Mokgadi Caster Semenya case – judgment by Federal Supreme Court of Switzerland of 25 August 2020 (unofficial translation by Centre for Human Rights, Faculty of Law, University of Pretoria)

Federal Supreme Court of Switzerland

Judgment of 25 August 2020
First Civil Law Division

Quorum
Federal Judges Kiss, President, Hohl, Roedi and May Canellas; Registrar: Carruzzo

Parties to proceedings
Mokgadi Caster Semenya, South Africa;
Assisted/Represented by Advocates Dorothee Schramm, David Roney, Laureen Moret and Sabrine Schnyder; du Pre-de-la-Bichette 1 Street, 1202 Geneva
and Advocate Ken Daly rue Montoyer 51, 1000 Bruxelles, Belgique
Appellant

Against

1. International Association of Athletics Federations, IAAF, 6 - 8 Quai Antoine 1er, BP 359, 98007 Monaco Cedex, Principaute de Monaco, Assisted/Represented by Advocates Bernhard Berger, Ross Wenzel, Nicolas Zbinden and Sophie Roud, place St-Fran9ois 1, 1003 Lausanne;
2. Athletics South Africa ASA, Athletics House, 311th Ave, Houghton Estate, 2198 Johannesburg, South Africa, Assisted/Represented by Adv Alexandre Zen-Ruffinen; rue des Terreaux 5, 2000 Neuchatel and Adv Dev Maharaj, 5 St. Michael's Lane, 2021, Bryanston, Johannesburg, South Africa
Defendants

and

4A_398/2019
Athletics South Africa ASA, Athletics House, 311th Ave, Houghton Estate, 2198 Johannesburg, South Africa, Assisted/Represented by Adv Alexandre Zen-Ruffinen; rue des Terreaux 5, 2000 Neuchatel and Adv Dev Maharaj, 5 St. Michael's Lane, 2021, Bryanston, Johannesburg, South Africa
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against

1. International Association of Athletics Federations, IAAF, 6 - 8 Quai Antoine 1er, BP 359, 98007 Monaco Cedex, Principaute de Monaco, Assisted/Represented by Advocates Bernhard Berger, Ross Wenzel, Nicolas Zbinden and Sophie Roud, place St-Fran9ois 1, 1003 Lausanne

2. Mokgadi Caster Semenya, South Africa;

Assisted/Represented by Advocates Dorothee Schramm, David Roney, Laureen Moret and Sabrine Schnyder; du Pre-de-la-Bichette 1 Street, 1202 Geneva
and Advocate Ken Daly rue Montoyer 51, 1000 Bruxelles, Belgique
Defendants

Object
International sport arbitration
Appeal in civil matters against the arbitration award granted on 30 April 2019 by the Court of Arbitration for Sport (CAS 2018/0/5794 and CAS 2018/0/5798).

Facts

A.

A.a Mokgadi Caster Semenya (hereafter: Ms Semenya, the Athlete or the runner), a South African athlete of international level, is a specialist in middle distance races (800 to 3,000 meters). She, among others, won the gold medal in the women's 800 meters at the London 2012 and Rio 2016 Olympic Games. She is also three-time world champion in the discipline (Berlin 2009 World Athletics Championships, Daegu 2011 and London 2017).

The International Association of Athletics Federations (hereafter: IAAF, per its English acronym; now World Athletics), an association with its headquarters in Monaco, is the governing body of athletics at the global level.

Athletics South Africa (hereafter: ASA) is the South African athletics federation; headquartered in Johannesburg. It is a member of the IAAF.

A.b According to her own statements, reproduced in the award under appeal (n. 73), the athlete was subjected to a gender verification test after her victory in the 800 meter event at the Women's World Championships in Berlin 2009 with the best performance of the year in 1:55.45. The IAAF then made her aware that she would henceforth have to lower her testosterone levels below a certain threshold if she wanted to continue lining up at their preferred distances in upcoming international athletics competitions. In order to be able to continue her career, the runner resolved, despite herself, to follow a hormonal treatment aimed at reducing her testosterone level (taking contraceptive pills). When she returned to competition in 2010, she was running slower than before. The athlete attributed this drop in performance to the side effects of hormone therapy. Despite the serious side effects she felt, she won the women's 800 meter event at the Daegu 2011 World Championships and the 2012 London Olympic Games, crossing the finish line in 1: 56.35 and 1: 57.23.

