

THE SUBSTANCE OF BORDERS

Transgender Politics, Mobility, and US State Regulation of Testosterone

Toby Beauchamp

In 1989 and 1990 the US Congress held a series of hearings on the circulation and use of synthetic testosterone and pharmacologically similar drugs, collectively known as anabolic steroids.¹ The hearings focused largely on steroids' threat to the health of American athletes and to the purity of athletic competition; media coverage at the time concentrated almost entirely on anabolic steroids' relationship to sports. Near the end of the final hearing, however, a statement submitted by Ronald Chesemore of the Food and Drug Administration (FDA) suggests a broader concern for the US state. Cataloguing the risks of illicit circulation and consumption of synthetic testosterone, Chesemore's statement stresses both the health of individual bodies (warning that steroid use causes "reproductive anomalies" and "in women, irreversible masculinization") and the security of the nation as a whole, emphasizing the danger of cross-border trafficking of steroids made by "clandestine manufacturers" in "clandestine laboratories."² Here concerns over the next Olympic Games take a backseat to a different threat: the unseen circulation of substances that both penetrate national borders and muddy bodily boundaries.

Through the critical lens of transgender studies, this article examines the broader cultural framework of the US state's classification of synthetic testosterone as a controlled substance. Although Chesemore's concerns about physical abnormalities and secretive cross-border trafficking are framed as two separate points, this article contends that they are intertwined. I argue that state discourse on regulating synthetic testosterone turns on testosterone's position as a substance discursively and materially linked to anxieties of mobility. This mobility occurs at several levels: sex hormones' own status as transitory, fluctuating chemicals in

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the body; their ability to alter the body and thus overtly demonstrate the fluidity of sex and gender categories; the shifting medicolegal and cultural investments in linking hormones with normative sexual, racial, and national characteristics; and the flow of hormones across national borders during research, manufacturing, marketing, and sale. In particular, fears of illicit circulation and undetected use of testosterone parallel and work in tandem with cultural anxieties that position the figure of the gender-nonconforming person as dangerously, deceptively fluid. I suggest that the regulation of synthetic testosterone, and the fears and rhetoric used to maintain that regulation, draw heavily on this figure while never directly naming it.

Transgender studies has amply demonstrated how transgender-identified people are discursively and materially linked to synthetic hormones. The very production of the transgender subject depends largely on Western medicine's investment in curing or correcting gender deviance through medical transition. In *Standards of Care for Gender Identity Disorder* (1979), the sexologist Harry Benjamin formally defined the category transsexual in a list of behaviors and life narratives. Physicians and psychologists were expected to measure their clients against this list prior to diagnosing them with gender identity disorder (GID) and allowing them to access synthetic hormones and/or surgeries. The *Standards*, regularly revised and still widely in use today, help position the transgender subject as inextricable from medical intervention—a discursive link that frequently moves beyond medical contexts to influence law, policy, and social relations.³ These various medicolegal and social practices do not simply dictate how transgender individuals should be treated but work to produce the very category of transgender as one that displays particular behaviors, emotions, and self-identifications.⁴

State-recognized medical transition and its accompanying policies rely on the assumption that transgender-identified people will take up hormones and surgeries as tools to eradicate any markers of gender nonconformity and presume an ultimate goal of transitioning linearly from one gender to another. Given this, we can think of medical transition as one method by which the state attempts to regulate movement of bodies and identities. Indeed, transgender and gender-nonconforming bodies occupy a complicated and fraught position in relation to mobility and fluidity. As Tim Cresswell notes, conceptions of “mobility as progress, as freedom, as opportunity, and as modernity, sit side by side with mobility as shiftlessness, as deviance, and as resistance,” an apparent paradox that aptly describes the discursive position of transgender bodies.⁵ Often viewed as endlessly mobile, these bodies mark at once the marvels of Western medicine's advances and the monstrous effects of meddling with nature, a limitless freedom

to choose or reinvent and a threat to order and stability. Yet, as with the physician's assessment process, not every transgender body will be perceived as deviant and troubling. Indeed, the dangerously mobile body may well be not that which abides by medicolegal regulations but that which exceeds or eludes them. Cresswell later argues that "it is not that the state opposes mobility, but that it wishes to control flows—to make them run through conduits. It wants to create fixed and well-directed paths for movement to flow through."⁶ If we think of the medicolegal policies governing transition as one of these well-directed paths, then the threatening mobility of gender-nonconformity might be best understood as one that crosses various boundaries undetected, or which appears as an intangible and unrestrained contagion or disease.⁷ The shifting discourses of race, citizenship, and immigration help define what proper gender is and how the state should manage it. In this context, anxieties over normative gender, particularly as it is linked to racialized notions of national health, are key to creating specific channels to circulate testosterone legally.

Rather than limit transgender studies analysis to the use of synthetic hormones by transgender-identified persons, I apply a transgender studies critique to state practices and discourses where the category of transgender is nominally absent.⁸ Analysis of the hearings preceding Congress's 1990 addition of anabolic steroids to schedule 3 of the Controlled Substances Act (CSA) illuminates the biopolitical and geopolitical contexts through which gendered subjects are produced and maintained.⁹ Two broad questions emerge. First, what can a discussion ostensibly about inanimate objects—chemical substances—tell us about the gendered, racial, and national stakes of hormone regulation? Second, how is this state regulation linked to anxieties of mobility that take shape in the figure of the gender-nonconforming person? With these questions in mind, the article focuses on three main issues. The first section historicizes the production and study of synthetic sex hormones to demonstrate how such substances came to mark fluidity in various gendered and racialized contexts and how they are linked to gender-nonconformity. In the next section, I argue that the hearings' focus on sports eclipses broader anxieties about troublingly mobile bodies, such that federal regulation of testosterone builds on criminalization processes and state efforts to contain deviant bodies in order to shore up a racialized national health. Finally, I analyze state discourse on testosterone regulation in the context of shifting immigration practices to contend that gender-nonconformity is linked to cultural anxieties about the permeability of various borders. Throughout the article, I argue that concerns about the mobility of substances, bodies, and borders underlie US state endeavors to federally control synthetic testosterone.

