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AN INTRODUCTION TO THE ETHICAL AND SOCIAL PROBLEMS OF BODYBUILDING: A PHILOSOPHICAL ANALYSIS FROM SCIENCE, TECHNOLOGY AND SOCIETY STUDIES (STS)

Una introducción a los problemas éticos y sociales del fisicoculturismo: un análisis filosófico desde los estudios de Ciencia, Tecnología y Sociedad (CTS)

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ABSTRACT: since the 20th century bodybuilding has been an object of study that interests and challenges researchers in the sociology of sport (see Conquet, 2014; Tajrobehkar, 2016; Wellman, 2020) and, recently, in the philosophy of sport (see Aranyosi, 2017; Madej, 2021; Worthen, 2016). However, many of its problems are little known in the orthodox philosophical literature. Therefore, the aim of this paper is to contribute from STS studies to the posing and discussion of the central ethical and social problems of bodybuilding by contributing to the philosophy of sport or the philosophy of body techniques. Therefore, I will plant the following problems in relation to bodybuilding: gender and sexism; racism, ableism and eugenics; and lastly, fatphobia. Finally, I propose that many of these problems are generated from the indiscriminate use of anabolic androgenic steroids (AAS) within this sport subculture. In this sense, a precautionary framework (epistemic values, moral values, hormonal benefit principle and

sports precautionary principle) is proposed from STS studies with the aim of regulating their use, avoiding adverse effects in individuals who are not professional bodybuilders.

Keywords: bodybuilding, gender, racism, ableism, eugenics, fat studies.

RESUMEN: desde el siglo XX el culturismo ha sido un objeto de estudio que interesa y desafía a los investigadores en sociología del deporte (véase Conquet, 2014; Tajrobehkar, 2016; Wellman, 2020) y, recientemente, en filosofía del deporte (véase Aranyosi, 2017; Madej, 2021; Worthen, 2016). Sin embargo, muchos de sus problemas son poco conocidos en la literatura filosófica ortodoxa. Por ello, el objetivo de este trabajo es contribuir desde los estudios CTS al planteamiento y discusión de los problemas éticos y sociales centrales del culturismo aportando a la filosofía del deporte o filosofía de las técnicas corporales. Por lo tanto, plantaré los siguientes problemas en relación con el culturismo: el género y el sexismo; el racismo, el capacitismo y la eugenesia; y, por último, la gordofobia. Por último, propongo que muchos de estos problemas se generan a partir del uso indiscriminado de esteroides anabolizantes androgénicos (AAS) dentro de esta subcultura deportiva. En este sentido, se propone un marco de precaución (valores epistémicos, valores morales, principio de beneficio hormonal y principio de precaución deportiva) a partir de estudios CTS con el objetivo de regular su uso, evitando efectos adversos en individuos que no son culturistas profesionales.

Palabras clave: fisicoculturismo, género, racismo, capacitismo, eugenesia, *fat studies*.

1. INTRODUCTION

This paper deals with ethics and sport from a philosophical perspective of Science, Technology and Society studies (STS from now on). Circumscribing this research within the field of STS is fundamental given that there are ethical and social problems within sport related to the use of techniques and instruments created by medicine and biotechnology such as anabolic androgenic steroids -which represent a risk to the wellbeing of individuals who consume them for body modification purposes- that have not been explicitly addressed, at least in Spanish-speaking countries. For example: does bodybuilding reproduce bodies that are considered hegemonic and based on gender binarism? Does it segregate trans bodies? Does it segregate obese bodies? Is it a practice with eugenic values that aim at the perfectibility of the human body? Is it an enabling practice that

excludes disabled human beings? Is it an ideology of contemporary capitalism (for consumption purposes) based on sport? For the above reasons, the two central questions that guide this paper are the following: what are the ethical-social problems that are created through the practice of bodybuilding given the indiscriminate use of anabolic androgenic steroids (AAS from now on), and despite these problems, should the consumption of anabolic androgenic steroids be legalized and regularized in society with the objective of diminishing or controlling their adverse effects?

To answer these questions, I propose the following methodological order. In the first part I establish, briefly, the history of bodybuilding. This will be done with the aim of showing how bodybuilding becomes a consolidated subculture in the mid-twentieth century. In the second part, I raise the central problems of this sport practice. This will be done to elucidate some of the ethical and social problems implicit within this sport. Finally, in the third part, a precautionary framework is proposed from STS studies with the aim of regulating its use, avoiding adverse effects on individuals who are not professional bodybuilders.

I should mention, for the purposes of this paper, that there is a whole debate in philosophy as to whether it is appropriate to characterize bodybuilding as a sport. Adherents of this position argue that bodybuilding, being a bodily practice through physical exercise, should be characterized as a sport (even if many of its practices such as doping go against the sporting *ethos*). In this sense, bodybuilding would be an object of study that interests and concerns the philosophy of sport. On the other hand, the detractors of this posture argue that it is much more appropriate to understand bodybuilding as a corporal technique for shaping and sculpting the body through systematic physical exercise and techno-scientific means¹. In that sense, bodybuilding would be an object of study that should be of interest to the philosophy of technique or of physical exercise and health, and not only of sport. Although in many high-performance sports various

