB, he informed me). He and Anja described similar digital practices, such as checking email and social media throughout the day, messaging with co-workers, and discovering new music. Although Tobias had joined Facebook recently, he related in detail music blogs and online record shops he frequented and mentioned starting his own music review blog. Unlike Anja, he volunteered enthusiastically for an interview; we scheduled it that same evening.

By the mid-2000s, the initial period of my fieldwork, the meaning of computing was again shifting, as the burgeoning “knowledge” or information economy was taking off in Berlin (Bauer and Hosek 2019; see Castells 1996). Among my interlocutors in Berlin, those from western Germany and Europe were more likely to have used computers and the internet growing up than those from former East Germany (most had been young teens when the Berlin Wall fell). As social media

became widespread in the mid- to late 2000s—and networked technologies more economically significant—the figure of the nerd transitioned from the awkward, anti-social caricature of the 1980s and '90s to a hoodie-wearing college drop-out coding his way to fame and wealth.³ Some imagined a new wave of hyper-masculine “tech bros” or “brogrammers” arriving in Silicon Valley start-ups and elsewhere (Raja 2012). One infamous advertisement from Klout, for example, a now-defunct “page rank” service that tracked social media reputations, courted job seekers who wanted to “bro down and crush code.” Nerd or geek masculinity in these contexts was losing its stigmatized connotations and being reimaged as competent and acceptable (e.g., Bishop 2020).

In one friend circle in Berlin, which had formed around translocal electronic music scenes (Kraemer 2014), it was mainly men who produced and promoted music. One DJ and promoter, Max, was successful in smaller electronic music scenes such as dubstep and IDM (“intelligent dance music;” cf. Nye 2013; Garcia 2013). Max frequently discussed music and music production on Twitter, over one-to-one chat, and in co-present spaces.⁴ On Facebook and Twitter, he and friends like Daniel shared links and music videos, reviewed albums, and posted about music events. They also enacted tastes and interests through their profiles, such as avatars, short bios, and other personal information. Daniel, a web designer, described his interests to me as “Music, music, music; producing music, listening to music, playing bass, reading, the internet stuff, reading Twitter, blogging.” Max similarly reported, “Music; most of my interests are music based; listening to music, finding, exploring sonic spaces, soundscapes, everything. Because, since I listen more to experimental music, it's more about music as listening, as a process... the music and my circle of friends is basically the same thing.” Tobias, in a friend circle based on shared origins in former East Germany, reiterated these sentiments: “Music listening, excessively; I've got one HiFi in my living room that looks like a garage with boxes, a HiFi with a turntable; and another HiFi connected to my MacBook from the hard disk with iTunes in the bedroom.” Music tastes were key to these local and translocal social worlds, and, as demonstrated by these carefully detailed sound setups, to articulating technical competence.

Figure 1. Daniel's Twitter profile, with cartoon robot avatar and teal blue background.

Similarly, on Twitter, Daniel tweeted about sound engineering, synthesizers, and other technical aspects of producing music. In one case, for example, Daniel shared a tweet to an article on synthesizer history, a link to a new album on a friend's label, and an article about disassembling a machine drum (a popular electronic instrument). He then replied to another user asking about the number of songs on a new album. The next day, he and Max bantered about a music engineering app, Cecilia, while discussing a microphone a friend had given Max. Max teased Daniel for being a nerd and asked if he'd tried the software package: "Nerd. Schon mal Cecilia probiert?" ("Nerd. Tried Cecilia yet?"), linking to the software's website. Max and Daniel often referred to themselves fondly as nerds or geeks, as Max explained: "I would consider myself a computer nerd, but not a nerd in a way that I know programming languages, but I know how to use computers. Like, like I'm actually a more an internet nerd," and later, described himself as a "social media nerd." He echoed this language of nerds or geeks in describing electronic music as well, on the way to an event for music he considered "a cross between geeky minimal techno and dubstep."

One night, at a music event he had promoted, Max joined a friend near the stage, swaying and caught up in the sound, while screens around the stage displayed monochromatic animations of slowly turning lattices. Half the crowd or so appeared similarly enraptured. Later in the evening, a small group of six young men entered wearing sneakers and relaxed jeans, a contrast to the black- and grey-clad crowd. Their movements and demeanor set them apart, taking up physical and social space. One man gestured avidly and headed to the bar to order drinks. Max often dismissed people who stood out like this as "party tourists" who were not invested in the music (see Garcia 2016 on Berlin's "techno-tourists"). In his view, they lacked subcultural and technical competence while enacting conventionally aggressive masculinity.