A.c In September 2014, Dutee Chand, a hyperandrogenic (naturally secreting androgens in quantities greater than the norm in women) Indian sprinter challenged before the Court of Arbitration for Sport (CAS) the decision prohibiting her to take part in athletics events, made on the basis of Regulations "Governing Eligibility of Females with Hyperandrogenism to Compete in Women's Competition" adopted in 2011 by the IAAF. Through the interim sentence of 24 July 2015, the CAS partially admitted the appeal and suspended the said regulations for a period of two years. Considering that the IAAF had not demonstrated that hyperandrogenic athletes have a significant performance advantage over other female athletes, the Panel provided the opportunity to the IAAF to adduce further evidence to this end in two years, otherwise the regulation would be declared void.

A.d Following the interim sentence handed down in Chand's case, the Athlete ceased to follow her hormonal treatment. In 2016, she was once again Olympic champion in the 800 meter event, running in 1: 55.28.
A.e After having obtained several extensions of the two-year deadline set by the CAS, the IAAF informed the Panel that it intended to replace the regulation on hyperandrogenism with new rules supposed to come into force on 1 November 2018.

A.f On 23 April 2018, the IAAF published its new regulations entitled "Eligibility Regulations for Female Classification (Athletes with Differences of Sex Development)" (hereafter: DSD Regulations).

A.f.a Difference of sex development (hereafter: DSD) is defined there as congenital conditions that cause atypical development of their chromosomal, gonadal, and/or anatomic sex (art. 1.1 (b) (ii) in conjunction with Annex 1 of the DSD Regulations).

A.f.b Section 1 of the DSD Regulations, entitled "Introduction", provides in particular as follows:

"1.1 (…) These Regulations reflect the following imperatives:

(a) To ensure fair and meaningful competition in the sport of athletics, competition has to be organised within categories that create a level playing field and ensure that success is determined by talent, dedication, hard work, and the other values and characteristics that the sport embodies and celebrates. In particular:

(i) The IAAF wants athletes to be incentivised to make the huge commitment and sacrifice required to excel in the sport, and so to inspire new generations to join the sport and aspire to the same excellence. It does not want to risk discouraging those aspirations by having unfair competition conditions that deny athletes a fair opportunity to succeed.
(ii) Because of the significant advantages in size, strength and power enjoyed (on average) by men over women from puberty onwards, due in large part to men's much higher levels of circulating testosterone, and the impact that such advantages can have on sporting performance, it is generally accepted that competition between male and female athletes would not be fair and meaningful, and would risk discouraging women from participation in the sport. Therefore, in addition to separate competition categories based on age, the IAAF has also created separate competition categories for male and female athletes.

(b) The IAAF also recognises, however, that:

(i) Biological sex is an umbrella term that includes distinct aspects of chromosomal, gonadal, hormonal and phenotypic sex, each of which is fixed and all of which are usually aligned into the conventional male and female binary;
(ii) However, some individuals have congenital conditions that cause atypical development of their chromosomal, gonadal, and/or anatomic sex (known as differences of sex development, or DSDs, and sometimes referred to as 'intersex').

(iii) As a result, some national legal systems now recognise legal sexes other than simply male and female (for example, 'intersex', 'X', or 'other').

(c) The IAAF respects the dignity of all individuals, including individuals with DSDs. It also wishes the sport of athletics to be as inclusive as possible, and to encourage and provide a clear path to participation in the sport for all. The IAAF therefore seeks to place conditions on such participation only to the extent necessary to ensure fair and meaningful competition. As a result, the IAAF has issued these Regulations, to facilitate the participation in the sport of athletes with DSDs.

(d) There is a broad medical and scientific consensus, supported by peer-reviewed data and evidence from the field, that the high levels of endogenous testosterone circulating in athletes with certain DSDs can significantly enhance their sporting performance. These Regulations accordingly permit such athletes to compete in the female classification in the events that currently appear to be most clearly affected only if they meet the Eligibility Conditions defined below.

(e) These Regulations exist solely to ensure fair and meaningful competition within the female classification, for the benefit of the broad class of female athletes. In no way are they intended as any kind of judgement on or questioning of the sex or the gender identity of any athlete. To the contrary, the IAAF regards it as essential to respect and preserve the dignity and privacy of athletes with DSDs, and therefore all cases arising under these Regulations must be handled and resolved in a fair, consistent and confidential manner, recognising the sensitive nature of such matters. Any breach of confidentiality, improper discrimination, and/or stigmatisation on grounds of sex or gender identity will amount to a serious breach of the IAAF Integrity Code of Conduct and will result in appropriate disciplinary action against the offending party.