1. A bodily technique is defined by Mauss as “the ways in which, from society to society, human beings know how to use their bodies [for a specific purpose]” (Mauss, 1934: 70). In the context of the techniques for modeling the body, the techniques are as old as any productive technique and, in some way, these presuppose them. Thus, there are ancestral techniques of meditation, relaxation, mental concentration, resistance to pain, to cold, to physical violence. Many primary techniques (productive, playful, artistic, sporting) have at their core bodily techniques to mold and adapt the body to a certain activity, to make it more resistant, more efficient, faster, in any sport as well as in dance, music, handicraft work or war.

technological and scientific means are used to measure, rationalize and improve performance, in bodybuilding the use of substances and exercise equipment is fundamental to its own ends. This debate has not come to an end and continues to this day. In the face of this debate, I will adhere to the first position (*i.e.*, that bodybuilding is a sport) insofar as it contains: (1) an aerobic and anaerobic exercise training methodology which (2) is systematically repeated for (3) the purpose of developing muscle mass and other physical capacities such as strength, endurance, coordination, among others. While many detractors of bodybuilding as a sport point out that the purpose of a sport is to show a particular ability (*e.g.*, 100m sprinters acceleration, powerlifters strength or rhythmic gymnasts coordination) and bodybuilding does not show, in its competitions, any specific capacity but only the muscular development of its body, I argue against that there are two types of tests to evaluate a capacity within the sport: a direct test (*i.e.*, the execution of the exercise and its involved motor capacity) and an indirect test (*i.e.*, the performance of the bodybuilders). Therefore, to consider that only direct tests are the only criteria for evaluating a sport would be reductionist. If I am granted this distinction between types of tests, then bodybuilding is a sport that can be defined as training and muscle development through weight training, adjusted nutrition and strict eating schedules with primarily aesthetic objectives (*cfr.*, Mosley, 2009).

2. BRIEF HISTORY OF BODYBUILDING AND ITS INSTITUTIONALIZATION AS A SPORT PRACTICE

The emancipation of bodybuilding as a subculture within society occurred in 1946 when the brothers Ben and Joe Weider created the association "IFBB pro-league" (International Federation of Bodybuilding) in the United States. This association became, over time, the meeting point for American bodybuilders and, today, the meeting point for all bodybuilders in the world. This is because the association created, in 1965, the most important contest in the world for bodybuilders: the Mr. Olympia. Thanks to this contest, bodybuilding has gained its place as a subculture within the American society and many of its champions (Arnold Schwarzenegger, Franco Columbu, Jay Cutler or Ronnie Coleman) are currently recognized as world icons within this artistic-sports practice. However, the history of bodybuilding begins a little earlier (end of the 19th century and beginning of the 20th century) in Europe with a very important figure: Eugen Sandow.

2.1. *The origins of the gym and modern bodybuilding*

Eugen Sandow (1867-1925) is considered the father of modern bodybuilding for his public strength and bodybuilding presentations around the world. Sandow began to make presentations in different European cities gaining fame in the old continent. This eventually led to him being noticed by several businessmen such as Florenz Ziegfeld for presentations in other parts of the world. Ziegfeld took Sandow from Europe to the United States and given the success of his presentations, took him around the world (Russia, Australia, India, China and Japan). In this way, weightlifting and the aesthetics it conferred were opening the field within multiple modern societies. Its impact was so radical that, by the end of the 19th century and the beginning of the 20th century, more than 200 physical culture institutions had been created around the world that used its training methods. Given this growing popularity, Sandow formed in 1898 the first American magazine dedicated to the cult of the body: *Physical Culture*. However, since the practice of body worship was a taboo that was gradually being eradicated in the most conservative part of American society, those who engaged in it did so in private. Therefore, Sandow began to sell his sports courses by correspondence. Noting the growing success of both his magazine and his athletic courses, Sandow began marketing strength training equipment “including a chest expander and a spring-grip dumbbell, which was a lightweight halter for training the grip and biceps” (Stokvis, 2006; p. 467). In this way, Sandow created (i) a method of cultural diffusion of physical activity and the cult of the body and (ii) the first machines that would gradually form a social space for the development of the body: the gymnasium (linking, in a very subtle way (magazines, machines and a sports asylum), bodybuilding and physical activity with the productive market). For these contributions, Sandow is considered the pioneer of bodybuilding. In fact, Sandow's impact was so important in the United States that the Weider brothers chose his face to be the official image, for more than 80 years, of the Mr. Olympia.

2.2. *Sandow's legacy: Bernarr MacFadden*

Sandow was the most famous and enterprising strongman of his time, although there were other very successful competitors and successors. His most notable successor was the American Bernarr MacFadden (1868-1955), who was inspired to take up bodybuilding after witnessing Sandow's performance. Just prior to the launch of Sandow's magazine in

1898, Bernarr MacFadden had established with several partners a magazine of his own called *Physical Development*. Once they parted ways due to business disagreements, MacFadden created the following magazines: *Health & Strength* and *MacFadden Physical Development* making bodybuilding an important market and an increasingly strong and robust subculture that will continue to expand over time. In the words of Stokvis:

For MacFadden, these [two magazines] marked the beginning of many other magazines in the United States, the most famous of which was *Physical Culture*, which had more than 100,000 subscribers in 1900, a year after its introduction, and more than 340,000 during the 1930s. Like Sandow, it tried to appeal to both men and women. In fact, shortly after its introduction in 1903, her magazine *Beauty & Health: woman's physical development* had a circulation of more than 80,000 subscribers. During her lifetime, she wrote nearly 150 books with titles such as *Physical Training* (1900), *Health, Beauty and Sexuality* (1904), *Making Old Bodies Young* (1921), *Talks to a Young Man about Sex* (1928) and *How to Reduce Weight* (1936) (Stokvis, 2006; p. 468).

