

HYBRIDS, HERMAPHRODITES, AND SEX METAMORPHOSES: GENDERED ANXIETIES AND SEX TESTING IN ELITE SPORT, 1937-1968

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Abstract

Purpose – This chapter provides a contextualized understanding of the gendered anxieties expressed by elite sport regulators that motivated the formulation of sex testing policies in sport between 1937-1968. The focus is on complicating the claim that sex testing was first instituted to prevent explicit male bodies from fraudulently masquerading as women in sport. Rather, the chapter argues that sex testing policies were formulated in response to anxieties over sex binary pollution.

Methodology – The chapter is based on a genealogical study of the female category in elite sport, built on archival research conducted at the IOC historical archives and online newspaper archive collections.

Findings - Boundaries around female embodiment were navigated and written into sex testing policy in response to threats to presumed ideas around gendered and sexed normality in sport. These threats were embodied by athletes who polluted or crossed the border between female and male, to the extent that their bodies were rendered hermaphroditic, excessively masculinized, or hybrid. These bodies caused gendered anxieties for sport regulators, who reacted with policy responses that aimed to purify the sex binary from category pollution or sex abnormality.

Implications –As long as sex binary policing in elite sport continues in the present, awareness of the contextual history of sex testing is essential for understanding the underlying ideas upon which sex binary policing in sport has been built.

Keywords: gender; the sex binary; female embodiment; sport

In 2009, South African athlete Caster Semenya was compelled to undergo so called sex testing because her bodily sex and gender presentation had incited suspicions about her sex. Applied only to female athletes, the aim of sex testing in sport is to ascertain that female-categorized athletes are, indeed, “female enough” to compete in the female category. Sex testing policies thus perform two interlaced regulatory functions: they police the categorical boundary between genders, and they delineate which bodies do and which do not count as female in sport by drawing definitional borders around female embodiment. While sex tests have been used in elite sport for eight decades, Semenya’s story is historically significant because the fact that she had to undergo this testing was leaked to the media, and gathered widespread interest which brought sex testing practices into public awareness in an unprecedented way. It incited a string of new commentaries on sex testing in both the academic and public media spaces as well as the re-surfacing of pre-2009 analyses, most of which discuss not only current policies but also the history of sex testing in sport.

While the increased interest in sex testing has produced a critical body of scholarship on present sex testing practices, it has also enabled some historical claims to become established as common knowledge even though these claims are not appropriately supported by primary sources. This is largely because few scholars have taken the history of sex testing as their primary object of analysis, relying rather on secondary sources to re-tell this history in their own accounts. Insufficient grounding in primary sources makes it difficult to fully understand sport governing bodies’ earlier decision-making in relation to sex testing, as well as the contextual conditions within which their decisions were embedded. Understanding the early concerns that motivated the International Olympic Committee (IOC) and the International Association of Athletics Federations (IAAF) to first institute sex testing is, in turn, central for fully contextualizing present policies.

This chapter provides a contextualized understanding of gendered anxieties expressed by IOC and IAAF officials that motivated the formulation of sex testing policies between 1937 and 1968. The focus is on complicating one widely reproduced claim; namely, that sex testing policies were first instituted to prevent explicit male bodies from fraudulently masquerading as women in sport. Rather, the chapter argues that earlier sex testing policies were formulated by the IAAF and the IOC in response to anxieties over sex binary *pollution*, embodied by female-categorized athletes who threatened cultural ideas about presumed gendered or sexed normality in relation to sport. These earlier policy responses were concerned with policing the boundaries of binarized sex and gender categories by securing those boundaries against, or purifying them from, category pollution rendered abnormal. The meaning of normal female

embodiment was navigated in relation and in opposition to such abnormal bodies, and sex testing was instituted to purify the female category from this abnormality. A proper understanding of earlier concerns in relation to sex testing in sport is particularly pertinent in the present context where the IOC's and the IAAF's current regulations governing the eligibility of athletes to compete in the female category are subject to intense debate (see Genel, Simpson, & de la Chapelle, 2016; Karkazis & Jordan-Young, 2015; Sonksen, Ferguson-Smith, & Bavington, 2015). A contextualized understanding of the history of sex binary policing in sport is central for making fully informed policy decisions in the present.

Writing histories of sex testing

While the history of sex testing in sport has been widely documented (for a starting point, see Elsas et al., 2000; Pieper, 2016; Ritchie, 2008; Simpson et al., 2000; Wiederkehr, 2009), there are some notable issues regarding how this history is commonly represented in academic accounts. As Vanessa Heggie has argued, due to “the sensitive nature of this subject, histories of sex testing are difficult to write and research,” which “has led to the repetition of inaccurate information and false assertions” (2010, p. 157). Indeed, she argued that the history has been reinvented, reimagined and reconstructed by scholars. Building on Heggie's observations, this chapter complicates historical claims about the original rationale for sex testing given by sport governing bodies.