Fixing the Fluid Body, with the Body's Fluids

Testosterone occupies a complex position in US popular culture, medicine, and law. While it assists with corrective medical efforts, such as bringing male-assigned bodies with low testosterone production up to “normal” levels, it also creates bodies often perceived as monstrous or dangerous, such as ultra-aggressive athletes, “masculinized” female-assigned bodies, and transgender-identified bodies. At the same time, the use of testosterone as well as estrogen and anti-androgen drugs by transgender-identified people typically represents a normalizing process overseen and approved by medical professionals. The medical prescription of hormonal regimens to ensure adherence to regulatory gender norms encompasses but is not limited to the transgender-identified. These regimens include the use of hormones to assist with or prevent reproduction, to suppress sexual desires and behaviors in criminalized bodies, and to correct nonheteronormative sexual practices. The seemingly contradictory practices by which the very same chemical substance is understood to produce both normative and monstrous bodies reveals, as Kane Race argues, “the artifice—and political decision—involved even in the production of ‘normal’ bodies.”¹⁰

A privileged substance by virtue of its links to masculinity (though only within ranges deemed proper in any given historical moment), testosterone is typically understood to have stronger, more visible, and more lasting effects on the body than do other hormones. The US state regulates synthetic testosterone and its derivatives decidedly more rigidly than it does other hormones. This regulatory regime cannot be understood apart from testosterone’s metaphorical position as a substance of excess: “too much testosterone” is the half-serious descriptor that can be applied to a diverse range of cases, including sports competitions, criminal behavior, military activity, and trends in academic scholarship. Testosterone is regularly characterized as drenching, fueling, and saturating US culture, even as it falls under strict state control as a material substance and legal object.

From the time of their discovery in the early 1900s, sex hormones have been linked to notions of mobility and flow, a connection that influenced broader conceptions of sex, gender, and race. In her account of scientists’ early studies of sex hormones, Nelly Oudshoorn notes that these chemicals were part of a long line of bodily components thought to contain the essence of sex. While different schools of thought focused on different organs (ranging from the skeleton to the gonads) as the location of sex, all agreed that it was firmly contained in a specific body part. The discovery of sex hormones in the early twentieth century suggested instead that sex actually moved *through* the body.¹¹

Hormones in general, as chemicals released by glands, travel through the bloodstream to influence other parts of the body. Sex hormones consist of androgens (“male” hormones), estrogens (“female” hormones), and progestins (hormones related to menstruation and pregnancy). The first two, with which endocrinologists were most concerned in the 1920s and 1930s, originate in the gonads and adrenal glands and have wide-ranging effects on the body in the development of secondary sex characteristics. With new knowledge of sex hormones, scientific approaches shifted sex “from an anatomical entity to a chemical agency.”¹² The focus on hormones entailed confronting the transitory characteristics of hormonal secretions, not only because they move throughout the body but also because their potency and volume shift throughout the human lifespan. This new framework for studying sexed bodies required a much broader conceptual move from fixed to fluid, in order to account for hormones’ fundamental mobility. Importantly, such a conceptual move in turn influenced scientific and cultural understandings of the very notions of sex, gender, sexuality, and race.

By the 1930s, studies of hormones had concluded that sex was not so neatly divided into male or female, because both “male” and “female” sex hormones were found in all gendered bodies. This research demanded a serious rethinking, then, of the very categories of male and female, which had previously been assumed mutually exclusive. In related developments, new anthropological research contended that norms of gender and sexuality varied widely by cultural context and produced a range of conceptions and categories of sexed bodies. The entire framework for understanding sexed bodies thus shifted from the notion of binary opposition to a continuum model that employed physiological studies to map bodies along a spectrum based on “degrees of maleness and femaleness.”¹³ This new model suggested that the categories of sex—and by extension the categories of gender and sexuality—were far more fluid than Western science or law had yet accounted for. Yet the model also firmly upheld normalized ideals of sexed bodies. As Jennifer Terry notes, “Studying anomalous cases became one of the key ways of ascertaining general knowledge about normal sex differences, and it formed a foundation upon which ideas about normal sexual attractions between ‘opposite’ sexes were based.”¹⁴

Following this logic, a number of endocrinological studies attempted to use hormone levels to both identify and correct deviant bodies. Explanations of non-normative sexual desires and practices in particular relied on hormones: many researchers proposed that the balance of estrogens and androgens had some bearing on one’s sexuality, and they increasingly turned to synthetic hormones to treat gender-nonconformity and homosexuality. Even in its earliest moments, synthetic

hormone manufacturing appeared not merely as a scientific breakthrough but as a breakthrough specifically linked to ideals of gender and sexual health. For example, a brief *Time Magazine* article in 1935 on the first production of synthetic testosterone, then made from the cholesterol found in sheep's wool, concluded by stating that "German and Swiss chemical laboratories are already prepared . . . to manufacture from sheep's wool all the testosterone the world needs to cure homosexuals, revitalize old men."¹⁵ This statement concisely (if amusingly) suggests that synthetic sex hormones were of interest to the US public primarily as a way to restore and extend heteronormative practices. One major proponent of the use of hormones to classify social deviance in the 1930s was the US-based medical professor and physician Clifford Wright, whose work Alfred Kinsey later forcefully castigated. Wright believed so strongly in the credibility of hormone ratios as a determinant of sexuality that he argued for hormone tests to measure guilt for those accused of homosexual acts. Yet this supposed hard evidence of deviant sexuality was read through hierarchies of race, class, and citizenship: Wright "began to distinguish the white, middle-class, law-abiding homosexual from the so-called criminal type, who was poor, uneducated, and usually an immigrant."¹⁶