Both MacFadden and Sandow were the first to promote the first bodybuilding competitions. The first competition was promoted by Sandow in 1901 in London. The second competition, promoted by MacFadden, took place in 1903 under the name of “the most perfectly developed man in the world” in New York. What was innovative for bodybuilding was that in both competitions there were no weightlifting demonstrations, but rather a demonstration of the body development of the participants. From that point on, competitions such as “the most beautiful man in the world” in 1922, whose winner was the famous bodybuilder Charles Atlas, began to take shape.

2.3. *Contrasts: the reception of the new bodybuilding competitions in the United States and Europe*

In the following table I present the most common characteristics resulting from the reception of the new bodybuilding competitions in the United States and in Europe. In both parts of the world the reception of the new competitions was diametrically opposed. While in the United States bodybuilding was well received and physical culture was implemented within society, in Europe the cult of the physique was seen as a practice for homosexuals and with eugenic values that would function at the heart of German and Italian fascism:

BODYBUILDING IN THE UNITED STATES AT THE BEGINNING OF THE 20TH CENTURY	BODYBUILDING IN EUROPE AT THE BEGINNING OF THE 20TH CENTURY
<ol style="list-style-type: none"> 1. Strength training became associated with the health reform movement among the American middle classes. 2. Sports and physical activity were implemented within the educational curriculum of schools. 3. More public and competitive forms of bodybuilding were organized in the U.S., most notably the Mr. America contest. This contest, held annually since 1939, was the successor to earlier contests such as those promoted by MacFadden. John Grimek, the winner of the Mr. America contest in 1940, became a national sports star and was offered roles in movies and theater. By the 1950s and 1960s, bodybuilding had become a minor spectator and media sport in the United States and was especially prominent in men's magazines. 	<ol style="list-style-type: none"> 1. In Europe, bodybuilding came to be called physical culture and its practitioners were known as physical bodybuilders. In Germany, France and Great Britain, physical culture soon became associated with homosexuality, in the sense that many homosexuals liked to look at well-developed male bodies. 2. In Europe, interest in bodybuilding became associated with feelings of inferiority. It was assumed that people who wanted to build their bodies were motivated by inferiority complexes related to their physical appearance. 3. Consequence of (2) the sculpted male body became an ideal within the German youth movement and later in fascism, especially among German fascists and, to a lesser extent, their Italian counterparts. 4. In France, the French Federation of Physical Culture (FFCP) was established in 1934, an organization that almost disappeared after World War II. However, despite these four points: 5. In 1948, to salute the London Olympics, the editors of HSM organized the first Mr. Universe contest. Two years later, the National Amateur Bodybuilders Association (NABBA) was founded to organize this competition annually.

2.4. *Bodybuilding as a subculture in the United States: the role of "Muscle Beach", California*

Given the growing popularity of bodybuilding in the United States in the 20th century through its contests, magazines, some fitness machines and so on, the bodybuilding community began to gather in one particular spot: Santa Monica Beach in California. This beach was the epitome of bodybuilding from 1930 to the present day. In fact, the beach is known as "Muscle Beach" since it is an area frequented by bodybuilders, athletes and sports enthusiasts in general. The California sun, the ocean, the athletic bodies in search of physical perfectibility generated a whole environment attractive in several ways for people: sexually, socially and economically. Sexual insofar as the beach environment propitiated looks and sexual encounters between homosexuals and heterosexuals, social insofar as it was the meeting point for all bodybuilders in the United States and economic because it represented a point of interest for Hollywood and the creation of institutions such as Gold's GYM: the most famous gym in the world. In the words of Stokvis:

The founders of the first modern fitness chains also came from the circle of visitors to Muscle Beach. In fact, the first founder of a major chain was Vic Tanny, a bodybuilder who had already opened his first gym near Muscle Beach in the late 1930s. By 1950, he owned a total of 45 gyms in Southern California; ten years later he also opened gyms on the East Coast of America. By 1960 he owned 84 gyms with 300,000 members and, for advertising alone, was investing some two million dollars a year (Stokvis, 2006; p. 471).

As can be seen, the development of bodybuilding in "Muscle Beach" began to grow exponentially and by 1945, after World War II, there was already a whole subculture consolidated in California. Multiple bodybuilders, acrobats, jocks and weightlifters gathered in gyms with the same goal: physical activity. This subculture became associated with the IFBB pro-league a year later, when in 1946, the Weider brothers created it and set up its headquarters in "Muscle Beach". Since then, bodybuilding has been closely associated with the IFBB and, 19 years later, with the Mr. Olympia.

2.5. *Cultural dissemination of bodybuilding in the United States*

The greatest success of the Weider brothers was to have discovered who would be the greatest promoter of bodybuilding at a cultural level: Arnold Schwarzenegger. He was the Mr. Olympia champion for five consecutive years (1970-1975) and, thanks to his fame in this sport, he gained

access to the world of show business in Hollywood, promoting bodybuilding through his physique in films such as *Terminator*. At the same time, in 1974, he sold the book that has had more cultural diffusion about bodybuilding: *pumping iron: the Art and Sport of Bodybuilding*. This book has sold more than 700,000 copies around the world. Subsequently, *Pumping Iron* became a trilogy of films portraying the Muscle Beach bodybuilders' way of life: their practices, *ethos* and *psyche*.