Academic accounts frequently claim that sex testing was first instituted in the late 1960s to prevent explicit males from fraudulently masquerading as females. As phrased by two scholars making this claim, men were rumored to be “binding their genitals to compete as women” (Amy-Chinn, 2012, p. 1298) or “binding their genitals and passing themselves off as women” (Carlson, 2005, p. S39) and therefore, in the words of another scholar, sex testing was instituted “as a way to catch cheaters: men disguising themselves as women to win fraudulently” (Hercher, 2010, p. 551). It is claimed that “segregated competition creates the possibility of sex fraud, and in fact the pretense of competing under an assumed gender is one way by which desperate athletes have, in the past, attempted to gain an unfair competitive advantage” (Reeser, 2005, p. 695). The most often-repeated historical example of this kinds of fraudulent male masquerade used to explain the institution of sex testing is Dora Ratjen, often represented as follows:

there has been only one Olympic documentation of a man knowingly misleading officials and competing as a woman. In 1957, German high jumper, Hermann Ratjen, confessed that he was forced under Nazi order to bind his genitals and compete as a woman in the 1936 Berlin Olympics. As ‘Dora’ he placed fourth in the women’s high jump (Sullivan, 2011: 403-404).¹

However, there are two core problems with these historical claims: firstly, the first sex testing policies were not instituted in the late 1960s but in 1937 by the IAAF. Thus, as Heggie (2010) also argued, Ratjen’s presumed sex fraud is largely irrelevant to their institution as it was not made public until 1957 by which time these policies had already been in place for two decades.² Secondly, while there is evidence that some concern over men competing as women did exist at the time when the first sex testing policy was formalized,³ the core motivation for the introduction of sex testing was not explicit males fraudulently misrepresenting their sex by binding their genitals. Rather, it was gendered anxieties around female-categorized bodies perceived to be masculinized, hermaphroditic, or hybrid, as well as previously female-categorized bodies who were so masculinized that they underwent metamorphoses resulting in sex changes. While it is not necessarily incorrect to argue that concerns over men competing with/as women influenced the institution of sex testing, the key issue is that the concern over *men* was not targeted at individuals assigned male at birth and raised as men binding their genitals, but it was over female-categorized athletes who were perceived to pollute the dividing

¹ There is also a second version of this story which is more nuanced and more commonly found in newer (post-2010) articles. According to this version, Ratjen had been assigned female at birth: “he had ‘ambiguous’ genitalia and that was the reason why Nazi sport leaders forced him to compete with women. In fact, he ... was intersex” (Bohuon, 2015, p. 968).

² There are other cases of past sex frauds that are also commonly provided as examples of male masquerades that incited the introduction of sex testing. Perhaps the second most often cited case is Stella Walsh, who also competed in the 1930s. However, information about Walsh’s suspicious gender was only made public in 1980. For in depth critique of how various past sex fraud cases (including Walsh and Ratjen) are represented by scholars, see Heggie (2010).

³ In 1936, some newspapers reported that a Warsaw-based newspaper had published accusations that American athlete Helen Stephens was a man (“Polish Writer Calls Helen Stephens ‘Man’”, 1936, p. A9), but accusations about Stephens’ sex must be contextualized with reference to other female athletes who had *turned into* men. As one late 1930s observer commented, the “Poles ... accused Miss Stephens of being Mr. Stephens. There had been two cases ... where a masculine lady had, with the aid of a surgeon, succeeded in transforming herself into a not too feminine gentleman. The Poles thought they had spotted number three” (Gallico, 1938, p. 233-234).

line between female and male embodiment, in some cases so severely that they *turned into* men.

Notably, in depth documentation of the earlier history of sex testing is sparse (most accounts being with the late 1960s), and few accounts discussing sex testing offer primary sources for their historical claims:⁴ some scholars offer no sources whatsoever, most cite older academic sources which in turn do not offer sources, and two scholars (Tucker & Collins, 2009, 2010) go as far as citing Wikipedia. This is explained by historical accounts of sex testing being usually provided by scholars merely as a background story to contextualize other arguments, and the history is consequently narrated only as a prelude to authors' own insights rather than taken as an object of investigation in its own right (for analysis of this prelude use of historical narratives, see Hemmings, 2005). Relatedly, where discussions of earlier policies are present, they tend to lack contextualization in relation to prevalent ideas around gender and sex in sport during the time of the policies' introduction. This makes it difficult to fully understand the main thrust of sport governing bodies' earlier gendered concerns.

Methodology: a genealogy of the female category

This chapter is based on a Foucauldian genealogical analysis of the female category in elite sport, focusing on the IAAF's and the IOC's female categories. Michel Foucault's conceptualization of genealogy (2000) can be read as the history of discursive objects, and as analysis of the continuities and discontinuities in the constitution of these objects without presuming to know their meaning in some cross-temporal/contextual sense. The aim is to account for how objects emerge in discourse and gain meaning within a temporal and contextual framework, and how this meaning is subject to change. My analysis documents how female embodiment was delineated as a discursive object in elite sport regulatory policy, accounting for the contextual conditions through which the meaning of female was navigated.