This kind of classification schema exemplifies how endocrinological studies of gender and sexuality were inextricably linked to racialization processes. Researchers' descriptions of deviant bodies as having underdeveloped or primitive endocrine systems invoked racialized distinctions between the civilized West and the savage other. Endocrinology's efforts to identify abnormal bodies in the early twentieth century occurred alongside other scientific efforts to physiologically mark out the primitive and the deviant. For example, several scholars have detailed how taxonomies of genital configurations and pelvic measurements drew on scientific racism to explain sexual and gender deviance.¹⁷ Additionally, early endocrinological studies of sex hormones occurred in the context of an ongoing US eugenics movement that sought to eradicate the unfit and the foreign, as justified by medical and scientific evidence. Synthetic hormones thus constituted another tool for the study and correction of bodies understood as abnormal through intertwining discourses of race, gender, and sexuality in the broader context of national health.¹⁸ Yet this work was as much about cultural production as it was identification: as Oudshoorn argues, sex hormones were not "entities that only had to be 'discovered' in nature (i.e., biological material), but . . . objects constructed in the laboratory as materializations of particular ideas about what sex hormones should look like."¹⁹

This brief history of early endocrinological studies of sex hormones forms a crucial backdrop for understanding the move, some fifty years later, to classify and

regulate particular hormones as controlled substances. It demonstrates the production of new forms of criminalization and medicalization of deviance, using sex hormones as material evidence. The discovery of these fluid, transitory substances pushed scientists to reconceptualize not only the way the human body works but the very categories of sex, gender, sexuality, and race. In response to this epistemological shift, researchers quickly framed synthetic hormones as corrective tools for bodies that had moved too far from the norm or that exhibited too much fluctuation and ambiguity. Thus, their fundamental quality of fluidity framed synthetic sex hormones as both dangerous and beneficial. It positioned hormones as powerful substances that threatened to dismantle the cultural assumptions on which Western science relied. Yet those same hormones became instrumental in the state's quest to maintain a healthy citizenry characterized by sexual differences and racialized gender categories that could still be fixed firmly in place.

Healthy Circulation

In her analysis of US drug regulation policies, Kimani Paul-Emile suggests that "specific social events can create opportunities for those who engage in drug designation contests to succeed in characterizing a drug in a way that penetrates public thinking."²⁰ For anabolic steroids, this social event happened during the 1988 Summer Olympics, when the Canadian sprinter Ben Johnson was found guilty of illegal steroid use and subsequently stripped of his gold medal. The congressional hearings of 1989 and 1990 focused on "athletic health" and the "purity of sport" in political and popular arguments for classifying anabolic steroids as controlled substances. Careful examination of state discourse on synthetic testosterone, however, shows how these concerns about athletic competition expand into a broader cultural anxiety over the circulation of particular drugs, bodies, and populations.

By the start of the final 1990 hearings for the Anabolic Steroids Control Act, the US Congress Committee on the Judiciary had already met several times to gradually restrict the circulation of these drugs, in part by making their non-prescription distribution a felony offense. But because they were not yet scheduled under the Controlled Substances Act, anabolic steroids were technically still general prescription drugs under FDA authority. The 1990 hearings marked the first formal attempts to classify synthetic testosterone as a controlled substance, attempts that federal agencies and professional associations had previously resisted. Between 1987 and 1989 the FDA, the Drug Enforcement Agency (DEA), and the American Medical Association (AMA) each concluded that anabolic steroids should not be classified as controlled substances at all. This was primarily

because, as an AMA statement put it, “abuse of the drugs does *not* lead to physical or psychological dependence as is required for scheduling under the Act.”²¹

As one strategy to counter these agencies’ arguments, politicians and expert witnesses in the congressional hearings framed synthetic testosterone as part of the war on drugs, a campaign that had escalated through the passage of President Ronald Reagan’s Anti-Drug Abuse Act of 1988. For example, in an effort to present anabolic steroids as particularly dangerous, Representative Mel Levine (D-CA) contended that “steroid abuse may be the quiet side of the drug war, but it is an extremely serious side of it.”²² He explained that “one of the largest . . . known steroid distribution centers that was identified several months ago, was one that was organized and apparently controlled by Manuel Noriega. We are not dealing, as I am sure you know, with benign people in this regard. . . . We are dealing with vicious predators.”²³ The invocation of Panamanian military dictator Noriega here, less than a year after his surrender to the US military, links anabolic steroids with an ongoing drug war and with malevolent foreign forces that prey on US public health. At the same time, Levine’s statement elides the US state’s interests in perpetuating the war on drugs, which props up military and prison budgets; rather, his comment helps position anabolic steroids as substances used to weaken the United States from the outside—namely, from Central and South America. Moreover, associating synthetic hormones with illegal drug trade helped frame them as dangerous by grouping them with substances such as marijuana, cocaine, and heroin, all of which are classified in schedules 1 or 2 of the CSA.

The various schedules, or categories, of the CSA roughly align with the substances’ perceived risk of individual addiction or damage to public health. These categories are distinguished largely by different parameters governing distribution, degrees of drugs’ potential for abuse and dependency, and criminal penalties imposed for illicit use or distribution. But what appears as a straightforward classification system both depends on and produces constructions of health and deviance. Kane Race notes that a regularly cited World Health Organization text defines illicit drugs as those other than what are “required for the maintenance of normal health,” suggesting that normal health is a readily legible category itself. But as this category shifts, so too must perceptions and legal standings of drugs and the bodies that interact with them. As Race points out, “‘Normal health’ appears as an exit clause that redeems certain chemical modifications of the body” and thus “allows drugs and their classification to compose a site at which abnormal and normal functions of the body are revealed.”²⁴

The medical, legal, and cultural debates over anabolic steroids’ classification exemplify the complicated processes marking out normal health—both

bodily and national—and its corresponding drug use. The AMA and FDA initially argued against scheduling anabolic steroids at all, contending that the drugs do not carry a risk of dependency. Congress, however, tended to take for granted that the drugs should be scheduled, but found the punitive differences between CSA categories most troubling. For instance, then chair of the Subcommittee on Crime William Hughes (D-NJ) expressed caution in characterizing synthetic testosterone users as predatory threats:

I am not so sure that I feel entirely comfortable putting steroids in the same class as opium, heroin, and cocaine for instance. . . . While the penalty for possession is the same for both schedules [2 and 3], up to 1 year, in the case of distribution or possession with intent to distribute, you are talking about penalties of up to 20 years under schedule 2. And as you know, many of the young people in particular have extra steroids which they share. They buy it with the intent to share it with others.²⁵