3. ETHICAL AND SOCIAL PROBLEMS OF BODYBUILDING

The literary popularization of bodybuilding began in 1974 when Gaines and Butler published the book *Pumping Iron: The Art and Sport of Bodybuilding*. This was an informative book about the sport of bodybuilding in the United States. Subsequently, the fame of this way of life grew when Arnold Schwarzenegger, in 1985, published *The New Encyclopedia of Modern Bodybuilding*. Mentioning both books in the theoretical framework is relevant since they established the historical origin of bodybuilding, its training methodology, the selection of exercises suitable for each part of the body and some training programs for muscle growth. However, both books were descriptive/normative. Therefore, these books were not critical books on the practice.

Because of such a critical lack within the bodybuilding literature, sociologists such as Monaghan (2001) set out to fill this gap, making explicit the central problems of this subculture stemming from the abuse of AAS, hormones, and pharmacology. According to Monaghan (2001) drug use in the bodybuilding subculture is mediated by notions about the degree to which muscularity is an acceptable aspect of feminine/masculine appearance. In this quest for a muscular body, bodybuilders subject themselves to health risks. Female bodybuilders taking steroids run the risk of irreversible virilizing effects, including excess facial and body hair, deepening of the voice and clitoris. On the other hand, steroid use in men has led to the psychiatric hypothesis of "roid-rage" (*cfr.*, Pope and Katz; 1990) or male violence exacerbated by steroid use. However, even if roid-rage is a hypothesis advocated within psychiatry, there is little scientific evidence that the use of anabolic steroids actually increases aggression (Williamson, 1994). However, there is scientific evidence of other physiological and psychological damage derived from steroid use: testicular atrophy, suppression of endogenous testosterone, suppression of luteinizing hormone (LH), gynecomastia, growth and hypertrophy of organs such as the heart (containing smooth, cardiac and skeletal muscle tissue), null androgen production, acne, water retention, etc.

This type of sociological analysis was made possible in 1993 when sociologist Alan Klein published the famous book *Little Big Men: Bodybuilding Subculture and Gender*. In this book Klein made the first ethnographic study of the bodybuilding subculture in relation to gender, establishing the first explicit social problem within the literature so far: The problem of the creation of hegemonic male bodies based on the narcissism, homophobia, hypermasculinity and insecurity of those who practice it. Thanks to this ethnographic study, Klein established a sub-discipline within sociology dedicated to analyzing the social problems of bodybuilding: the sociology of bodybuilding. Also, in the philosophy of sport (thanks to Klein's work) critical articles (usually from ethics, phenomenology, and gender studies) have been appearing in relation to bodybuilding from 1990 to 2022 (see "Bodybuilding" at www.philpapers.com). Most of these articles have worked out problems in relation to male and female gender (see Gavey, 1996; Jefferson, 1998; Castelnuovo, 1998; Burke, 2001; Morton, 2004; Bridges, 2009; Dean, 2011). However, few articles have also been written in relation to other social-ethical problems such as racism, ableism, eugenics in sport or possible discrimination to obese bodies within sport.

3.1. Gender issues

Gavey (1996) asked, in a gendered key, whether bodybuilding in women transgresses the norms of what is considered natural and desirable for the female body or whether, on the contrary, it reproduces hegemonic female bodies (1996: 45). This question has framed an entire debate known as the "femininity vs muscle" or "mass vs symmetry" debate vis-à-vis the role of the female bodybuilder in Western societies. While some theoretical feminists such as Susan Bordo have related female bodybuilding as a practice related to anorexia and the creation of hegemonic bodies (for example, through the implantation of breasts when they have been lost as a result of exercise), other feminists such as Bartky have held the opposite position (that bodybuilding creates non-hegemonic bodies). This debate has led several bodybuilders to express the following contradiction in practice and in their belief system: they develop muscle mass but under patriarchal parameters of beauty and symmetry. This contradiction has led authors such as Tajrobehkar (2016) to question whether female bodybuilding really emancipates women. But this is not only the case in the female context.

The same year, Aoki (1996) argued that female bodybuilders evoke "masculine" traits, transgressing their gender. For this reason, female bodybuilders would be viewed as "butch-femmes" or "tom boys" (women with

masculine characteristics). This is problematic insofar as it transgresses the social imaginary of what a woman should be and goes against what Shepherdson has called “the imperative of inscription” (Shepherdson, 1994). Fortunately, today, the inscription imperative can be challenged. Fluid and queer genders are gender identities that challenge the idea that there is a binary gender imperative to which human beings must inscribe themselves.

On the other hand, Jefferson (1998) and Monaghan (1999) established social-ethical problems of bodybuilding in relation to the male gender. Men, in search of the “perfect physique” (under Greek and Western aesthetic ideals), according to Jefferson, have developed anxiety (social, ontological and class) by failing to look “as they should look” (strong, muscularly developed, manly and even “indestructible”). At the same time, Monaghan (following Klein's ideas) states that men who practice bodybuilding are not only anxious, but also insecure about themselves. Therefore, developing an excellent physique would be a physical compensation for their insecurities. These ideas have been reinforced from psychiatry, relating bodybuilding to frustrated basic psychological needs (Selvi and Bozo; 2019).