The analysis is based on archival research, where genealogical analysis was applied to the archival documents as textual instances within which broader contextual ideas are embedded. Research was conducted at the IOC historical archives in Lausanne and on British and American online newspaper archive collections. Key IOC collections consulted were files of the IOC Medical Commission and other medical matters, files of the former IOC president

⁴ Notable exceptions are Lindsay Pieper (2016) and Heggie (2014). However, my interpretation of the historical record differs from theirs.

Avery Brundage, files on women in sport, and minutes of IOC meetings. Notably, IOC documentation of the history of gendered regulatory policy during the first part of the 20th century is limited to only a handful of files. Consequently, the few documents explicitly discussing gendered worries during this period provide a rare glimpse into sport regulators' reasoning. Newspaper articles were collected through key word searches of the online databases.⁵ I also examined 105 academic journal articles across disciplines to understand how the history of sex testing is represented by scholars. The articles were collected through key word searches of journal databases⁶ as well as through citation tracing, and selected according to the sole criteria that a core topic of discussion was sex testing in sport.

Conceptual framework: binarization and purification, normality and abnormality, and the importance of context

Since 1900, when female athletes first took part in modern Olympic competition, the vast majority of Olympic events have been divided into separate and mutually exclusive female and male categories. The core justification for this, which has been extensively analyzed, is a naturalized connection of athletic prowess with maleness and masculinity and the reversed association of female bodies with relative athletic inferiority (Cahn, 1994; Hargreaves, 1994, 2000; Lensky, 1986; Smith, 1998). The binarized female/male division in sport is embedded within broader Western metaphysics of binarizations whereby the cultural salience of the two sides of the binary gain meaning through their mutually exclusive separation. Bruno Latour (1993) has argued that binary systems in general are maintained through purification practices, which secure the binary against category blur or pollution. In other words, hybrid entities or mixtures of categorical kinds that pollute the presumed dividing line between categories are eradicated or purified from the pollution that they embody because the in-between hybrid space threatens the binary division. Purification practices as theorized by Latour are manifested in how the sex binary is culturally navigated: bodies from which sex category hybridity is legible

⁵ Collections consulted were ProQuest Historical Newspapers, UK Press Online, Time Magazine Online Archives, the Times Digital Archive, and Google Newspaper Archive, using the following key words in combination with the word "sport": "sex testing," "gender verification," "femininity control," "women," "feminine," "femininity," "sex," "gender," "female," and "sex change." To find news stories about specific athletes, their names were used. The number of articles relevant to this chapter (which is based on a larger research project) identified as having relevant content and then analyzed was 178.

⁶ Key words used were "sex testing," "gender verification," and "femininity control."

are easily rendered as polluting mixtures of categorical kinds. As Foucault (2003) argued, bodies that exist in-between sex categories, such as hermaphroditic bodies that have been conceptualized as embodiments of both female and male sex characteristics, violate the presumed female/male division and thus easily become threatening boundary figures. This is because they make explicit the point at which the borders of the category classification lapses or can become disputed.

Foucault (2003) argued, however, that since the end of the 19th century emerging medical models of health and pathology in human sex differentiation have functioned to reduce binary-threatening figures like the hermaphrodite into dispersed and scientifically analyzable pathologies or abnormalities in human sex development that can now be subjected to practices of medical treatment or normalization that aim to return these bodies into the confines of binarized sex. Such corrective or normalizing treatments applied to sex abnormalities can be understood as a form of sex category purification. For example, normalizing surgical treatments have been widely performed on intersex infants born with genitals that cannot be clearly defined as neither female nor male, and are consequently conceptualized as sex ambiguous. As scholars of intersex have argued (Karkazis, 2008; Kessler, 1998; Morland, 2001), this surgical normalization of sex ambiguity is a form of social panic around genitals that do not conform to cultural ideas about what normal (i.e. clearly identifiable as either female or male) genitals should look like. The surgical normalization of ambiguous genitals thus aims to mold these genitals into the confines of binarized sex by removing the ambiguity, or by purifying bodies from such ambiguity surgically. In this sense, sex binary policing practices aimed at safeguarding the clarity of the female/male division in the face of bodies that threaten the division can be understood as practices of binary purification that work to sustain the categorical boundary that is under a threat. This applies equally to sex binary policing practices mobilized by elite sport governing bodies to safeguard the borders of the female category. Central tools for these practices are the notions of normality and abnormality that can be mobilized to render category polluting bodies as abnormal and thus in need of elimination or re-alignment.

However, where exactly the border between female and male has been taken to lie has shifted and been subject to significant historical changes. As Alice Dreger has argued, the ultimately social “decision to define males, females, and hermaphrodites in particular ways necessarily depends ... on contemporary concepts and available technologies and the tolerance and intolerance of a given definition’s larger implications” (1998, p. 9-10). What it means to be female, male, or hermaphroditic is ontologically open and temporally and contextually