The invocation of American youth as the face of steroids consumption and distribution frames the substances as far less menacing than they appear in Levine's rendering. Here the drugs are rather more benign evidence of misguided youth; as such, Hughes's statement suggests that a stricter classification would be unnecessarily harsh for young athletes. This rhetoric associates the circulation of anabolic steroids not with foreign drug trafficking but with otherwise lawful organizations and individuals acting on a competitive drive that is itself linked to the idealized American character.²⁶ In this way, the object under threat from synthetic testosterone also seems to shift from the health of the nation to the purity of sport. The institution of sport has long been grounded in ideals of building national strength, both in terms of the literal health of individual bodies who could fight for the nation and in terms of the nation as an imagined community of loyal and connected citizens. In fact, the International Olympic Committee's official publication, the *Olympic Review*, positioned athletes as emblems of national purity as recently as the late 1960s, with doctors echoing eugenics discourse in their claims that athletes constitute "a better race."²⁷ In this sense, threats to the "purity of sport" endanger national health by association.

One need only look to international sports competition—in which individual athletes come to symbolize the nation itself—to see how fully national health is intertwined with individual fitness, particularly as individual bodies are gendered and racialized. For example, the discovery that Johnson, a black Canadian athlete born in Jamaica, had illegally taken synthetic testosterone in the late 1980s

set off prolonged media scrutiny of the sprinter. Public discourse about Johnson's Olympic fraud must be understood in the context of long-standing images of black men as already having "too much testosterone"—as too masculine, aggressive, and/or sexual—to be properly gendered emblems of health. During the same time period, Western media on the doping scandals surrounding several East German women's athletic teams drew on homophobic and transphobic discourse to frame many of the athletes as gendered monstrosities, a characterization that simultaneously served to further indict communism as unhealthy or unnatural. Although the congressional hearings mention Johnson's case only in relation to his competitor Carl Lewis, the celebrated US track and field athlete, and never directly reference the East German athletes, the hearings must be considered against the backdrop of both cases, given their media prominence in the preceding months and years. While the hearings may at first appear entirely unconcerned with nationalism, race, or even gender, their primary focus—the purity of sport—is perhaps the most stark example of persistent investment in a national health that depends on and propels ideals of normative race, gender, and sexuality. In this way, the threat of the gender-nonconforming body—a figure encompassing not only many transgender-identified bodies but those read as improperly gendered based on racial, economic, and/or sexual characteristics—comes to bear directly on the health of the nation, with the unregulated circulation of synthetic testosterone as its harbinger.

Arguments for federal control of certain drugs can thus be understood as part of a broader state regulation of individual bodies' health in light of their position in and effect on the broader population, a project Michel Foucault conceptualizes as biopower. To point to synthetic testosterone's threat, the state also works to produce the monstrous figure of the gender-nonconforming person as tangible evidence of the drug's harmful effects. For instance, the centerpiece of a 1989 hearing on anabolic steroids consists of a lengthy statement by Lewis (who had been awarded Johnson's Olympic gold medal after his disqualification). Ostensibly drawing on his own observations of other athletes, Lewis spoke extensively about what he saw as the physical dangers of anabolic steroids:

Women that have taken steroids experience lowering of their voice, in many cases it doesn't come back. A lot of times you have women that end up with voices lower than mine for the rest of their lives. . . . A female might take a steroid, and she may become sterile. Their heads grow. Their hands may grow. Their voices lower and their skin becomes leathery. That's it for the rest of their lives.²⁸

Like Chesemore's warning of "irreversible masculinization" cited at the start of this article, Lewis's statement takes up gender-nonconformity as evidence of the dangers inherent in synthetic testosterone. In Lewis's rendering, this troubling figure throws into disarray both dominant gender norms and proper reproductive processes. That both Chesemore and Lewis stress the permanence of these bodily shifts does not detract from the state's larger concern with mobility. Rather, it exemplifies the complicated position of mobility in the modern West: as Cresswell sums up, mobility is both "the lifeblood of modernity and the virus that threatens to hasten its downfall."²⁹ Thus the production of the medicolegal category of transgender, with its clear, orderly path regulating movement that begins at one legible gender and ends with finality at the other, somewhat mitigates its threatening mobility. At the same time, the figure of the gender-nonconforming person, which may both encompass and exceed the category of transgender, is a menacing reminder of state regulations' tenuous hold on shifting identity categories and cultural norms.

State efforts to control the circulation of synthetic testosterone through criminalization processes thus cannot be reduced to fears about the purity of sport or the health of young athletes. Rather, the repetition of these fears signals broader anxieties about the effects of troublingly mobile bodies on national health. Tellingly, the scheduling of anabolic steroids most strongly punishes their unauthorized sale, with substantially lighter penalties for possession or consumption, making the *circulation* of these substances the focus of state control. In its efforts to control (and criminalize) a particular substance, the state also seeks to restrict the mobility of certain deviant bodies and populations, by literally immobilizing them in the penal system. While foregrounding synthetic testosterone's unregulated circulation, state discourse also invokes the slippery figure of gender-nonconformity, linking individual bodies' fitness to a racialized and gendered national health. This figure's aberrant mobility then serves as the contrast against which the properly gendered and mobilized national subject is constructed.

Protecting and Producing Borders

Thus far I have discussed how US state discourse frames the circulation of synthetic testosterone as a threat to the nation, largely because of its potential to change physical bodies and thus disrupt the racialized gender norms through which national health is read. In this sense, the substance's very mobility positions it as harmful, precisely because it violates bodily boundaries both materially

and discursively. Importantly, the crossing and shifting of these boundaries must be understood in the context of other kinds of border-crossing anxieties, particularly the flow of bodies and substances across national borders.