Youth culture theorists such as the pathbreaking scholars of the Birmingham School often focused on these visible practices of young men's "street" style (e.g., Hall and Jefferson 1993; Hebdige 1979; Willis 1981). But as Angela McRobbie (1991) argues, street style was a male prerogative, even when styles such as long hair or fitted clothes are at most ambiguously masculine. Young women and girls instead engaged in counterhegemonic consumption of media and fashion, centered around the domestic sphere, such as the teen bedroom. Although young men were seen as resisting class subjugation by appropriating and recontextualizing dominant aesthetic codes, their practices maintained gendered subordination by positioning women as consumers rather than producers of media and style. Music production and competence was framed as a masculine domain, such as rock music, seen as aggressive, resistant, and authentic. Mainstream music such as pop, in contrast, represented a space of passive feminine consumption. Sarah Thornton (1996) develops this theme in her work on 1980s UK club cultures, such as techno "rave" scenes, where fans conceptualized "mainstream" music as feminized and working class. Dance music that became popular lost its countercultural credibility (or capital, in her Bourdieusian analysis) as a result (Thornton 1996, 99–101).⁵

In late 2000s music scenes in Berlin, hip tastes in electronic music fused with, or at least, became imbricated in, technical competences with music production. But these competences reflected a different construction of masculinity than the brashness of punks or other working-class youth subcultures in Dick Hebdige's or Paul Willis's accounts. In construing themselves as nerds and geeks, in contrast to clubbing "tourists," music fans in my research aligned themselves with a masculinity defined by technical expertise and often rejected heteronormative masculinity. Max was interested in feminist thought, for example, which he discussed with his girlfriend, Clara, a graduate student. One evening on the U-bahn train, he asked about my views on fashion, sparking a long discussion on gender roles, the male gaze, marked categories, and women's devaluation in the capitalist West. A few years later, he became an advocate for women in electronic music, a topic that remained contentious. Yet Max, Daniel, and others frequently bantered in gendered ways, such as lewd jokes, especially when few women friends were present. One evening at a group dinner, when no other women were in the room, a friend teased Max for a slip of the tongue that sounded sexual (admittedly, my own position as a queer ciswoman likely limited what I observed). Like bawdy teasing, geeking out about music and technology made conversational and social spaces masculine, if not typically or hegemonically so. Such spaces implicitly excluded women, or at least, articulations of acceptable femininity, just as digital spaces and technologies could exclude women as appropriate subjects. Predominantly white, middle-class masculinity, on social media and in Berlin, operated as a site of tension, where nerd or geek masculinity recapitulated technology's association with male competence and expertise. But

this alternative masculinity also offered a respite from the conventional masculinity of the “wrong” kind of music consumer (often figured as a foreign “Ausländer,” which sometimes meant a white tourist but was often men of color from the Global South). Interface design intersected with and supported enacting nerd masculinity online and became a site where these tensions were lived out.

Crafting Femininity

While music production and social media were sites for enacting masculinity, women in these friend circles incorporated digital technologies into articulations of an ironic, hip femininity linked to visual media and crafts. Annika, a studio artist, Rike, a freelance photographer, and Bettina, a graduate student, attended music events and frequently spent time with Max and their friends Pascal, Alex, and others, and shared similar tastes in music. But they devoted their time and attention to other interests and practices. Annika and Rike, for example, curated visual media exhibits at music performances, organized gallery shows, or attended craft fairs and events. Where technology provided means for producing middle-class masculine selves through technical competences, hip femininity took shape through an often ironic relationship to visual media, aesthetic style, and domestic consumption.