variable, whereby the hermaphrodite has connoted myriad subjects of fixed, blurred, mistaken, or doubtful sex or gender in different contexts.⁷ The same applies to ideas about what masculine female bodies actually look like, and for concepts like sex change. While, as I will argue, central to elite sport officials' worries in the 1930s/40s were concerns over previously female-categorized athletes undergoing sex changes, these changes did not have the connotations of transsexuality to which the term is attached in the present (see Meyerowitz, 2002). To read these athletes' sex changes through the lens of transsexuality/gender as some have done (Heggie, 2014; Pieper, 2016) is thus somewhat misleading. Rather, these sex changes were contextualized by the emergence of the hormonal model of sex difference in the 1930s into popular awareness, which in many ways rendered bodily masculinity and femininity unstable. Endocrinologists introduced a quantitative theory of sex and the body which implied *relative* sex specificity, whereby relative quantities of hormones such as androgens determined the predominance of masculine and feminine characteristics. However, these hormones were seen to hold potential to induce masculinization in female bodies, which could explain masculine characteristics in females (Oudshoorn, 1994). Indeed, these hormones could render female bodies so masculinized that they could even spark full blown changes of sex.

To understand the earlier history of sex testing and sport regulators' decision-making in relation to gendered regulatory policy, a contextual account of gendered anxieties around sex binary non-conforming bodies, and what such non-conformity looked like, is essential. Ideas around sexed and gendered normality and abnormality structure the historical record, defining presumptions about female embodiment and gendered anxieties around abnormally sexed or gendered bodies that incited the need to construct more precise regulatory boundaries around which bodies count as appropriately female. Central for navigating these ideas was a reliance on the ontological truth of binarized sex, which required purification from category pollution identified with bodies that threatened the clarity of the female/male division.

Hermaphrodites, metamorphoses and normal childbearing women

Since the beginning of the 19th century medical(ized) notions of female bodily frailty, centered on fears over expected reproductive damage, had been central in navigating the value and

⁷ The term has historically been applied not only to bodies born with ambiguous sexed anatomies, but also to what we would now call homosexuals, transvestites, transsexuals or feminists (Dreger, 1998).

nature of women's sporting capabilities (Cahn, 1994; Hargreaves, 1994). In particular, physical activities seen to be strenuous, such as strength based sports, were understood by many to constitute a threat to the female body and its reproductive capacity. Female bodies were characterized by many as constitutionally unbuilt for physical efforts, to the extent that female embodiment was seen to constitute a kind of physical handicap. While, as Jennifer Hargreaves (1994) has argued, during the first part of the 20th century, the 19th century imaginary of the frail female was becoming contested in particular by women's sport organizations and female athletes who were taking part in sport in increasing numbers, this image endured in public discourse well into the 20th century in relation to sports considered to exhibit pure bodily strength such as athletics (see Cahn, 1994). One late 1930s observer, for example, argued that "Science has proved conclusively that girls are unsuited to athletics" among other things because their "Lung power is reduced considerably by tendency for full hips and narrow shoulders" and because "it has been noted by many scientific observers that feminine muscular development interferes with motherhood" (Sharpe, 1938, p. 29). While ideas like this were challenged by some, the challenges tended to underline the importance of preserving female athletes' heteronormative femininity and the centrality of motherhood for their identities despite their participation in athletics, as "women's athletics should be an all-feminine affair. Athletic wives know that" (Benham, 1938, p. 25).

IOC and IAAF officials largely supported the medicalized arguments centered on female fragility, which they considered to mandate the protection of female bodies from over-strain in ways that coupled with a desire to preserve feminine beauty aesthetics. Exemplary are debates around women's Olympic participation. As late as 1952, officials like Dr. M. Messerli, a member of the IAAF Women's Commission, argued that restricting women's participation is "all for the good, seeing that woman has a noble task in life namely to give birth to healthy children ... we must avoid everything which can be injurious to her health and harm her as a potential mother" (Messerli, 1952, p. 16). During a late 1940s meeting among elite sport officials where women's participation in the Olympics was debated, one participant stressed the need to preserve female athletes' femininity by suggesting that "the participation of feminine competitors should be restricted to sports essentially feminine" as spectators "would be spared the unaesthetic spectacle of women trying to look and act like men" ("Competitions for Women", no date). In the context of these kinds of views, female athletes in so called strenuous sports like athletics who "looked and acted like men" or failed to conform to the image of the feminine mother easily become rendered as suspiciously masculine when viewed from the perspective of IOC and IAAF officials. As, for officials like Messerli, female bodies

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were not supposed to participate let alone excel in physically demanding sport, the ability and willingness of some females to take on such sporting strains easily rendered their bodies suspicious.

These 1930s/40s ideas about women in sport foregrounded the emergence of gendered and sexed concerns that were centered around the presence of overtly masculinized or even hermaphroditic bodies in the female category. During the late 1940s meeting on the participation of women in the Olympics, participant Norman Cox remarked:

One thing the fathers of the Olympics overlooked was making provision for competition among hermaphrodites. ... Certainly the 'child-bearing' type of woman – large or largeish breasts, wide hips, knocked knees, and so forth – is under a handicap when up against the hermaphrodite ... And how normal women are to be protected against such handicap except through the institution of anatomical examination is beyond me ("Competitions for Women", no date).⁸