Concerns about the relationship between synthetic testosterone and US borders formed the catalyst for one of the earliest hearings on anabolic steroids, the Anabolic Steroid Restriction Act of 1989, which made it illegal to knowingly receive or distribute such substances through the mail without a physician's prescription. The hearings opened with the story of a seventy-eight-year-old California resident named Charles Miller, who contacted his US representative, Pete Stark, after receiving "a truly offensive anabolic steroid 'catalogue,' mailed from United Pharmaceuticals of Tijuana, Mexico."³⁰ Miller asked Stark to propose legislation making such mailings illegal, a request that Stark's testimony characterizes as aligned with the most fundamental American values: "The bill you are considering is true evidence of an individual 'back home' who suggested an idea for legislation . . . —an effort which would have made our Founding Fathers proud."³¹ Stark describes the Mexican pharmaceutical company as seeking to corrupt the upstanding US citizen: "The 'catalogue' reveals an overt, blatant attempt to convert unsuspecting American tourists into drug smugglers. . . . Can any Member tell me why we stand for this?"³² He then explains that the legislation at hand "is a reasonable, and Constitutional, approach to halting the offensive solicitation of Americans by Mexican-based pharmaceutical firms to smuggle 'drugs' across our borders."³³ The impetus for the new legislation is thus framed in terms of an individual US citizen's faith in reason and federal government, in contrast to broad Mexican attempts to circumvent the law and ensnare innocent Americans in illegal and harmful activities.

This exceptionalist framing of both the American moral character and the US state's efficacy also threads through the other hearings on anabolic steroids. During the 1990 hearings for the Anabolic Steroids Control Act, Deputy Assistant Attorney General Leslie Southwick noted that "the illicit use of steroids is hardly a problem limited to this country. While the United States cannot sit back, we are well ahead of most of the world in responding to this drug abuse problem. We intend to set an example for other countries by vigorously prosecuting individuals involved in illegal steroid-related activity."³⁴ Southwick's statement walks a fine line between casting the United States as fully capable of controlling the danger of steroids and as helpless enough in the face of steroid use or misuse to justify new criminalizing measures and strict state regulations. In positioning the United States as able to "set an example," Southwick's statement not only echoes

the nationalism in Stark's testimony but more precisely constructs US superiority through its opposition to other countries (indeed, "most of the world").

Despite being made in an effort to regulate substances already circulating within the United States, then, both Stark's and Southwick's statements suggest that synthetic testosterone is a danger that lies primarily outside US borders. Stark's repeated emphasis on drug smuggling links the proposed steroid regulations to long-standing struggles over the trafficking of cocaine and marijuana, struggles that throughout the mid-1980s were increasingly located along the US-Mexico border. By further casting the whole of Mexico as a corrupting force, anabolic steroids could by association come to seem equally dangerous and illegal. The discursive linking of synthetic testosterone with both smuggling and Mexico helps position it as a "foreign" substance against which US borders must be guarded to ensure national well-being. Such linkages draw on a long history of anti-immigration discourse that frames immigrant bodies, particularly as they are gendered and racialized, in terms of contagion and disease invading the nation. In such metaphors, which have both discursive and material consequences, the movement of immigrant or noncitizen bodies initially causes alarm, as foreign bodies both human and chemical/viral cross boundaries at once national and physical.³⁵ Cresswell argues that "'good' and 'appropriate' forms of mobilities are opposed to mobilities that threaten[ed] to undo established spatial order (the nation, the neighborhood, etc.). One correct way to practice mobility is as a citizen."³⁶ In this sense, Stark's reference to the mobility of the US tourist suggests good citizenship, produced here through the contrasting figure of the furtive Mexican drug smuggler. Moreover, the hearings' emphasis on a foreign threat to American values and order implicitly focuses drug-related anxieties on US borders.

Certainly, US immigration policy is significant in the context of the anabolic steroids hearings. The late 1980s and early 1990s saw an enormous amount of public discourse on immigration, particularly after the passage of the 1986 Immigration Reform and Control Act, which granted legal citizenship to nearly three million undocumented people while also increasing security and enforcement at the US-Mexico border. Additionally, the scheduling of synthetic testosterone as a controlled substance occurred alongside the passage of the Immigration Act of 1990, which also strengthened border security while raising the number of immigrants that could legally enter the United States. Both pieces of legislation expand immigration and citizenship processes while shoring up US borders. While these major shifts in state regulations for borders and citizenship are never explicitly referenced in the congressional hearings, repeated statements about

drug smuggling, clandestine border crossing, and Mexican pharmaceutical business indicate the underlying influence of public and state discourse about US borders' permeability. In this sense, the backdrop of immigration reform is key to understanding fears of synthetic testosterone in terms of the mobility and maintenance of borders, both material and metaphorical.

The perceived threat posed by immigrant and noncitizen bodies is characterized at least to some extent by those bodies' disruption of dominant gender norms, in part by bringing different frameworks of gender (e.g., family structures or social hierarchies) into a United States imagined to have been otherwise homogeneous in these arenas. In this sense, the gender-nonconforming figure threatens to disrupt the supposedly fixed boundaries of both nation and body. In many cases, the disarray is produced through dominant white US culture's very reading of gender deviance through racialization, as in the figures of the effeminate Asian man or hypersexual black person. Such readings exemplify the ways that the figure of the gender-nonconforming person exceeds the medicolegal category of transgender, though the two may certainly overlap, and in fact often does so where questions of borders are concerned. For efforts to shore up national borders and the category of citizenship—whether through trafficking laws or immigration policy—are also attempts to stabilize certain racialized gender norms that signify an idealized American citizenship. At the same time, the category transgender is regularly linked to border crossing both metaphorically (crossing the boundaries between sex and gender categories) and materially (traveling across national boundaries to access medical care, employment, asylum). In these ways, both the gender-nonconforming figure and the transgender-identified person are implicated—if at times in quite different ways—in anxious metaphors of border permeability.

The cross-border circulation of gendered and racialized bodies and ideas also comes to bear on the very production of synthetic testosterone, a process that goes unremarked on (perhaps even carefully avoided?) in the congressional hearings. For instance, Stark's repeated mention of United Pharmaceuticals' catalog as an example of cross-border dangers actually falls flat in the context of the 1989 legislation then under consideration. The act would prohibit nonprescribed circulation of anabolic steroids through the mail, but nowhere does the pharmaceutical company's advertising suggest mail-order drugs. Rather, it encourages consumers to purchase them in person, at very low prices, in Tijuana. Far more provocative, though never mentioned in the hearings, is the catalog's claim that while steroids in Mexico are less expensive, "most of them are manufactured by American companies in Mexico."³⁷ Although the catalog was entered into the congress-

sional record, the hearings fail to take up the subject of multinational manufacturing and sale, instead relying on rhetoric that sets Mexican values and ideology against those of the United States. Yet the catalog's claim is certainly not difficult to believe, given the transnational flows that have always characterized synthetic hormone production and circulation.