Finally, the relationship between transgender people and bodybuilding is a new one for the sport (and sport in general). In 2019, Sabastian Roy created the NYTBF (New York Transgender Bodybuilding Federation) with the goal that trans bodybuilders could have a space to teach their physical/muscular development (see <https://www.nytbfbf.info/>). The creation of this competition signifies two things: (1) bodybuilding, historically, has been cis gendered and (2) trans bodies have, directly or indirectly, been left out of bodybuilding competitions. Law (2021) shows, through an ethnographic study, her perspective as a trans (queer) woman and professional bodybuilder:

In 2018, I competed in a professional qualifying competition in Vancouver, and it was where I won in the open women's bodybuilding category and became a professional athlete. During the contest, a female Canadian audience told me that she hoped she could win even though she was Canadian. After I won the contest, the bodybuilding world was shocked at how they could have let a ‘man’ compete in a female bodybuilding category. Their accusation was that I was assigned male at birth and competed as a woman. One of the accusers even defamed me on social media by randomly picking a Chinese male bodybuilding competitor in a mainland Chinese competition and claimed it was me before the surgery (Law, 2021; p. 212).

3.2. *Eugenics*

In “*The Strongman of Eugenics, Eugen Sandow*”, Daley (2002) argued that Sandow’s (the founder of the first bodybuilding contest) initial ideas and motivations constituted an entire eugenic legacy through the creation of “perfect” bodies. As Daley argues:

In 1897 [Sandow] opened his first gymnasium in London. Known as the Institute of Physical Culture. He soon trained enough teachers to open a chain of institutes. He also launched his own range of patented exercise equipment (...) along with his publications, these business operations helped make Sandow a wealthy man. But this, he claimed, was not his primary goal. His real goal was reform. Sandow was on a eugenic mission. He was a self-styled ‘apostle of physical culture,’ put on earth to help improve the human race” (Daley, 2002; p. 235).

For that reason, Sandow, during his lifetime, offered a program that he considered ‘scientific’ and ‘rational’ positive eugenics to lead those concerned to bodily perfection: the Sandow system.

3.3. *Racism*

In 1985 bodybuilder Rick Wayne wrote *Muscle Wars: the behind scenes story of competitive bodybuilding*. In this text, Wayne made for the first time in the history of bodybuilding allegations of structural racism within ‘Mr. America’. This structural racism was present from the creation of Mr. America in 1939 until 1970, when the first black bodybuilder, Chris Dickerson, won (Fair, 2003). Until that great historical moment for black bodybuilding, according to Wayne: “the big winners were always white, and they were always associated with the York Barbell Club and Bob Hoffman (creator of the contest) [for that reason] year after year, extraordinary bodies got no recognition, while ordinary entries rose to stardom” (Fair, 2003; p. 9). On this fact Fair (2003) writes: “Wayne and other black activists observed that minorities were generally relegated to second places or consoled with ‘most muscular man’ awards. In any case, no African American won the most prestigious of the physical titles until 1970” (Fair, 2003; p. 9). This means that, for 69 years (from the creation of the first bodybuilding contest in 1901 by Eugen Sandow until 1970) black bodybuilders were relegated from being champions by implicit racial discrimination. The following list shows the most prominent black bodybuilders who, from 1939 to 1969, despite their muscular development, never won

a Mr. America contest: Rick Wayne, Melvin Wayne, Kenneth Pendleton, George Paine, Leroy Colbert, Arthur Harris and Sergio Oliva. These bodybuilders were segregated because of everything that had happened historically in the United States: racial segregation laws, as well as Jim Crow laws, social Darwinism and eugenics policies in XX century.

3.4. *Capacitism*

The consequence of avoiding disability at all costs because it is something “undesirable” for the sufferer's life is that it generates ableism. Capacitism is the idea that having a set of X capabilities is better than not having them. In that sense, a capability is a good thing in itself insofar as it generates greater individual well-being and higher quality of life in those who have it. Critics of ableism (usually disability rights activists) ask: what would make us believe that having X capabilities is better than not having them? The problem with ableism within bodybuilding is this: could one consider bodybuilding to be an ableist practice insofar as it seeks ‘perfect’ bodies (this includes bodies with all their limbs)? A first answer could be yes: it is a capacitive practice (in the sense that there would be no bodily perfection with missing limbs). However, within the bodybuilding competition there are categories for the ‘disabled’ (Disabled Bodybuilding). This fact could lead to the proposition that it is a non-training practice.

Sparkes (2017) study is the first ethnographic study of ‘Dan’ a wheelchair-bound bodybuilder. Dan, according to Sparkes, is an example of ‘imperfect perfection’ (with hyperdeveloped upper limbs and undeveloped lower limbs) where he is evaluated on the same criteria as able-bodied bodybuilder: “Article 11 indicates that disabled bodies are quantified and classified as perfect under the same evaluation criteria as able-bodied bodybuilders. The parity of criteria between able-bodied and disabled competitors not only makes contemporary bodybuilding exceptional among competitive sports, but also transgresses the binary between able-bodied and disabled” (Sparkes, 2017). Even though bodybuilding seems to break away from the able/disable dichotomy (as in Dan’s case) this is not entirely true in economic terms. While an able-bodied bodybuilder in the Open category can earn 400,000 US in cash, a disabled bodybuilder earns recognition and 0 US for having participated. This fact makes one wonder if bodybuilding is really an enabling practice where they use the disabled as an example of the discourse of “yes you can despite the odds” or if, on the contrary, they are claiming bodybuilding as a restorative and central element in the life of a human being who suffers from a disability.