In 1936 Avery Brundage, a future president of the IOC who had previously expressed support for restricting females' Olympic participation, expressed a similar concern. Brundage had received a letter from "an interested sport fan ... who upholds the participation of feminine athletes in athletics," but who also had the following worry over one un-named American athlete: "Her deep bass voice, her height and 10½ inch shoes ... proclaim her a border-line case if there ever was one" and therefore, if this athlete was allowed in Olympic competition, "the normal American girl will certainly be misrepresented ... rules should be made to keep the competitive games for normal feminine girls and not monstrosities" (Brundage, 1936). This letter prompted Brundage to make the following suggestion to the IOC:

I don't know whether hermaphrodites are as common today as they evidently were two thousand years ago ... but I do know that the question of the eligibility of various female (?) athletes in several sports has been raised because of apparent characteristics of the opposite sex. Recently considerable publicity was given in the American press to the case of an English athlete who after several years of competition as a girl announced

⁸ The meeting organizer is not made explicit nor are any organizational affiliations provided for Cox, but it is likely that it was an IOC meeting. This is because the topic of discussion was women's participation in the Olympics, and because some participants are identified as representatives of National Olympic Committees.

herself (?) a boy ... it might be well to insist on a medical examination before participation in the Olympic Games (Brundage, 1936, parenthesized question marks in original).

These worries over “hermaphrodites” and sex “monstrosities” emerged in the 1930s/40s context where normal women or normal female embodiment was conceptualized by many sport officials as the “childbearing type” and understood through bodily frailty. Women who failed to have such attributes or who demonstrated “characteristics of the opposite sex” (i.e. bodily masculinity) thus came to be easily rendered as insufficiently female-like physiologically. In other words, they were easily rendered insufficiently physically “handicapped” to be appropriately female or feminine, to the extent that they had flatter chests, narrower hips or straight legs (rather than large breasts, wide hips, and knocked knees). The kind of masculinized embodiment represented by the un-named athlete discussed in Brundage’s letter, relegated as so abnormal as to be monstrous, caused gendered concern for observers because she failed to embody the physical characteristics considered normal for females, or appropriately womanly. Athletic female-categorized bodies that appeared not to be determined by bodily frailty and who demonstrated aptitude for strength-based sport blurred the boundaries of sexed and gendered embodiment presumed by sport officials, in particular when they also carried bodily attributes associated with maleness such as tallness or muscularity. In many ways, this rendered them figures of gender transgression pronounced enough to be potentially hermaphroditic within the sporting imaginary.

Worries over sex boundary violating athletes were reinforced by publicity around athletic bodies that explicitly crossed sexed physiological boundaries in the late 1930s. The worry expressed by Brundage over an English female athlete who announced herself to be a boy and gathered American press interest concerned Mary Weston, who competed in athletics in the Olympics and the Women’s World Games. In 1936, several newspapers reported that Weston had experienced a “metamorphosis into masculinity” (“Medicine: Change of Sex”, 1936): Weston had turned into a man and changed his name to Mark. The way in which Weston’s “metamorphosis” was represented in the newspaper accounts that brought his story to Brundage’s awareness reflected the changing context of hormone science that carried new possibilities of changes in sex.

In the late 1930s, a string of newspaper articles appeared in the US and Britain that reported sensationalized stories about spontaneous sex changes involving young female athletes quite suddenly turning into men (see also Oram, 2011; Tebbutt, 2015). The American

Physical Culture magazine opened its story about such sex changes with the following statement: “All the old landmarks are going, nothing is static, everything flows. ... Sex is no longer immutable. Recently the astonishing news made the rounds that science had actually succeeded in changing the gender of two female athletes” (Wickets, 1937, p. 16). One reporter conveyed that the sex changes were made possible by the newly discovered biological reality of sex instability: “Biologists say there is no such thing as absolute sex ... being male or female is not a matter of one element completely excluding the other, but rather of one element dominating the other” (“Medicine: Change of Sex”, 1936). These sex change stories were embedded within endocrinological theories that were reshaping dualistic notions of sex specificity into a conceptualization where bodily masculinity could manifest in female bodies as a consequence of hormonal fluctuations. The sex change narratives portrayed scientifically inspired ideas of *latent* or suppressed masculinity in females which could occasionally break through due to hormonal disturbances to the extent that sex changes might occur. Although news stories often mentioned that some (usually unspecified) surgical sex operations were also performed, such operations tended to be portrayed as supporting or augmenting a change that was already underway anyway. These changes were represented as a kind of wondrous sex(ual) metamorphoses or described as quite random changes of sex in relation to “women who find themselves changing into men” (“Miss Mary is Now Mr. Mark”, 1936, p. 19).

Centrally, while the way in which female athletes’ sex changes were represented by news accounts reflected the broader narrative of sex instability, nearly all news accounts also emphasized the athletes’ sporting backgrounds which were mobilized to contextualize their sex metamorphoses. In other words, their athleticism functioned as an incitement or as an explanatory framework for the sudden masculinization, giving the impression that athletic participation may either incite or awaken the masculinity that lays latent in female bodies anyway, or that such participation is an expression of this masculinity coming to the fore. These connotations were easily intelligible in the context of prevalent ideas around gendered bodies and sport, as athletic ability in particular in strenuous sports like athletics was understood to be both abnormal for female bodies and itself a masculine bodily sign.