Annika worked out of her studio in Kreuzberg, a central district of former West Berlin known for its anarchist, artistic, and punk scenes, and the heart of Berlin’s Turkish German community (e.g., Mandel 2008). She created multimedia and fiber arts piece and described her interests as “art, and urban interventions. Anything that’s actually made, just because right now there’s so many things where it’s just like, ‘hey, I know how to use Photoshop.’ Like physically [made], involving either painting the canvas or yarn, yeah. Just anything that’s actually non-digital, basically.” She planned and promoted gallery shows and connected with artists and gallery owners on social media like blogs: “Most of the blogs are either, like, gallery blogs or from artists.” She was also interested in “the slightly nerdier side of everything; scrapbooking, which is pretty interesting because it’s mainly suburban.” Her interest in scrapbooking came from her focus on paper as a medium for art, but she found that online scrapbooking communities were comprised of married suburban women in the United States: “Mainly American, late twenties, like girls my age, but they’re married and they have kids and they like decorating and scrapbooking stuff...That’s really the only community online that takes that sort of seriously.” Rike, a close friend from grammar school, was pursuing photography and trying to build a freelance career. She described her interests as “photography; anything with people, architectural, mainly portraiture, editorial, fashion; flowers, nature photography.” She sometimes shared photos online but was still developing confidence in her skills. Bettina was also interested in photography as a hobby and described her other interests as “sewing, knitting, drawing, piano, social games.” As with geek masculinities, Annika, Rike, and

Bettina expressed self-awareness about gender stereotypes, as became evident at a monthly knitting event.

Figure 2. Screenshot of the StrickenClub's Facebook profile page. Source: Author.

A friend had organized a series of gatherings to learn and practice knitting dubbed the “Knitting Club” (StrickenClub). The Knitting Club recontextualized knitting—associated more with grandmothers and craft circles—by taking place in a bar, like a DJ night. I first learned about the event from Pascal, an architecture student and DJ. I met Pascal there at a bar in Kreuzberg one evening, not far from Annika’s studio, where he was working on a black scarf and nursing a bottle of lager. Another woman seemed to be struggling with chunky, uneven wool. At least two journalists were there as well, taking photographs and interviewing attendees, one from a new DIY fashion magazine. I had recently been (re)learning to knit myself, mainly from YouTube videos, and had my own knitting with me. Bettina arrived later in the evening with her boyfriend and brought out a knitting project while he went to order drinks.

Later in the evening, Bettina needed her hands briefly, and asked her boyfriend to continue her knitting. He balked, and when she tried to show him how, half-jokingly, he demurred. As a graduate student and feminist, she was attentive to gender dynamics, including in fashion. She told me she had recently begun dressing more femininely, but did so ambivalently, pairing items she perceived as feminine like skirts with chunky, utilitarian boots or high heels with jeans. She may have pressured her boyfriend to try knitting because of its gendered associations. Other men, like Pascal, were pleased to learn but found the image of men knitting to be a source of (good-natured) humor. The following month, for example, Pascal’s friend Alex joined in with some rainbow yarn. Sitting together

on a loveseat near a front window of the bar provoked friendly laughter at the sight of both men knitting. “Take a photo!” one person requested. The Knitting Club was a site where gender was enacted through bodily stylization, as Judith Butler ([1990] 2006) argues, but also where tensions and ambivalence about shifting gender norms were articulated through gestures of refusal, awkward moments, or humor.

Interest in crafting and handmade goods overlapped in Berlin with long-time practices of vintage and second-hand shopping, particularly at Berlin’s neighborhood flea markets (*Flohmärkte*). Flea markets were a popular Sunday afternoon activity for many, from the renowned Flohmarkt am Mauerpark on the site of former Wall (and Death Strip) to the smaller Boxhagener Flohmarkt, near where Tobias and Anja lived. Vendors sold second-hand and handmade goods such as vintage housewares and East German memorabilia (often emblems of what Daphne Berdahl [1999] called *Ostalgie*, nostalgia for an East German past that never was). Most people I knew, however, furnished their apartments at IKEA and few expressed such sentiments. Many were interested in fashion and crafts, though, often as domestic domains associated with women and femininity.

On a return visit to Berlin in 2015, one of my former roommates invited me to a craft fair called the Mädchen Flohmarkt, literally the “girl’s flea market.” Winter markets were popular in Berlin and not necessarily gendered—outdoor Christmas markets (*Weihnachtsmärkte*) are a staple of the holiday season across Germany. I also attended an indoor food hall that same visit that was popular with young people and families. But the Mädchen Flohmarkt explicitly linked femininity to crafts and second-hand (*Zweite Hand*) shopping, with vendors selling home goods and jewelry as well as vintage clothes and housewares. The market was promoted through a Facebook page that described it as “A paradise for *Mädchen* [girls or young women],” with “bargains, designer pieces, vintage treasures, favorite fashion, and music.” A note to vendors addressed “*Verkäuferinnen*,” the plural feminine for seller or vendor.