Once synthetic testosterone could be manufactured, it joined other drugs as a substance whose production, marketing, and sale regularly traversed national borders. European drug companies in Germany, Switzerland, and the Netherlands, along with their subsidiaries in the United States, controlled the early patents and production for synthetic hormones, but their synthesis relied on cholesterol from human or animal sources, a raw material that proved difficult and too costly to obtain in large quantities (despite the promise made in the *Time Magazine* article quoted above!). In the early 1940s a small group of chemists from the United States, Mexico, and Hungary collectively determined that steroid hormones could be synthesized from plants native to and abundant in Mexico. They founded Syntex, a Mexican pharmaceutical company, and by the late 1950s were mass-producing such inexpensive hormones that "80 to 90 percent of the world production of steroid hormones came from Mexico."³⁸ Syntex resisted US firms' efforts to shift their manufacturing to Mexico and was subsequently brought before the US Senate for patent violations, where it agreed not to restrict other companies' access to raw materials in Mexico. After this agreement, several transnational corporations set up operations in Mexico, and by 1963 they had fully replaced Mexican firms.³⁹

It is not so much the specifics of this history as the general themes of transfer of power and knowledge that are important in understanding efforts to prevent hormone trafficking into the United States. This is particularly so in the case of Mexico, from which a new mass-marketed form of inexpensive hormones emerged that dramatically increased circulation of and access to these drugs. The subsequent quashing of independent Mexican pharmaceutical firms then echoes thirty years later in US state efforts to curtail cross-border movement of anabolic steroids, despite the fact that the very production of these substances depends on globalized labor, patent laws, and industry.⁴⁰

The past and present transnational circulation of synthetic hormones remains absent from the congressional discussions, though one representative does suggest that Congress propose a ban on importing such drugs into the United States without explicit federal approval, a move that lies outside the purview of the CSA. Stark's response to this idea hints at the difficulty of demanding closed, fixed borders in the context of a globalized pharmaceutical industry profoundly

reliant on border permeability: “I sadly feel it is probably a lot more difficult [than simply scheduling the drugs]. We maintain open borders. . . . I think we have to fight this war one step at a time.”⁴¹ Transnational pharmaceutical corporations are a reminder that bodies, knowledge, and goods are in constant flux within and across national boundaries, a fact that the congressional hearings largely subsume under rhetoric marking sharp divisions between the domestic and the foreign. Stark’s assertion that the new legislation would deter Mexican attempts to “smuggle ‘drugs’ across our borders” casts the border as belonging wholly to the United States, and suggests a border that can be made impenetrable.⁴² Yet it is the very porousness of those borders that enables the production and circulation of synthetic hormones to begin with.

Peter Adey describes borders as “the object of a paradoxical (im)mobility” because they simultaneously allow for and limit movement.⁴³ In the congressional hearings, the anxieties brought about by that paradox take shape largely in the figure of the gender-nonconforming person. This is partly because that threatening figure is regularly attached to those gendered and racialized bodies that move through borders of all sorts, from the metaphorical gender boundaries so often invoked in transgender transition narratives to the national borders involved in immigration and production/consumption processes. Each border is ideologically fraught: the crossing of gendered boundaries signals American technological and social progress even while it threatens the order of social hierarchies, and the crossing of national borders suggests tolerance and marks the United States as a modern participant in globalization practices, even while immigration and cross-border flow of materials appear as dangers to national health and security. The production and circulation of synthetic sex hormones function as one important site at which all of these border narratives coalesce. In this way, concerns about the harmful effects of anabolic steroids can be understood as manifestations of ongoing tensions about the permeability of national borders and the movement of certain bodies and substances across them, and recall anxieties about the permeability of bodily borders as substances move through them.

Conclusion

The two apparently separate dangers posed by anabolic steroids, as laid out in FDA Commissioner Ronald Chesemore’s statement near the end of the final congressional hearings, are fundamentally linked. The hearings frame synthetic testosterone’s physical effects as deviant in ways that threaten not only dominant ideals of bodily order but also gendered and racialized social hierarchies. State

discourse persistently displaces these threats onto the foreign: those bodies and ideas understood as crossing into the United States from the outside, disrupting social norms and endangering national health. In its efforts to control a specific chemical substance, the US state also aims to shore up borders (bodily, categorical, national) such that restricting the circulation of anabolic steroids necessarily entails restricting the mobility of certain bodies and populations. Importantly, it also presents the impossible task of fixing in place various borders that are always already steeped in long histories of mobility and flux. Thus state efforts to more tightly control synthetic testosterone occur simultaneously with the hormone's increased mobility across ever porous boundaries.

Transgender people are often understood to cross borders both metaphorically and literally, and must often navigate state institutions to access synthetic hormones, and so these regulatory state practices come to bear directly on the transgender-identified. The category of transgender shadows political and popular discussion of the state's regulatory practices and authority. Prior to elaborating the physical risks of synthetic testosterone, Chesmore lists reasons deemed medically necessary for its use or prescription, a list from which transgender people and even the state's own category of gender identity disorder are absent. Yet Chesmore's concern with "reproductive anomalies" and the permanent masculinization of female-assigned bodies as the potential results of steroid use certainly indicates that state regulation of synthetic sex hormones is firmly linked to broader medicolegal processes of regulating gender. In this most basic sense, then, transgender studies provides a useful critique of the criminalization and medicalization of gendered bodies viewed as dangerously and troublingly mobile.