The sex change cases worried Brundage, and as an expression of this worry, he “recommended that all women athletes entered in the Olympics be subjected to a thorough physical examination to make sure they were really 100% female,” because “athletes who recently competed in European track events as women were later transformed into men” (“Sport: Olympic Games”, 1936). Such reference to percentages of femaleness made sense in the context where femaleness and maleness could manifest in degrees across bodies. The

context of sex instability enabled by the emergence of new endocrinological theories not only incited sensationalized narratives about female athletes' masculine metamorphoses, but it combined with existing ideas about athleticism being a male-like attribute to render the perceived masculinization of some female-categorized athletes in strenuous sports as a site of gendered anxiety.

This anxiety resulted in a direct regulatory effort to police the presence of male-like bodies in women's athletics. In response to Brundage's concerns, the IOC Congress discussed the issue under the title "abnormal women athletes," deciding to leave the matter to the discretion of International Sport Federations (IOC, 1936, p. 10). Following this decision, the IAAF instituted a new mandate requiring female athletes to submit to a physical examination "should any protest regarding their sex be made formally" ("Man-Woman Athletes Test Decision", 1936, p. 2). This new mandate was, to my knowledge, the first official sex testing policy instituted in elite sport. Added under the IAAF's "protests" rule in 1937, it stated that if "the protest concerns questions of a physical nature, ... a physical inspection [will] be made by a medical expert" (IAAF, 1937, p. 40). Anxiety over sex category pollution was thus translated into formalized gender policing based on "protest" to be made in the face of abnormally male-like bodies in the female category. In 1948, this protest-based system was supplemented with a mandate for medical sex certificates signed by local medical practitioners required for high stakes events, including the Olympics (Pallett, 1955, p. 68).

The presence of male-like bodies in women's sport – some of whom were perceived as so male-like that they were hermaphroditic or actually turning into men – threatened sports regulators' ideas about what normal female embodiment in sport implied. It was anxiety around these kinds of bodies that incited the need for formalized sex testing aimed to ascertain that female-categorized bodies were indeed 100% female, in accordance with contemporary ideas about what normal female embodiment implied. Policy defined boundaries around female embodiment were thus erected in direct response to gendered concerns around binary polluting bodies. In the late 1960s, however, enduring worries over perceived abnormally sexed bodies were translated into a more rigorous on-site sex policing paradigm, contextualized by new concerns incited by the geopolitical context of the Cold War.

Cold War gender relations, polluted bodies, and the borderlines of sex

During the 1950s/60s, older concerns over abnormal male-like bodies in the female category became embedded within Cold War politicized and nationalistic concerns. The USSR entered

Olympic competition in 1952, and brought with it a new kind of unapologetically strong and muscular athletic female body into the international sporting landscape. During the Cold War, large scale Western political rhetoric constructed a politicized and gendered form of nationalistic unity through which the perceived role of women in the Cold War project was constituted with reference to white heteronormative femininity, exhibited through reproductive responsibilities, marriage and domesticity. Such domestic morality was mobilized as a stabilizing force in the face of Cold War instabilities, whereby the nuclear family – embodied by the heteronormative and feminine domesticity of women’s bodies and behaviors – was constituted as the symbol of the nation’s stability (Pieper, 2016). This imaginary was utilized to embody the gender and sex(ual) purity of Western nations, and transferred onto the bodies of female athletes who represented the nation in international competition. Centrally, this gendered imaginary was constructed in opposition to, and contrasted against, the strong, muscular and successful female athletes’ bodies from the USSR who were seen to pollute gendered boundaries. As opposed to the gendered purity of the political West, the communist political system was imagined in popular depictions to be perverting the appropriate boundaries of gendered embodiment. This gendered pollution was seen as the result of a political system that aimed, unduly, to make everyone the same: the USSR and its dominions were one huge human sausage machine, a grim consequence of which was that behind the Iron Curtain, women looked like men (Wagg, 2007).

Ideas around gendered pollution embodied by Soviet female athletes were entangled with concerns over Soviet political dubiousness. During the Cold War, dominant Western political ideologies were structured by constructions of good versus evil, whereby the evilness of the USSR was identified with the totalitarian communist system that was seen as willing to sacrifice the well-being of its subjects to demonstrate communism’s political superiority (Dimeo, 2007). In the elite sporting context, observers worried that the Soviets were using dubious means of success involving the deliberate entry into sport of not only athletes doped with anabolic steroids (see Beamish & Richie, 2007), but also abnormally sexed athletes into women’s sport to win more medals. In the words of IOC official Monique Berlioux,

nature can play some funny tricks and ... a baby can be declared of masculine or feminine sex at birth because its physical structure is such that it is possible to make an error. ... it is the duty of everyone to make sure that the situation is not abused. ... is there a voice raised against the person responsible for such cheating? ... Nothing is more prejudicial to female sport that this charlatanry (Berlioux, 1967, p. 2).