Figure 3. Mädchen Flohmarkt banner ad, Berlin 2015. Source: <https://mitvergnuegen.com/2015/sonntag-11-01-maedchenflohmarkt-alte-muenze/>.

It's possible an event marked for women suggests that the typical vendor or patron was envisioned as a man, but vendors at the large weekly flea markets included men and women of varying ages and backgrounds. The Mädchen Flohmarkt, in contrast, was framed as a space for hip, young, middle-class women interested in crafts and items with a chic urban sensibility, such as geometric brass-and-glass planters or minimalist jewelry. Participating as creators or shoppers offered a way to take part in long-time Berlin activities like thrifting as urban, middle-class women.

This middle-class cosmopolitanism was inseparable from articulations of gender, enacted here through crafts, fashion, and visual media. Gender structured social activities among the friend circle from rural eastern Germany as well, such as shopping. My roommate Katrine and her friends Claudia and Anja were part of the friend circle linked by shared origins in a nearby rural region. Their circle met for weekly kitchen gatherings, attended music events and shows, prepared large communal meals during the spring *Spargel* (white asparagus) season (Kraemer 2018), and followed each other on Facebook (Kraemer 2014, forthcoming). But Anja, Katrine, Claudia and other women referred to themselves as either the *Mädchen* or *Mädels*, that is, young women or girls. They organized smaller gatherings and outings such as bar nights, relaxed weekend get-togethers, birthday dinners, and shopping outings.

One spring afternoon, Anja invited me to join her and Claudia to shop for a group present for Katrine's birthday. On the way to KaDeWe, former West Berlin's renowned department store on the Ku'damm (Kurfürstendamm), Anja and Claudia asked if I knew other "*Mädchen*" friends to contribute to the gift. When my first suggestions weren't successful, I mentioned some close men friends instead. "No, the gift is supposed to come from just the *Mädchen*," Claudia gently chastised. In contrast, I rarely if ever heard the equivalent term, "*Junge*" (boys or young men), to describe Jörg, Milo, and other men in their friend circle. A more common term was "*Typ*," comparable to "guy" or "mate," but not to index the young men as a group. At the department store, Anja and Claudia made a beeline for a display of sunglasses. After sifting through many pairs and debating, they agreed to try the following week at a different store. Claudia then suggested we seek out the knitting and yarn section of the store, in a building across the street. A capacious basement space held fabric, yarn, sewing notions, paper goods, flower crafts, candle-making supplies, and home decor. Claudia wanted to learn to knit, and a saleswoman approached us offering to help. As with Annika, Rike, and Bettina, knitting was associated with domestic crafts and practices, reimagined as hip urban femininity. As at the Knitting Club, femininity was enacted through the bodily practice of shopping together or browsing feminine-coded crafts and home decor. Such material practices were a means to articulate and reiterate a sometimes uncertain femininity, one that could operate as a site of

ambivalence but also aspiration for middle-class urban young people. Similarly, digital interfaces, as I discuss next, were material sites where people negotiated received understandings of gender realized through elements of interface design.

The Gender of the Interface

Gendered selfhood took shape through everyday material practices from electronic music production to crafting. Online, gendered subjectivity similarly formed through interactions with platforms and interfaces that were already gendered. By interfaces and interaction design, I mean visual and material surfaces and tools through which people, figured as “users,” engaged with a site or app’s possibilities for interaction, such as menus, buttons, and newsfeeds or streams.⁶ Here I draw on literature on the embodied physicality of digital tools, conceiving their capacities as differently material—not less—than analog ones (Hayles 2004; Rosner et al. 2012; Dourish and Mazmanian 2013; Pink, Ardévol, and Lanzeni 2016). I focus on how design features—flexible and emerging through practice (see Costa 2018)—constituted gender in culturally locatable ways. Many people in my research viewed social media sites like Twitter and Facebook as neutral platforms for social connection, even as they were coded masculine or feminine by their design features (and by topical focus, such as Pinterest and Etsy). In Cramer’s (2016) analysis, for example, the white backgrounds and minimalist design of social media sites recapitulates the aesthetic of Modernist architecture. Adherents of this postwar design philosophy endeavored to order space in an “objective” manner, to solve social problems through transparency and rationality and without ornament (Cramer 2016). But this minimalist style encodes implicitly white, masculine norms of social space and interaction.