At the same time, the metaphor of mobility that is regularly attached to a generalized category of transgender is troubling in its own right. For instance, Aren Aizura notes that "gender variant people, as a population, are highly mobile," but importantly clarifies that those under strictest regulation include "undocumented migrants from the global 'south'" who travel as laborers within a "huge racialized economy."⁴⁴ Similarly, in discussing the persistent use of borders to describe transgender identities and bodies, Judith Jack Halberstam cautions against "detaching the metaphors of travel and home and migration from the actual experience of immigration in a world full of borders."⁴⁵ Careful analysis of anabolic steroids regulation must attend to how borders both material and metaphorical structure social relations and state practices. If the control, circulation, and use of synthetic sex hormones constitute one key node at which the US state and transgender and gender-nonconforming people interact, then that relationship cannot be understood outside the biopolitical and geopolitical frames that make

clear how synthetic testosterone is enmeshed in uneven transnational flows of bodies, knowledge, capital, and material substances.

Priscilla Wald writes that prohibitions “are designed not to forestall disease, but to mark dangerous transgressions. . . . Prohibitions light up the margins, where categories get murky; they make social organization both visible and appealing.”⁴⁶ In this sense, the criminalization of anabolic steroids works in part to produce and reproduce the threatening figure of the gender-nonconforming person, against which the lawful, normatively gendered and mobile citizen is constructed. Read through this lens, the classification of synthetic testosterone as a controlled substance does not simply make illegal the circulation or sale of a specific chemical substance. More than that, it speaks to broader cultural anxieties about the necessary permeability of boundaries and fluidity of bodies. The gender-nonconforming figure may go unnamed as such in state discourse on anabolic steroids, but its threatening, troubling mobility underpins much of the state’s rhetoric about these drugs and their relationship to bodies both individual and national. As bodily secretion, marker of fluctuating race and gender categories, and material substance for sale, testosterone displays a persistent fluidity that both incites and confounds state efforts to restrict its circulation. Moreover, synthetic testosterone comes to stand in for the gender-nonconformity that threatens to destabilize the state’s fragile grasp on identity categories and cultural norms. As these concerns with mobility propel state regulation of an apparently inanimate object, they reveal the gendered, racial, and national stakes underpinning long-standing debates about sex hormones.

Notes

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1. The congressional hearings define this set of drugs as follows: “To be classified as an anabolic steroid, [a] drug must be both chemically and pharmacologically related to the male hormone testosterone, and the drug must promote or purport to promote muscle growth” (US Congress, Committee on the Judiciary, *The Steroid Trafficking Act of 1990* [Washington, DC: US Government Printing Office 1990, 3]). In this article, I use the terms *anabolic steroids* and *synthetic testosterone* interchangeably.

2. US Congress, Committee on the Judiciary, *Anabolic Steroids Control Act of 1990* (Washington, DC: US Government Printing Office, 1990), 38, 41.
3. Although the particular criteria vary according to local, state, or federal policy, proof of medical transition is typically key in situations including the changing of name and/or sex marker on identification documents, access to domestic or international travel, rulings on marital status or child custody, housing assignment for incarcerated persons, and access to public restrooms. For more detailed citations on many of these instances, see Dean Spade, “Resisting Medicine, Re/Modeling Gender,” *Berkeley Women’s Law Journal* 18 (2003): 15–37.
4. Several transgender studies scholars and activists have addressed how such regulatory practices tend to create a narrow definition of transgender, preventing those who do not or cannot fit the GID profile from accessing hormones or surgeries. This is partly because a GID diagnosis often rests on medical professionals’ necessarily subjective perceptions of their patients’ potential to convincingly inhabit a “new” gender role—that is, to be properly and legibly masculine or feminine enough to warrant medical transition. But normative gender is always predicated on regulatory norms of whiteness, class privilege, and compulsory heterosexuality, such that those transgender-identified people most able to conform to dominant standards of masculinity or femininity tend to have far greater access to medical transition and to experience less overt scrutiny. Relatedly, individuals not self-identified as transgender may nonetheless be perceived as gender-nonconforming on the basis of particular racial, cultural, economic, or religious expressions of gender. See, for example, Sandy Stone, “The *Empire* Strikes Back: A Posttranssexual Manifesto,” in *Body Guards: The Cultural Politics of Gender Ambiguity*, ed. Julia Epstein and Kristina Straub (New York: Routledge, 1991), 280–304; Spade, “Resisting Medicine”; and Judith Butler, *Undoing Gender* (New York: Routledge, 2004), chap. 4.
5. Tim Cresswell, *On the Move: Mobility in the Modern Western World* (New York: Routledge, 2006), 1–2.
6. Cresswell, *On the Move*, 49.
7. This is not to generalize that transgender-identified people themselves either capitulate to regulatory gender norms or serve as liberatory icons of gender transgression. Rather, this article focuses on the discursive figure of gender-nonconformity. Thus, following Aren Aizura, “it is the *idea* of gender variance rather than transsexual or transgendered people themselves that we might theorize as threatening to [the] dominant order of knowledge.” See Aren Aizura, “The Persistence of Transgender Travel Narratives,” in *Transgender Migrations: The Bodies, Borders, and Politics of Transition*, ed. Trystan T. Cotten (New York: Routledge, 2012), 144.
8. In her introduction to *The Transgender Studies Reader*, Susan Stryker notes that transgender studies is one practice for understanding the “threats and promises of unimaginable transformation through new forms of biomedical and communicational