For Berlioux and others, the responsibility for such a form of charlatanry lay in the hands of what one reporter called “ambitious selectors” who were “turning a blind eye to possible abnormality and giving their teams an unfair advantage” (Doyle, 1967, p. K26).

Anxieties over “ambitious selectors” and sex abnormality formed in a context where Soviet female athletes were dominating women’s sport in strength-based events. Exemplary were the exceptionally successful sisters Irina and Tamara Press who competed in athletics during the 1950s and 1960s. In Western representations, the Press sisters embodied the gendered pollution and threat associated with perceived excessively muscular Soviet female athletes in ways that endured for decades. For example, discussing “why you WON’T look like Tamara if you take up sporting life,” one 1970s reporter took up the task of celebrating the (Westernized) femininity of some female athletes by contrasting what he considered beautiful feminine sporting bodies against a picture of “giant” Tamara Press’ strong body in full swing, showing her grimacing with physical effort (O’Flaherty, 1975, p. 2). The masculine bodies of Soviet athletes like Tamara Press carried simultaneously two kinds of gendered threats: they carried the pollution of binarized heteronormative gender upon which Western Cold War rhetoric was erected, and thus exemplified the perceived polluted nature of communist gender organization. They also carried the dubiousness of the Soviet government, seen to be willing to enter abnormally sexed bodies into sport to achieve (unfairly attained) sporting glory.

In response to these gendered threats, the IOC and the IAAF considered it necessary to institute a more rigorous on-site paradigm of sex testing. IOC medical official Guisepe La Cava, for example, reflected that the existence of dubious government motives in elite sport meant that sex certificates signed by local medical practitioners (some of whom were working under dubious governments) were no longer trustworthy: “this method does not permit a sufficiently strict control since such certificates are often very easily obtained” (IOC-MC, 1967). Instead, the IOC and the IAAF instituted compulsory on-site sex testing mandating female-categorized athletes to submit to medical policing of sex. In 1966, the IAAF required female athletes competing in high-stakes events to undergo on-site physical examinations by a panel of doctors, while the IOC’s method was a chromosome-based screening test, first applied during the Grenoble Olympics in 1968 (these sex testing methods have been extensively analyzed by others. For a starting point, see de la Chapelle, 1986; Elsas et al., 2000; Pieper, 2016).

Worries over abnormally sexed bodies in women’s sport heightened during the 1966 IAAF European Championships in Budapest where the IAAF applied on-site sex testing.

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Several newspapers reported that some previously successful Soviet bloc female athletes had, suspiciously, failed to attend the competitions. For example, commenting on “the absence ... of several leading Russian women athletes from the championships” one reporter noted that such absences had “caused a great deal of discussion ... on the subject of physiologically ‘borderline cases’ in women’s athletics” (“European Championships: Medical Tests for Female Athletes”, 1966, p. 3). It was implied that these absent athletes, including the successful Press sisters, had withdrawn from competition due to “borderline” sex characteristics, which would have caused them to fail the new sex test. Indeed, one reporter commented after the introduction of on-site testing and the withdrawal of athletes like the Press sisters that “the female members of the Russian team ... were far more feminine than before ... and not the husky mannish types such as the Press sisters [who] have reportedly refused to take the sex test” (Daley, 1968). Thus, for some observers, the introduction of on-site sex testing seemed to translate into the feminization of women’s sport more generally, whereby the withdrawal of presumed borderline, male-like or “mannish” bodies enabled the blossoming of appropriately feminine bodies in women’s sport.

The centrality of anxieties over borderline sex for the institution of on-site sex testing is clearly evident in the rationales provided for this testing by the IOC. IOC medical official Jacques Thiebault, who oversaw sex testing during the Grenoble Olympics where it was first applied, outlined two motives: firstly, the aim of sex testing “was to ... dissuade the hybrids from participating in the Games” and, secondly, “the moral means of ... the IOC should be employed to help such an ‘indetermined’ creature to become aware of its true situation and of the eventual therapeutics” (1968, p. 16). The abnormally sexed bodies that were the object of concern – labelled “hybrid,” “indetermined,” “creature,” and “it” – explicitly carried category pollution to the extent that not only their sex but also their humanity was rendered in doubt: the labels applied erased these bodies from human identity, rendering them unsettling hybrids who disrupted the purity of binarized categories. The objective of sex testing was thus to dissuade polluting bodies from Olympic participation to secure the femininity or sex purity of the female category, and to offer therapeutics for the hybrids to re-integrate them into binarized sex. Indeed, Thiebault noted that “hybrid discovery” during Olympic competition made at a young age would be positive because “all therapeutics can still be applied” and “it is not too late to do something about psychic reintegration into the true sex, if necessary” (1968, p. 8). Hybrid bodies, then, were not only polluting Olympic category purity, but also sex category purity more generally. The IOC was therefore credited with a broader *moral* duty of medical aid for these bodies:

above all other things – even the Olympic Games – we should place our duty as physicians and, should we come across such hybrid creatures, prescribe medical treatment if possible, or at least help them to accept their fate, as we try to do when we discover any other infirmity (Thiebault, 1968, p. 2).