According to marketing literature on brand gender, design features can imbue brands with stereotypically gendered personalities (e.g., Lieven 2018; Lieven et al. 2014, 2015; Grohmann 2009), to give brands convincingly human personas: “I was not able to match persons with brands in a meaningful way until I added gender to the personality model, so that brands and female/male phone operators were rated as being very feminine, rather neutral, or very masculine” (Lieven 2018, 8). Theo Lieven argues that brands with recognizably masculine or feminine personas are the most successful in terms of brand equity, grounding these design elements in “physical aspects” of masculinity and femininity derived from evolutionary psychology: “This literature argues that individuals’ discernments of femininity and masculinity based on physical features are entrenched in psychological considerations for the selection of mates” (2018, 88).

In this view, design elements such as fonts, logos, and colors shape perceptions of gender: bold, angular fonts, strong logos, and cool or dark colors like blue connote masculinity; airy, rounded fonts and logos, and warm or bright colors like pink and red connote femininity. These descriptions reflect culturally and historically contingent associations with gender, rather than universal, evolutionarily

grounded truths. But they comported with the interface design of social media platforms in my research, intentionally or otherwise.

Design elements on these sites reiterated the gendered style Lieven and others describe. Ostensibly gender-neutral sites like Twitter and Facebook, for example, feature streamlined logos, bold sans serif fonts, and white space with black text and blue accents. The blue Twitter bird logo, for example, became increasingly simplified and more cartoon-like in successive iterations; today's version is a streamlined blue silhouette from 2012 (Rousseau 2016; "Twitter History," n.d.). Sites devoted to domestic consumption like Pinterest and Etsy, in contrast, displayed rounded, curving fonts and logos with cursive scripts and warm red, pink, or orange accents. The Instagram logo and app icon, for example, first depicted a vintage-looking camera, then became more simplified, and most recently, a highly stylized camera, white lines on a purple, magenta, and yellow gradient.⁷ The written logo remains in a cursive, flowing font.

Figure 4. Instagram icons, 2011 (left), 2020 glyph icon (inverse of the app version; 2016 to present). Sources: 1000 Logos, <https://1000logos.net/instagram-logo/>; Facebook Brand, <https://en.facebookbrand.com/instagram/>.

The Facebook logo has shifted less dramatically—long a white “f” on a blue square (Rousseau 2016). The original Facebook “Friends” icon, however, originally showed a silhouette of a person with a short haircut, presumably a man, positioned in front of a person with longer hair, suggesting a woman. In 2015 Facebook designer Caitlin Winner objected to the logo and redesigned it; she positioned the woman’s silhouette to the left and slightly in front of the man’s, but resized them to be equal. Both are still recognizably gendered (Sanders 2015).

Figure 5. Facebook “Friends” icon, original on left, redesigned by Caitlin Winner on right, 2015. Source: Winner 2015.

Facebook and Twitter’s ostensibly gender-neutral style recalls Nafus’s account of free/libre, open-source software (F/LOSS). Among open-source programmers, the neutrality of code masked implicit masculinity and masculine domination (Nafus 2012). Although programmers associated F/LOSS with liberal Western values of freedom, democracy, individualism, autonomy, and so forth, these norms represent historically masculine prerogatives and the severing of collective social obligations. Design features that appear gender-neutral were in this account not *ungendered* but rather *unmarked*, a presumptively masculine default. Similarly, as Bivens (2015) argues, Facebook’s code, and the structure of its user database, reinscribes binary gender as necessary to legible—and marketable—selfhood. Such gendered architecture reflects, perhaps unsurprisingly, the ways that social media purport to represent and extend selfhood as discrete and indivisible in networked spaces (cf. Strathern 1988).

