How Are Biomedical Technologies Shaping Gendered and Raced Bodies?

When scholars speak about biomedical technologies and gender, they are referring to a wide range of bodily interventions that are a subset of the range of biomedical technologies we discussed earlier. Gendered technologies include hormone manipulation (estrogen and testosterone for both men and women, birth control pills, hormone blockers, synthetic thyroid medications, steroids, etc.), non-surgical body modi-fication (tattoos, hair dye, weight lifting, dieting, piercing, dress, etc.), and surgical body modification (plastic surgery, weight-loss surgery,

sex-reassignment surgery, breast augmentation, etc.). These technologies can be used, as I explore below, in both liberating and regressive ways. In all of the cases that follow, many individuals benefit from biomedical technologies like plastic and bariatric surgery. My intent here is not to argue these technologies are good or bad, but to bring complexity to their analysis.

While both men and women are using gendered technologies to shape their bodies in a variety of ways, these changes are neither evenly distributed among men and women, nor gender neutral in their consequences. By way of illustrating this uneven distribution, consider the example of gender distribution among plastic surgery recipients. According to 2008 data from the American Society of Plastic Surgeons,[40] almost 11 million cosmetic procedures in the United States were performed on women, compared to 1.1 million procedures on men. This amounts to women comprising a staggering 91 percent of all plastic surgery cases. While the rates of invasive cosmetic procedures like liposuction have held relatively stable over the last few years, the rise in minimally invasive procedures such as Botox injection has been astronomical. This increase marks not only a remarkable increase in the overall number of cosmetic procedures, but also a significant statistical increase of women as recipients in proportion to men. In 2000, women comprised 86 percent of all procedures, but between 2000 and 2008 there was a 72 percent increase in procedures for women whereas there was only a 9 percent increase in rates for men.[41]

Examining this demographic data alongside ethnographic accounts of plastic surgery use, it is evident that plastic surgery is being used to construct explicitly gendered bodies and identities. These are products of social scripts, gender paradigms, and available technologies, and are often hyper-normative. For example, the most common surgical cosmetic procedures for women are breast augmentation and liposuction, both of which are invasive methods to produce hyper-normative femininity: thinness, and large breasted-ness. This gendered aspect is not lost on patients; in her interviews with women patients, Debra Gimlin found that plastic surgery was a deeply gendered endeavor deployed by women to "make do" within a sexist and beauty-obsessed

culture.[42] In the personal narratives Gimlin collected, she found that the body work women engaged in was a conscious part of negotiating a gendered identity within the constraints of gender, class, and race norms.

The ability to produce socially valued bodies, bodies that possess the ideal skin color, facial features, and so forth, rests not only in the production of normative gender, but also requires race- and class-based privileges. Indeed, women of color in North America face unattainable expectations because social scripts include very racialized ideal beauty norms. As societies, North America prizes White features, and this list of prized features is limited to characteristics natural only in some White phenotypes. Similarly, body size is intertwined with social class; a well toned body is often a mark of wealth since cheap food is more fattening and promotes poor health, and the time and means to exercise is often a class-based privilege. When women use plastic surgery they are constructing a racialized, gendered, and classed body and they often do so in line with a narrow ideal characterized by features such as blond flowing hair, a thin nose, almond-shaped eyes, large breasts, a small waist, and broad hips. And as Balsamo pointed out, just as gender inequality affects somatechnics, racism affects the technologies that are developed and used.

Women of color are increasingly turning to cosmetic surgery; in 2008 White men and women made up 73 percent of patients, which was a significant decrease from 2000 when 86 percent of patients were White. In fact, while cosmetic procedures decreased 2 percent for White people in 2008, they increased 11 percent for men and women of color. Looking at trends over the last eight years, in the United States between 2000 and 2008 there was a 161 percent increase in cosmetic procedures among African-Americans, 227 percent among Hispanics, and 281 percent for Asian Americans compared to an increase of 63 percent among White individuals. Moreover, the most common cosmetic surgery procedures for people of color are nose reshaping, eyelid surgery, and breast augmentation, which are all procedures that alter racialized facial and body features to better match White norms.[43]

The racial disparities in the statistics among cosmetic procedures

suggest a trend by women of color toward using these technologies to mediate radicalized gender beauty norms. In this process, these women reaffirm the hegemony of White body and beauty paradigms. Eugenia Kaw's 1991 study of plastic surgery and race in San Francisco is a strong example of these processes. Kaw interviewed Asian American women, asking questions about why they used plastic surgery and what it meant to them. In these interviews women described plastic surgery as a way to better meet societal beauty scripts. In her interviews it was also clear that, like Gimlin found in her study of mostly White women, these Asian American women were conscious about what they were doing and how it mattered. For example, 'Jane' commented,