3.5. *Fat studies*

In 'How are They to Judge? overcoming anthropometry through fat bodybuilding' Baldwin (2018) argues that sports are "fat-exclusionary", especially, bodybuilding. In Baldwin's words:

People who inhabit fat bodies are constantly judged morally, aesthetically, physically, emotionally, economically, and in other ways that undermine their dignity. Above all, people who inhabit fat bodies are judged for visual and superficial reasons: by the bodies they inhabit (...) Particularly, anthropometric (body measurement) and increasingly refined judgments of bodies and forms of physicality are common in sports, reaching their zenith in the cultural space of competitive bodybuilding" (Baldwin, 2008; p. 2).

According to Baldwin this can be noticed in the extent to which bodybuilders are judged: they cannot have body fat and are judged derogatorily if they do. Because of this fact, bodybuilding would be "fat-phobic" by seeing fat and obesity as something objectionable in itself. I will argue, contrary to Baldwin, that bodybuilding is not a fat-phobic practice, as he contends. This is so for one main reason: bodybuilding does not view human beings with obesity as something to be avoided, discriminated against, or as something objectionable in and of itself. On the contrary, bodybuilding sees obesity as a *chronic disease* with multiple cardiac, pulmonary and hormonal problems. In that sense, many bodybuilders who are personal trainers recommend exercise for the multiple benefits it brings within this population: improved insulin resistance, lower visceral fat, better lipid profile, it is a good anti-inflammatory, anti-ischemic, anti-thrombotic and brings psychological benefits. Therefore, bodybuilding does not encourage fatness as a culture, but neither does it censure those who are fat or consider themselves part of it. Bodybuilding, from its social and sporting dimension, invites to improve physical and eating habits. In this sense, it promotes physical activity in general and, especially, invites those who suffer from this disease to treat it.

3.6. *Bodybuilding: a tool of emancipation or a tool of power?*

As Tajrobehkar (2016) shows there is a whole debate about whether (as presented in gender issues) bodybuilding emancipates (in his case) women or not. In the face of this debate there are two positions (A) bodybuilding emancipates women and (B) bodybuilding is a tool of power that

subjugates women. To support the first position, Tajrobehkar alludes that muscularity is favorable against the prototype body based on femininity. To justify (A) Tajrobehkar holds that the construction of a muscular body is an emancipatory practice for them in the way that they challenge the hegemonic vision of the female body as a weak, fragile and limited body. On the other hand, she shows that (B) can be justified on the basis that femininity is evaluated in the Bikini contest and is a compulsory element, so this contest reproduces the ideals of how a woman should look. Therefore, the author argues that Bikini contests reproduce and reinforce hegemonic ideals of femininity. The arguments run's as follows:

(A) MUSCULATURE IS FAVORABLE	(B) MUSCULATURE IS SOMETHING TO BE CONDEMNED
<p>MF1. A woman is a bodybuilder if and only if she has a training regimen, adjusted diet and adequate rest for building musculature.</p> <p>MF2. The hegemonic prototype of body based on feminity is a body that represents the woman's as fragile, limited and weak.</p> <p>MF3. If a woman is a bodybuilder, then she challenges the construction of a hegemonic prototype body based on feminity.</p> <p>MF4. If a bodybuilder challenges the prototype body based on feminity, then she does not represent woman's as fragile, limited and weak.</p> <p>MF5. A woman is empowered by culturism if and only if she does not represent woman's as fragile, limited and weak.</p> <p>MF6. If a woman is empowered by culturism, then musculature is favorable against a prototype body based on feminity.</p> <p>C. Musculature is favorable against a prototype body based on feminity.</p>	<p>MC1. If a bikini competitor is a bodybuilder, then she has a training regimen, adjusted diet and adequate rest for building musculature.</p> <p>MC2. A training regimen, adjusted diet and adequate rest for building musculature in bikini is focused on building a body under a hegemonic prototype of body based feminity.</p> <p>MC3. The hegemonic prototype body based on feminity is a body that represents the woman's as fragile, limited and weak.</p> <p>MC4. If Bikini competitions building musculature, then they reproduce and reinforce the hegemonic prototype of feminity.</p> <p>C. Musculature is something to be condemned.</p>

(A) MF1 is Tajrobehkar's proposed definition of what a bodybuilder is. In that sense, a bodybuilder is defined as a human being who trains, eats and rests with the aim of create a muscular body. In MF2 Ta-

rojbehkar proposed a hegemonic definition about femininity. This definition suggests that a woman's body must be "fragile, limited, and weak". As gender studies have shown, this definition is problematic because historically, it has served to justify the oppression of millions of women around the world. MF3 and MF4 holds that every woman who is a bodybuilder and is seeking a muscular body is challenging MF2. Therefore, the body of a bodybuilder is a counter-hegemonic body that is built through prolonged suffering and effort. For that reason, MF5 proposes that women who practice bodybuilding are empowered women. MF6 argues that such empowerment because of bodybuilding is favorable against the hegemonic body prototype because it shows the physical and mental strength that a bodybuilder has in the development of his practice. With all the above, Tajrobehkar concludes that musculature is favorable against the hegemonic body prototype over women based on femininity.