- technologies,” and suggests that a transgender critique “call[s] into question both the stability of the material referent ‘sex’ and the relationship of that unstable category to the linguistic, social, and physical categories of ‘gender.’” Susan Stryker, “(De) Subjugated Knowledges: An Introduction to Transgender Studies,” in *The Transgender Studies Reader*, ed. Susan Stryker and Stephen Whittle (New York: Routledge, 2006), 8–9.
9. Schedule 3 drugs, which also include certain amphetamines and barbituates, are classified as having an acceptable medical use but also as having potential for abuse and physical or psychological dependence. Under this classification, anabolic steroids require a prescription for use and have specific restrictions on the time frame for and amount of refill prescriptions.
 10. Kane Race, *Pleasure Consuming Medicine: The Queer Politics of Drugs* (Durham: Duke University Press, 2009), 9.
 11. For more in-depth discussions of scientific debates about sex hormones, see Celia Roberts, *Messengers of Sex: Hormones, Biomedicine and Feminism* (Cambridge: Cambridge University Press, 2007); Jennifer Terry, *An American Obsession: Science, Medicine, and Homosexuality in Modern Society* (Chicago: University of Chicago Press, 1999); Nelly Oudshoorn, *Beyond the Natural Body: An Archeology of Sex Hormones* (New York: Routledge, 1994); and Diana Long Hall, “Biology, Sex Hormones and Sexism in the 1920s,” in *Philosophical Forum* 5 (Fall-Winter 1973–74).
 12. Oudshoorn, *Beyond the Natural Body*, 38.
 13. Terry, *American Obsession*, 162. For further discussion on the anthropological research, see Terry, 163–168.
 14. Terry, *American Obsession*, 162.
 15. “Testosterone,” *Time Magazine*, September 23, 1935, www.time.com/time/magazine/article/0,9171,749085,00.html.
 16. Stephanie Kenen, “Who Counts When You’re Counting Homosexuals? Hormones and Homosexuality in Mid-Twentieth Century America,” in *Science and Homosexualities*, ed. Vernon A. Rosario (New York: Routledge, 1997), 204.
 17. See, for example, Siobhan Somerville, *Queering the Color Line: Race and the Invention of Homosexuality in American Culture* (Durham: Duke University Press, 2000); Terry, *American Obsession*; and Anne Fausto-Sterling, “Gender, Race, and Nation: The Comparative Anatomy of ‘Hottentot’ Women in Europe, 1815–1817,” in *Deviant Bodies: Critical Perspectives on Difference in Science and Popular Culture*, ed. Jennifer Terry and Jacqueline Urla (Bloomington: Indiana University Press, 1995), 19–48.
 18. Importantly, the notion that hormones could be used to identify and correct unruly bodies still lingered at the time of the congressional hearings. For instance, the controversial British psychologist Richard Lynn argued in 1990 that different testosterone levels in white, black, and Asian men correspond to different levels of intelligence and masculinity—a retelling of scientific racism that cites sex hormones as

evidence of white masculine superiority. Seen in this context, unregulated circulation of synthetic testosterone presents not merely an abstract danger but more precisely a potential disruption of racial and gender hierarchies. See Richard Lynn, “Testosterone and Gonadotropin Levels and r/K Reproductive Strategies,” in *Psychological Reports* 67 (1990): 1203–6. Though perhaps better known because of its citation in the best-selling *The Bell Curve*, Lynn’s is but one of a variety of studies over the past many decades seeking to trace (or in some cases, deny) a link between testosterone levels and racial differences, including differences in brain and genital size and criminal proclivity.

19. Oudshoorn, *Beyond the Natural Body*, 78.
20. Kimani Paul-Emile, “Making Sense of Drug Regulation: A Theory of Law for Drug Control Policy,” in *Cornell Journal of Law and Public Policy* 19, no. 3 (2010): 719.
21. American Medical Association, *Statement of the American Medical Association RE: Scheduling of Anabolic Steroids* (Chicago: American Medical Association, 1989), 78.
22. US Congress, *Anabolic Steroids Control Act*, 11.
23. US Congress, *Anabolic Steroids Control Act*, 15. In late 1989 US and Mexican officials raided a large Mexican pharmaceutical firm found to be producing and illegally smuggling into the United States millions of dollars of anabolic steroids. Noriega was subsequently discovered to be the company’s principal owner.
24. Race, *Pleasure Consuming Medicine*, 7.
25. US Congress, *Anabolic Steroids Control Act*, 14.
26. Like the distinction between the medically legitimated use of testosterone to achieve “normal” hormonal levels and the illicit use to produce hypermasculine bodies, this differentiation of young athletes’ use of steroids from foreign drug trafficking aligns with what Kane Race identifies as a “new language of concern” beginning in the 1970s, which focuses less on drugs’ basic physical effects or medical properties and more on “the *character* of their use, [and] its deviation from professional authority” (*Pleasure Consuming Medicine*, 64).
27. Paul Dimeo, *A History of Drug Use in Sport, 1876–1976: Beyond Good and Evil* (New York: Routledge, 2007), 56.
28. US Congress, *Anabolic Steroids Control Act*, 30.
29. Cresswell, *On the Move*, 21.
30. US Congress, Committee on the Judiciary, *Anabolic Steroid Restriction Act of 1989* (Washington, DC: US Government Printing Office, 1989), 8.
31. US Congress, *Anabolic Steroid Restriction Act*, 8.
32. US Congress, *Anabolic Steroid Restriction Act*, 8.
33. US Congress, *Anabolic Steroid Restriction Act*, 9.
34. US Congress, *Anabolic Steroids Control Act*, 34.
35. This metaphor also works in reverse: as Priscilla Wald notes, “It is not unusual for a virus to be described as a foreigner or even an immigrant” (*Contagious: Cultures*,

- Carriers, and the Outbreak Narrative* [Durham: Duke University Press, 2008], 42). For extensive discussion of US public health campaigns and characterizations of immigrant bodies as contagions, see also Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* (Berkeley: University of California Press, 2001).
36. Cresswell, *On the Move*, 159.
 37. US Congress, *Anabolic Steroid Restriction Act*, 10.
 38. Gary Gereffi, *The Pharmaceutical Industry and Dependency in the Third World* (Princeton: Princeton University Press, 1983), 90.
 39. Gereffi, *Pharmaceutical Industry*, 95.
 40. Notably, those transnational corporations that are the primary producers of synthetic testosterone today, all headquartered in the United States, were also major corporate players in forcing an agreement from Syntex. These include Merck and Pfizer, the latter of which recently became the largest pharmaceutical company in the world.
 41. US Congress, *Anabolic Steroid Restriction Act*, 15.
 42. US Congress, *Anabolic Steroid Restriction Act*, 8.
 43. Peter Adey, *Mobility* (New York: Routledge, 2010), 109.
 44. Aizura, "Transgender Travel Narratives," 141.
 45. Judith Halberstam, *Female Masculinity* (Durham: Duke University Press, 1998), 170.
 46. Wald, *Contagious*, 13. Wald draws here from Mary Douglas's classic work *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo* (London: Routledge and Kegan Paul, 1966).