> Especially if you go into business, whatever, you kind of have to have a Western facial type and you have to have like their features and stature—you know, be tall and stuff. In a way you can see it is an investment in your future.[44]

While the women Kaw spoke with were all vocal about their pride at being Asian, they also understood, as 'Jane' summarized, that White features were viewed more positively in society. The plastic surgeons that Kaw interviewed expressed very similar views, while also revealing how racialized gender scripts not only shape individuals, but whether and how technologies may be used. For instance, Kaw notes that doctors couched their racialized cosmetic procedures as efforts to help women achieve a look that is 'naturally' more beautiful, implying that White features are objectively more attractive. For example, one doctor stated that, "90 percent of people look better with double eyelids. It makes the eye look more spiritually alive."[45] Through these and other compelling examples Kaw builds a substantial analysis of how plastic surgery is being used to produce particular raced and gendered bodies concurrently.

Based on these interviews, Kaw suggests that social and ideological changes have coincided with the increased acceptance of plastic surgery in recent years to encourage surgical body work among Asian women and that this body work, in turn, constrains available scripts for

femininity by erasing racialized differences among women's bodies. What Kaw concluded was that plastic surgery is, "a means by which the women can attempt to permanently acquire not only a feminine look considered more attractive by society, but also a certain set of racial features considered more prestigious."[46] In other words, experiences of body work were gendered and racialized in such a way that while plastic surgery was simultaneously liberating on the individual level, it was detrimental on the societal level as social scripts for normatively gendered bodies became even more ethnocentric.

Hegemonic Race and Gender Norms Are Reproduced Through Body Work

Across the board women's bodies are more subject to body work than men's are. This does not come as a surprise given the scholarship of researchers like Nelly Oudshoorn, who uses birth control trends to document how women's bodies are medicalized at higher rates (recall Chapter 1).[47] This fact does, however, raise serious questions about whether and how we as a society are producing increasingly normative gendered bodies in the process, and more specifically increasingly rigid racialized femininities. Many cultural critics have argued that new media technologies are creating unrealistic ideals for bodies and that these unattainable body scripts affect women disproportionately.[48]

Although photographic images are still commonly viewed as factual evidence, recent technological advancements in print and film now allow imperceptible alterations to these images. Because of the ability to alter media images to create features like smaller pores, bigger eyes, thinner legs, larger breasts, and more defined muscles, published and broadcast representations of idealized beauty are themselves fictions. Recent resistance to this manipulation on the part of some actresses has made public how even thin and normatively beautiful actresses are subject to body-editing. For example, Keira Knightley, whose breasts were digitally enhanced in publicity for the 2004 movie *King Arthur*, refused similar manipulation for the 2008 movie *The Duchess*, and the ensuing tension between the actress and the movie studio was played out in the media. Kate Winslet publicly critiqued the manipulated

images of her legs in *GQ* magazine in 2003, an edit she was not consulted about.[49] These and similar examples point to how no bodies—not even famous ones prized for their sex-appeal—meet the ideal without somatechnic manipulation.[50]

Although beauty scripts place a greater burden on women to meet bodily expectations, men are also subject to gendered scripts that suggest the need to technologically enhance their masculinity. Recent revelations about the seemingly omnipresent use of steroids by male athletes are signs of scripts that declare that men's bodies are inadequate in their un-enhanced state. The use of steroids in U.S. Major League Baseball has become so expected that revelations of use do little to damage the careers of players like Alex "A-Rod" Rodriguez and Barry Bonds. The investigatory "Mitchell Report," submitted to the Commissioner of Major League Baseball, quotes National League Most Valuable Player Ken Caminiti as stating in 1992 that in his estimate, "at least half" of Major League players were using anabolic steroids.[51] This widespread use of steroids and the subsequent bodily changes in baseball players have shifted body scripts for athletes so much that un-enhanced bodies stand little chance of competing.

Similarly, the increasing attention paid to men's bodies and the rising rates of eating disorders among boys suggest that boys and men are increasingly subject to gendered body pressures. Television shows like "Queer Eye for the Straight Guy" and men's magazines such as *GQ* all capitalize on the rise of the 'metrosexual,' a masculinity rooted in high levels of body work. This body work encompasses not only pursuits of traditional male attributes by means such as working out and sculpting efforts, but also includes practices formerly confined to the pursuit of feminine ideals, such as shaving, waxing, dyeing, plucking, and renewed attention to clothing.[52]

These revelations taken together suggest the impossibility of constructing a body that meets the social ideal—because the ideal itself does not exist in reality. Computer manipulation of bodies in the media of print and film creates unreachable scripts for gendered bodies for both men and women, and these scripts have real consequences in the lives of individuals. Dominant beauty paradigms and body scripts,

hand-in-hand with biomedical somatechnologies, are reshaping the human body. The combination of new media and body technologies is changing social body scripts and these together are impacting the gendered bodies and identities of individuals.