- (B) Again, the argument begins in MC1 with the definition of what a bodybuilder is. However, in MC2 it is posited that the quest of a Bikini athlete is to build a body based on femininity. This implies building a body that is underdeveloped in muscular terms but is compensated in "aesthetic" terms. Therefore, MC4 holds that the bikini competitions reproduce and reinforce the hegemonic prototype of femininity. For example, Tajrobehkar says that some criteria to judge bikini competitors are sexist and are under femininity criteria: the competitors are judged by his competition outfit, shoes, hair, makeup and tan (IFBB, 2014) and in the IFBB Bikini Fitness rules indicate that the "general impression of the physique should take into consideration the hair and facial beauty", "condition of the skin and skin tone", and "the competitor's ability to present herself with confidence, poise and grace." (IFBB, 2014; p. 8). Furthermore, within the bodybuilding community it is widely acknowledged that competitors with larger breasts are judged more favorably. In that sense, Tajrobehkar holds that at the time the posing routine is being performed (known as the 'bikini walk') the judges are evaluating things like winking, quick shoulder shrugs, hip swings, slow and exaggerated turns and having the feet wide apart during the back pose. For these reasons the Bikini competitors are encouraged, perhaps even mandated, to display themselves in an overtly sexual manner. The display and indeed exaggeration of femininity and heterosexuality, according to his observations, is the ubiquitous norm in Bikini competitions. For these reasons Tajrobehkar concludes that the musculature created

by Bikini athletes should be condemned.

Both arguments can be extrapolated to all of the bodybuilding community. In that sense, (A) and (B) are compatible in most Mr. Olympia categories. It all depends on the point of view of the arguer. However, here I want to expand both arguments. First (A): the argument that bodybuilding is a tool of emancipation. Generally speaking, the most recurrent argument in the literature on the practice of sports by muscular women highlights a whole series of transgressive positions vis-à-vis hegemonic gender norms. As Jordi-Sánchez (2014) through his ethnographic study on Spanish bodybuilding comes to the transgressor idea that female bodybuilding has conquering “a physical power secularly denied in terms ranging from physical liberation to self-realization or self-fulfillment (Castelnuovo and Guthrie 1998, Roth- Bassow 2004, and Roussel and Griffet 2000)” (Jordi-Sánchez, 2014; 2). In that sense, as Schilling and Bunsel (2009) mention about female bodybuilders:

Female bodybuilders are considered scandalous in the view of the 'normals' because they *reject* the relatively passive roles, customs, body techniques, and appearances associated with learning in Western femininity (...) and are adopting other modes of physical appearance, behavior, action, experience, and consumption (Schilling and Bunsel, 2009; p. 148).

This, of course, is problematic and diametrically opposed to the second position because it would be juxtaposed to it. This is interesting, even within the female bodybuilder experience itself. As one Spanish competitor quoted by Sanchez comments:

[Female bodybuilder 1]: I don't wear my nails this long, I don't wear extensions, I don't wear makeup, I don't wear heels, I don't wear miniskirts. And of course, if you see one of those bodybuilder women in a tracksuit, who don't really let themselves be seen like that, but well, with short nails, unpainted, without make-up, you would say... puff (...) don't be mistaken with me. I don't like it and I stopped competing in women's bodybuilding (Jordi-Sánchez, 2014; p. 10).

This position leads us to confront with (B): the argument that bodybuilding is tool of power to create hegemonic bodies. Indeed, one cannot get past the fact that bodybuilding contests are often used from marketing to establish beauty ideals of what a fit body should look like. In that sense, bodybuilding can be seen as an enterprise of manufacturing

canonical bodies and based on these ideals, products are sold to achieve the aesthetic goals set, which are often quite costly for average human beings in economic terms. All in all, what I want to express is the following idea: the body is inscribed in an institution that molds it according to the expectations that the social context presupposes as the “should be” and adapts physical activity, nutrition and rest based on these ideals. It is not for nothing that women, usually, overtrain the *lower* body and men overtrain the *upper* body. As expressed by a female bodybuilder:

[Female bodybuilder 2]: There still should be a feminine component in it [in bodybuilding competitions]. You don't wanna come out there not looking all pretty and cute, because that obviously *sells* you. You have to somehow manage that sexiness, that curvature, that makes a woman beautiful. That's why you get all dolled up and you go out and try to move in a sexy manner versus a very mechanical manner (Tajrobehkar, 2016; p. 13).

Of course, to achieve these ideals or “sell yourself” to the fitness industry, many gym-goers and especially bodybuilders abuse the use of AAS as I discussed in section 2.1. For this reason, I believe that a preventive framework is necessary to avoid the use of AAS in non-competitive recreational users. Usually, these AAS users do not have a medical team to support them, generating physical and health problems in their person. In the following section I will propose such a framework with the objective of inviting to avoid AAS abuse.

4. A PREVENTIVE FRAMEWORK FOR THE REGULATION OF AAS IN NON-PROFESSIONAL BODYBUILDERS:

The framework proposed here to suggest avoiding the use of AAS in recreational gym users is shaped by a triad: (1) core values in relation to oneself, (2) a precautionary principle, and (3) a principle of beneficence. This triad suggests a series of precautions that should be considered by subjects who have think or wish to use AAS indiscriminately (*i.e.*, without medical equipment, pre-intra-post cycle hormone testing or basic knowledge of sports physiology).