Design elements coded seemingly neutral social media platforms masculine, while coding sites for domestic consumption explicitly feminine. Alongside visual design, these platforms differed in how users interacted with key features such as feeds, menus, and commenting. Sites like Facebook and Twitter relied primarily on text, while Pinterest and Instagram were organized around blocks of images or videos, emphasizing visuality. Text-based interfaces recall the look and feel of command-line interfaces, a style evident on minimalist sites like Craigslist and Reddit.⁸ Command-line interfaces, in some accounts, require more technical knowledge to navigate because of their steeper learning curve, while graphical interfaces are more accessible and “user friendly” (e.g., MSCOM 2007). As internet scholar Alice Marwick has remarked on the shift to visuality in social media, “the Internet is increasingly a *visual* medium, and more and more individuals are using images rather than written self-descriptions to express themselves” (2015, 138). Daniel Miller and Jolynna Sinanan similarly argue that communication has become more visually based, including on Facebook, as evinced by the highly visual culture of Trinidad (Miller and Sinanan 2017). From this view, Facebook isn’t

simply a site where people share digital images, but represents a new means of communicating visually.

My contention here is that visibility encompasses not just a shift in communication, but a new mode of interacting with interfaces that produces gender through material practice. On Facebook and Twitter, people circulated digital images and memes, but on Pinterest and Instagram, interaction (with the platform and with other people) took place *through* images, such “pinning” thumbnails to a saved “board.” Pinterest’s main feed is not a stream of text-based posts interspersed with images, but a wall of offset images with rounded corners that unifies disparate content (compare to Cramer 2016 on how Blackness cohered online through visual repetition). Most images include captions, but users scroll through, click on, or save the images and cannot comment. Instagram similarly comprises a stream of user-created photos and videos. Although the app allows commenting, I rarely observed the ongoing, interreferential conversations that unfolded among participants on Twitter and Facebook. Text-based social media were sites of sociality, through turn-taking and other conversational conventions, in ways visual social media, at least at the time, were not.

If textuality invoked masculine utilitarianism and technical competence, visibility produced feminine spaces of domestic consumption, evident in ways my interlocutors engaged with these platforms and how they are described in industry. One market analysis from 2012, for example, called Pinterest a “visual search engine” and “social media’s newest sweetheart” (Chrzan 2012). The report observed that “unlike most startups, Pinterest’s early adopters weren’t tech junkies. Instead, it attracted women, who found a home using the site to find and share recipes, decorate their homes, and share the images that moved and inspired them. It started to look really female” (Chrzan 2012).⁹ A *TechCrunch* article from 2012 noted that the site’s userbase wasn’t the “the typical early adopter set from the west and east coasts of the United States,” and that its rise was propelled by “18–34 year old upper income women from the American heartland” (Constine 2012)—like the suburban scrapbookers Annika had followed previously. This framing marks Pinterest as a site for domestic consumption and digital scrapbooking, linking visibility to acceptable middle-class femininity. As Kanai contends, the participatory visual culture of blogs she analyzed incited affective attachments to neoliberal feminine subjectivity, through imagined sameness: “young women in influencer, lifestyle and micro-celebrity work are labouring to produce a seamless account of the self to digital audiences in which the intimate and the commercial are deeply entwined” (2019, 9). For young women in my research, sites like Pinterest and Etsy offered digital counterparts to the Knitting Club, the Mädchen Flohmarkt, or browsing the craft section of KaDeWe. Circulating digital photography, perusing Etsy, or learning to knit together were all sites for enacting hip, ironic femininity as aspirational middle-class subjects and urban Germans.

Conclusion

Among these friend circles in Berlin, many people valued Facebook and Twitter as neutral, unmarked spaces for daily interaction and social connection (Kraemer 2014). Social media, like Berlin, epitomized cosmopolitan connection for an urban middle class taking shape on and through emerging technologies. For some young men, these spaces became sites for demonstrating technological competences linked to middle-class masculinity, as expressed through counterhegemonic “nerd” sensibilities. Like the normative masculinity of technological expertise, electronic music and social media alike provided means to enact gendered and classed selfhood. Social network sites operated as doubly masculine, where men articulated gendered competences on an already masculine-coded interface. Women in these same circles focused on photography and crafting, coordinating groups and events online, such as the Knitting Club or the Mädchen Flohmarkt. Like the teen bedrooms of McRobbie’s analysis, visually based interfaces connoted a femininity that coalesced through crafting, decor, and aesthetic style—in short, visual registers of a creative consuming self. Through these interfaces and co-present practices like shopping or knitting, Rike, Annika, Bettina, and other women fashioned hip subjectivities specific to Berlin, linking ironic or ambivalent femininity to being urban German cosmopolitans. Where platforms such as Pinterest and Etsy were marked as feminine through visual interaction design and domestic consumption, Twitter and Facebook represented themselves as neutral, unmarked spaces for articulating social connection. Such claims to neutrality exclude women and gender-nonconforming people as appropriate subjects, as feminist scholarship repeatedly demonstrates.