Recent scholarship by Jennifer Wesely offers a rich example of how individuals are intentionally using biomedical technologies to construct hegemonically gendered and raced bodies. Wesely interviewed 20 women in the southwest of the United States to examine how women working in a strip club used body technologies to construct profitable bodies, and to negotiate multiple identities: for example to demarcate their true self as separate from their stripper self. What she found was that the women engaged in a wide variety of often dangerous and painful technologies like drug use, plastic surgery, waxing, and diuretics in order to produce the idealized femininity they felt was expected of them. Moreover, this gendered body work became a central focus of their lives. Wesely found that, "As dancers, these women relied on their bodies in ways that necessitated their constant critique, attention, and maintenance, leading to more body technologies."[53] The pervasive use of these body technologies erased differences in bodies through implants, hair dye, tanning, and dieting, and reinforced hegemonic beauty scripts such that the ideal to which the women held themselves accountable was one which is now biomedically constructed. Samantha Kwan and Mary Nell Trautner summarize this process as it functions in society at large and conclude that, "Women's effortless authentic beauty is thus far from it. Beauty work is in large part this process of transforming the natural body to fit the cultural ideal, altogether while concealing the process and making it seem natural."[54] In the case of Wesely's study, the intentionally constructed nature of gendered bodies was rendered invisible and assumed to be natural because body work was ubiquitous at the strip club, and produced bodies that aligned with idealized femininities.

One particularly insightful part of Wesely's research is her investigation of how these bodily changes function in conversation with the multiple layers of identity that the dancers (and everyone else) construct and employ through body technologies. Wesely found that

the dancers' bodies and identities were in dynamic relationship to one another. What is key here is the complexity by which this happens. First of all, these women are not dupes; they are intentionally crafting their bodies because it makes dancing more profitable. By the same token, however, these choices, which make sense within the world of strip clubs, set these women apart from mainstream society. The choices the strippers make about body work are shaped and constrained by their context. Further, their choices have meaning and import beyond the personal level; the more the women shape their bodies to match an unrealistic feminine ideal, the more masked the constructed nature of femininity becomes, and the more normative, or, rather, hyper-normative the feminine body and identity scripts supported at the clubs become. The technologically enhanced bodies that the women who work at the strip club construct, shaped in line with the particular norms within that narrow context, are more feminine, more sexual, and more gendered than our broader society's normative scripts demand.

Through her ethnographic research, Wesely is able to document how the women experienced identity changes as the product of these technological interventions. The more technologies the women used to produce ideal bodies, the more wedded they became to their 'stripper' identities. Even though the women often wanted to separate their 'true identity' from their 'dancer identity,' body technologies such as breast enhancement, genital piercing, and hair dyeing would not allow them to leave the dancer-life behind. As one dancer commented, "In real life, when we're dressing in clothes . . . if you've got huge tits you look awful during the day. They look good only in a G-string in a strip club."[55] In other words, some body technologies used by the women met beauty scripts only in the strip club, but the women had to 'wear' them all the time, which limited their ability to cast off a 'stripper identity' at the end of the day. Simultaneously, Wesely found that the women engaged in other technological interventions in an effort to cordon off their 'true' identities from their 'stripper' identities (for example through different clothing, by shaving, and through drug use).

Along with altering their bodies, then, the women tried to walk the

line between producing a marketable body and maintaining a body that was a meaningful reflection of their internal sense of self.[56] The women made choices about their bodies, but did so within a context that limited their options and as a result often were unable to embody their 'inner selves.' As Wesely concludes:

> Although body technologies have the potential to destabilize or challenge constructions of gendered bodies and related identity, this is even more difficult in a context that capitalizes on very limited constructions of the fantasy feminine body. Indeed, the women in the study felt tremendous pressure to conform to body constructions that revolve around extreme thinness, large breasts, and other features that conform to a "Barbie doll" image.[57]

The consequences of these choices, as Wesely suggests, are significant. A number of scholars have documented how women who embody hegemonic femininity earn more money for stripping, and the women Wesely talked with acknowledged that normative gender scripts alongside financial, peer, and managerial pressure, directly informed the changes they made in their bodies.[58]

On the personal level, this body work affects the identities of the women. They engage in body work that is encouraged within the context of their occupation, and which is aimed at producing femininities in line with the dominant gender paradigms of the strip club. In due course, this body work, in tandem with each individual's personal biography, shapes their identity. On an institutional level, the outcome of the biomedical construction of hyper-normative femininities by the women was an erasure of difference. By producing a very narrow set of femininities in line with hegemonic paradigms and gendered body scripts, the women naturalized a feminine body that was virtually unattainable without the use of body technologies, and in this process they erased the very real differences that had existed between each of their bodies. Predictably, the somatechnical changes the women manifested were not only gendered, but also raced; the women of color at the clubs Wesely studied spoke about how they had to look *more* sexy, and produce a *more* ideal femininity than White women to be seen as acceptable by both management and customers. These findings are in line with what Eugenia Kaw found in her study of Asian American women. A consequence of this body work, then, was the reproduction of racist beauty norms, and the re-entrenchment of phenotypically White bodies as the only ideal body type.