4.1. Core values in relation to oneself

In this subsection I want to propose that there are two types of values in relation to oneself. Epistemic values and moral values. Epistemic values are those values that guide us in our search for and evaluation of knowledge. On the other hand, moral values are those values that guide us in our actions and practical life. I hold the thesis that epistemic values and moral values are related (not causally) to each other. That is: it is likely that the better epistemic values we forge, the more likely we are to act better. Some epistemic values that we should keep in mind to better understand how AAS works and their risks are the following:

- A. Intellectual rigor:** look for solid and consistent evidence to support our information, our beliefs about their effects, and our conclusions.
- B. Intellectual responsibility:** being accountable for our own beliefs, conclusions and being willing to review and revise them if the evidence requires it. Likewise, to be responsible if we assume any belief that turns out to be false, with its consequences for our person.
- C. Impartiality:** to treat all sources of information fairly and equitably, without prejudging or biasing the information in our favor.
- D. Openness:** being open to new ideas and perspectives, even if they go against our previous beliefs.

These four epistemic values should help us to better forge our initial intuitions and beliefs about the use and abuse of AAS, especially when we are not engaged in bodybuilding at a sporting level. In this way, we would be able to make better decisions and avoid infringing on our integrity. On the other hand, some moral values that may persuade us not to consume AAS are the following:

- A. Integrity:** respect our physical well-being and avoid intentionally causing harm.
- B. Self-care:** taking care of our own body and health, and making decisions that are beneficial to our physical and mental well-being.
- C. Abstinence:** making informed and responsible decisions regarding AAS use considering how these decisions may affect our bodies and our health.

These moral values seek to invite recreational gym users to avoid the use of AAS because of the health risk they may incur. In that sense, the

invitation is for recreational gym users to follow a healthy plan through weight training, cardiovascular exercise, good nutrition and adequate rest over time. This would lead to good muscle development and good health. If they decide to use them, the following principles are proposed:

4.2. *Hormonal benefit principle (HBP)*

This principle dictates that AAS can be used if and only if the user has a hormonal deficiency. For example, in men over the age of thirty, testosterone begins to drop, bringing with it the accumulation of visceral fat and alopecia. In these cases, if the endocrinologist determines that the individual is below the normal testosterone range (300 to 1000 nanograms per deciliter), he may begin lifelong testosterone replacement therapy (TRT). In this case, HBP would be as follows:

HBP: the use of AAS can be endorsed in individuals if and only if it improves the quality of life of human beings who need them when (1) they have lost their hormone levels or (2) they do not have them at birth.

HBP could improve the physical and sexual capabilities of humans in that it would help bring hormone values back up to desired physiological ranges. This principle shows that, in my case, I am not a prohibitionist regarding the use of AAS in society. However, I do appeal for a responsible use of such substances. On the other hand, if there is no hormone deficiency, if you are not a professional bodybuilder, if you do not have medical equipment or money for constant hormone testing, you should prevent its use.

4.3. *Sports precautionary principle (SPP)*

SPP seeks, for the well-being of recreational gym users, to avoid the use of AAS to promote physical, mental and hormonal well-being within sports activities. Although, within professional sports there are many cases of doping (to see this watch the documentary *Icarus* by Bryan Fogel, who tells the story of doping to win an amateur cycling race and running into a major international doping scandal when he asks Grigory Rodchenkov, the head of the Russian anti-doping laboratory, for help)

this does not exempt us as individuals to do so. Therefore, SPP is as follows:

SPP: AAS use should be prohibited if and only if the individual (1) is in normal hormonal ranges, (2) is not a professional bodybuilder, or (3) does not have adequate medical equipment for ongoing testing.

If for some reason the individual has (1), (2) and (3) and is aware of the individual risks that AAS may cause to his physical, hormonal and mental well-being and chooses to do so, he is well within his rights to do so since the use of the right to freedom cannot be prohibited in open and democratic societies. However, I reiterate, individuals who are going to do so are urged to inform themselves adequately of all the effects that AAS produce.

5. CONCLUSION

This study has offered a comprehensive view of bodybuilding, from its history to its ethical and social issues in today's society. By exploring its evolution from its beginnings to become a significant cultural and sporting phenomenon, its influence on body perception, beauty standards, and gender norms was evidenced. The historical narrative revealed how bodybuilding, once a fringe subculture, has emerged as an influential component of contemporary society, impacting the collective perception of masculinity, femininity, and aesthetic ideals. However, this popularity has also exposed a number of ethical and social challenges. From gender issues to eugenicism, racism, ableism, and unrealistic beauty standards, problems rooted within bodybuilding were identified and discussed. These problems underscore the need for further reflection and discussion within the field of science, technology and society studies. In addition, a preventive framework for the indiscriminate use of anabolic substances in recreational gym users has been proposed. This ethical framework seeks to encourage a reflection on personal values, hormonal caution, and the preventive sports principle when considering the use of such substances. The main intention of this paper is to highlight these ethical and social challenges, encouraging a broader and more critical dialogue. It is hoped that this analysis will serve as a call to action for future research that delves deeper into these complex issues. Understanding the interplay between

bodybuilding, ethics, and society is essential to effectively address these evolving challenges.

6. DISCLOSURE STATEMENT

The author reports there are no competing interests to declare.

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