Hybrid bodies were thus not only to be excluded from Olympic competition, but also to be normalized with medical treatment or at least presented with Olympic physicians' sympathy for their medical(ized) "infirmity."

Gendered Cold War dynamics and the entry of powerful and masculine appearing Soviet bloc female athletes into international sport provided a new lens for pre-existing anxieties over abnormal and male-like bodies in the female category. While these concerns shared continuity with past worries, these worries were transferred onto the bodies of Soviet bloc female-categorized athletes in ways that reflected Western suspicions over communist political dubiousness and the perceived pollution of communist gender relations. The IOC and the IAAF reacted with intensified policing efforts to secure the purity of binarized sex in the face of these troubling bodies, affirmed by the withdrawal of some perceived male-like bodies from women's sport after the introduction of on-site sex testing. As the location of anxieties over sex binary pollution shifted towards bodies from the political East, regulatory policy around appropriate female embodiment was re-written to reflect this shift: by instituting on-site sex testing, the IOC and the IAAF took control over the policing of the sex binary away from local practitioners, and claimed full authority over defining the boundaries of appropriate femaleness. Thus, on-site sex testing arose in response to a threat presented to the Western sex binarized and heteronormative gender model by perceived borderline or hybrid bodies from communist contexts.

Conclusion

The IOC's and the IAAF's sex binary policing efforts between 1937 and 1968 were embedded within specific temporal and contextual conditions. Pre-existing cultural ideas around sexed embodiment shaped the discursive context of elite sport, and these ideas were broadly accepted by IOC and IAAF officials. However, when accepted ideas became contested and threatened by the presence in elite sport of female-categorized bodies that did not conform to these ideas, the IOC and the IAAF responded with intensified efforts to protect the sex binary. In the late

1930s, some athletic female bodies who excelled in strength-based sports like athletics challenged presumed ideas about what female bodies were capable of. Their sporting prowess, combined with masculine physical characteristics like tallness and muscularity, rendered these bodies abnormal and their gender in doubt to the extent that they were conceptualized as potentially hermaphroditic. When newspapers reported that some of these male-like females were actually metamorphosing into men, Brundage, called for formalized sex binary policing to ensure that female-categorized athletes were, indeed, 100% female rather than male-like or so masculinized that they might turn into men.

Similarly, Western political rhetoric in the Cold War context was structured by a gender binarized and heteronormative ideology, in contrast to which masculine appearing Soviet bloc female athletes seemed to pollute the appropriate boundaries of gender difference. Some of these athletes appeared masculinized enough to exist at the borderlines of binarized sex, representing the gendered pollution associated with the communist political system. When concerns over communist gender pollution entangled with concerns over the immoral nature of communist governments willing to employ dubious means of success, they incited fears that these governments were deliberately entering abnormally sexed bodies into women's sport to win more medals. The IOC and the IAAF thus reacted with intensified policing efforts to protect the sex binary against sex hybridity, instituting on-site sex testing that took control over sex binary policing away from local medical practitioners.

Thus, the threat to presumed boundaries of sexed embodiment carried by sex binary polluting female-categorized athletes resulted in anxiety around the athletes that embodied the threat, conceptualized as abnormal, hermaphroditic, and hybrid among other things. In Foucault's terms, these bodies incited anxiety because they were boundary figures appearing to exist in-between sex categories, thus rendering the ontological fixity or necessity of sex category classifications less stable. This anxiety in turn was translated into explicit policy responses that aimed to construct borders around appropriate female embodiment, defined in relation to prevalent ideas of gendered and sexed normality. These policy responses can be understood as practices of binary purification in the Latourian sense, aimed explicitly at eliminating sex category pollution: drawing boundaries around appropriate female embodiment suggested that sex category purity could be safeguarded and polluting bodies excluded or re-aligned with the binary through medical therapeutics. The relegation of anxiety-inducing bodies into the realm of sexed borderlines and hybridity is expressly illustrative of the key regulatory aim of sex testing: bodies at the borderlines of sex carried the threat of

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category breakdown, requiring purification to secure the appropriate femininity and sexed normality of the female category.

To argue simply that sex testing was instituted to prevent males from fraudulently masquerading as females is misleading, because it ignores and renders silent the complexities of sport regulators' earlier worries. It ignores the ways in which earlier regulator policies were from the outset aimed at purifying sexed categories from bodies that existed at the borderlines of sex or crossed those borders. This is most strongly illustrated by the moralizing rhetoric of medical therapeutics and (rather patronizing) sympathy expressed by Thiebault during the late 1960s. It was not fraudulent male cheaters that the IOC was looking for, but so called indetermined creatures with medical(ised) infirmities that they considered to require compassion and medical aid.

In the present context, there is an increasing call for gender neutral policy and for policies that produce gender equity. As the IOC and the IAAF deliberate the soundness of their present policies governing the eligibility of athletes to compete in the female category, understanding the cultural ideas and social anxieties upon which sex testing policies in sport have historically been built is essential. The concerns that motivated the formulation of these policies should be used to inform whether policies aimed at protecting a mutually exclusive female/male categorization system in sport can be justified in the present.

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