How Does a Sociological Perspective Illuminate the Meaning of Body Work?

The ways that individuals intervene into their own bodies—the technologies that are developed and used in a society—are shaped by dominant paradigms and social scripts within a social context and filtered through personal history. For example, whether and how people manipulate their bodies using biomedical technology is different in distinct communities of a single nation, not to mention in different countries. These differences are based on different social scripts, paradigms of gender and embodiment, identities, and available technologies within a particular micro (strip club) or macro (North American societies) context.

While plastic surgery may be the dominant way to construct larger breasts within middle and upper class communities in North America, individuals without the same social and economic capital are more likely to use prosthetics, growth stimulants, or even the very dangerous injection of liquid silicone into breast tissue.[59] Similarly, men in different race, class, and sexual communities engage a diverse array of somatechnics to manage hair loss. Some, particularly middle or upper class men, use hair transplants (now the fifth most common cosmetic surgery procedure for men), while other men use less expensive over-the-counter hair-growth stimulants, such as the U.S. brand 'Rogaine,' wigs, toupees, or hairstyling techniques. Not only do rates of baldness vary by race, but also the forms of treatment utilized vary across race, class, and community.

Biomedical technologies are in dynamic relationship to gender paradigms, scripts, bodies, and identities. What the case studies examined in this chapter suggest is that individuals deploy contemporary biotechnologies in order to shape both their physical self and their

internal identity but that these endeavors are always and already informed and constrained by context, as well as guided by reigning gender and race paradigms and scripts. Analysis must mediate between viewing new technologies as tools for personal agency (such as when plastic surgery makes women feel more feminine), and the larger social implications of biomedical intervention (such as shifting norms for men's body size in light of steroid use).

It is no surprise that all of us engage in body work of various types daily, and that we do so for personal and societal benefit. The case studies in this chapter share the same dynamics as the more mundane body work that most individuals engage in every day. We do it because it matters. Large amounts of research have been done on body work, affirming that meeting or approximating hegemonic gender scripts leads to positive outcomes in individual lives, including increased work prestige, increased social status, higher income, and higher self-esteem.[60] More specifically, overweight people tend to earn less and garner less occupational prestige than thin people, and this dynamic is gendered in that the consequences are more severe for fat women than for fat men, who experience discrimination to a lesser degree.[61]

In another example, laser hair-removal treatments offer women a semi-permanent method of body work that, on a personal level, increases their ability to meet feminine beauty standards. However, on a societal level, this use of laser hair removal reshapes women's bodies in ways that reinforce and make 'natural' contemporary gendered beauty scripts that define women's bodies as unmarred by body hair—which in turn will place a stronger demand on women to conform to this ideal. Similarly, new biomedical techniques like injecting steroids or testosterone to boost muscle mass or hair transplants to reverse balding increase men's embodied masculinity as ways to help men meet hegemonic masculine norms. These interventions play a central role in reifying hyper-masculine bodies and naturalizing unattainable scripts, which may prove even more significant at a historical moment when men are increasingly subject to beauty and body norms.

It is important to remember, however, that while each technology may have the possibility of reifying gender scripts, it can also open up

potential for new gendered bodies. Females can lift weights, play sports, and cut their hair; males can don makeup, wear high heels, and dance ballet. Multiple mundane technologies can be, and are, deployed to create new masculinities and femininities. Technologies can and do have multiple, contradictory personal and social implications. For instance, hair removal and surgical technologies are used by members of the transgender community in order to manipulate public perception of their bodies so that this perception matches their gender identities. Plastic surgery is neither good nor bad; it is a technology engaged by individuals in complex ways within particular social contexts.

What the cases in this chapter suggest is that while we could make gendered, embodied selves in a multitude of ways, hegemonic body paradigms and gendered social scripts lay out a constrained set of gendered bodies that are intelligible, in other words, that 'make sense' to others and ourselves. This 'making sense' is a social and interactional process that is shaped by dominant paradigms and social scripts within particular contexts and shaped by personal history and socializing agents. And, when culturally inscribed somatechnologies change who we can be, social scripts adapt to new ways of being that reflect these new identities and bodies. As Victoria Pitts summarizes, "new practices for the body respond to, are shaped by, and are limited by the larger social and historical pressures that regulate bodies."[62]

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