Despite the gendered interface design of these platforms, many women in my research incorporated emerging technologies into their lives in expert ways, moving between devices and platforms, creating websites, and organizing events. Although they rarely described themselves as subjects of technological expertise, they wove these technologies into emerging middle-class subjectivities. Even as claims to technology’s neutrality exclude women, and other subjects of normative femininity, from being technologically competent agents, such norms did not prevent women from participating in online spaces. Instead, they enacted gendered selfhood both through co-present practices—fashion, bodily stylization and gesture, outings, hobbies—and through social media, from the semiotic (avatars, color schemes) to ways of interacting with platforms and interfaces. Even though men and women alike questioned gender conventions, enacting nerd masculinity or ironic femininity, often ambivalently, stabilized ways of being urban, middle class, and cosmopolitan. Social media platforms were already constituted as unmarked, masculine, heteronormative spaces—through content but also because their aesthetic design and interactional possibilities mapped to gendered stereotypes and ways of being. Gendered selfhood took shape through on-screen and co-present practices, suggesting that gender can be performed

through material engagements with interface design. As Rena Bivens and Oliver Haimson (2016) note, even platforms that do not require users to specify a gender identity infer gender through online behaviors. If gender is performed through interface design and interaction, then gender rematerializes online, not only as a play of signification but as a way of inhabiting online spaces. The materiality of gendered practices, whether digital or co-present, requires retheorizing gender as a way of being that incorporates aesthetic and interactional elements, like embodied style or gesture. For these mobile, urban Germans, ambivalence structured gender across multiple contexts, through platforms and practices shaped by gender that in turn transformed what gender was.

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Notes

¹ A 1981 ad for the Apple II, however, showed co-founder Steve Wozniak interviewing a "homemaker" who describes her exploits trading stocks, making graphs, and owning a steel mill (Mac History 2013).

² As Alondra Nelson contends in her discussion of Afrofuturism, Stone's vision of identities in flux was preceded by approaches to such multiplicity in African American thought: "despite the easy proliferation of selves in the digital age, the flux of identity that Stone extolled has long been the experience of African diasporic people" (2002, 3).

³ See, for example, Xan Brooks's 2003 *Guardian* article, "We Are All Nerds Now." It's worth noting that this reimagining coincided with the rise, and perhaps mainstreaming, of internet fandom.

⁴ I distinguish between actual and virtual or off-screen and on-screen to emphasize how digital communications are always real and physical, even if their materiality differs from other modes of engagement, and that both are equally mediated.

⁵ White, working-class women were "denigrated for having unhip music tastes...part of a homogeneous herd overwhelmingly interested in the sexual and social rather than musical aspects of clubs" (Thornton 1996, 99).

⁶ Such platforms can be materially inhabited, as Stone explains: "Interaction is the physical concretization of a desire to escape the flatness and merge into the

created system. It is the sense in which the 'spectator' is more than a participant, but becomes both participant in and creator of the simulation" (1991, 107).

⁷ These shifts reflect a trend away from skeuomorphism (reproducing non-digital elements such as analog clock faces), in what media anthropologist Ilana Gershon calls remediation: "the interplay of and comparison between different media ideologies" (2010, 287; see also Bolter and Grusin 1998; Hayles 1999, 17).

⁸ A late 2000s minimalist design trend, "brutalism," for example, further eschewed conventions of commercial web design, derided as homogenous and conformist (Arcement 2016; Wilshire 2017).

⁹ Not long after its debut, in 2012 83 percent of Pinterest users in the United States were women, although by 2016 that number was 60 percent (Smith 2021).

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