1.2 These Regulations operate globally, regulating the conditions for participation in Restricted Events at International Competitions. As such, the Regulations are to be interpreted and applied not by reference to national or local laws, but rather as an independent and autonomous text, and in a manner that protects and advances the imperatives identified above. In the event that an issue arises that is not foreseen in these Regulations, it shall be addressed in the same manner.

1.3 All cases arising under these Regulations will be dealt with by the IAAF Health and Science Department, and not by the National Federation of the athlete concerned, or by any other athletics body, whether or not the athlete concerned has yet competed in an International Competition. Each National Federation is bound by these Regulations and is required to cooperate with and support the IAAF in the application and enforcement of these Regulations, and to observe strictly the confidentiality obligations set out below.

1.4 (…)
1.5 (…)".

A.f.c c The DSD Regulations set the specific conditions that an "Relevant Athlete" must fulfil in order to be able to take part in a "Restricted Event" in the female classification in an international competition or to set a world record in a non-international competition.

According to art. 2.2 (a) of the DSD Regulations, a "Relevant Athlete" is one which meets the following three cumulative criteria: she has one of the following DSDs (i); she has circulating testosterone levels in blood of equal to or more than five (5) nmol/L (ii); she has sufficient androgen sensitivity for those levels of testosterone to have a material androgenising effect (iii). In the event of any doubt concerning the fulfilment of the three above-mentioned conditions, this benefits the athlete, who may therefore compete freely (art. 23 of Annex 3 of the DSD Rules).

A "Relevant Athlete" who wishes to line up, during an international competition, in a "Restricted event" within the meaning of art. 2.2 (b) of the DSD Regulations, i.e. 400m races, 400m hurdles, 800m races, 1,500m races and one mile races (1.6 kilometres) as well as any other race over distances between 400 meters and one mile, must meet the following cumulative conditions, pursuant to art. 2.3 of the DSD Regulations:

- must be recognised at law either as female or as intersex (or equivalent);
- must reduce her blood testosterone level to below five (5) nmol/L for a continuous period of at least six months (e.g., by use of hormonal contraceptives);
- must maintain her blood testosterone level below five (5) nmol/L continuously (i.e., whether she is in competition or out of competition) for so long as she wishes to maintain eligibility to compete in the female classification in "Restricted Events" at International Competitions.

A Relevant Athlete will be solely responsible for continuing to comply with the Eligibility Conditions for as long as she wishes to compete in the female classification in a Restricted Event at International Competitions (art. 3.11 of the DSD Regulations). She does not have to fulfil any additional conditions, such as surgical anatomical modifications (art. 2.4 of the DSD Regulations), and she cannot be forced to undergo analyses or to undergo any treatment (art. 2.5 of the DSD Regulations).

According to art. 2.6 of the DSD Regulations, a "Relevant Athlete" who does not meet the Eligibility Conditions provided for by the DSD Regulations may take part:

(a) in the female classification:
  (i) at competitions that are not International Competitions: in all Track Events, Field Events, and Combined Events, including the Restricted Events;
  (ii) at International Competitions: in all Track Events, Field Events, and Combined Events, other than the Restricted Events;
(b) in the male classification, at all competitions, without any restriction including at the international level;
(c) in any applicable intersex or similar classification, at all competitions, without any restrictions including at the international level

A.f.d Section 3 of the DSD Regulations determines the applicable procedure for the purpose of determining whether a person is a "Relevant Athlete".

The person who thinks they are a "Relevant Athlete" should inform the IAAF Medical Manager if they wish to participate in a "Restricted Event" at an international competition in the female classification so that her situation can be examined. A similar obligation weighs on their national federation (art. 3.1 of the DSD Regulations). In addition, the IAAF Medical Manager can carry out investigations at any time to verify if a person is a "Relevant Athlete".

They can only initiate such an investigation in good faith on the basis of reasonable grounds based on information from reliable sources (art. 3.2 and 3.3 of DSD Regulations), the dignity and privacy of each individual must be respected at all times (art. 3.4 of the DSD Regulations). The IAAF Medical Manager may agree with the athlete, whose situation is being reviewed, the appointment of an independent mediator who will assist the athlete (Art. 3.6 of the DSD Regulations).

The standard procedure takes place as follows and according to the principles set out in Annex 3 of the DSD Regulations: a suitably qualified physician involving an initial clinical examination of the athlete, and compilation of her clinical and anamnestic data, as well as a preliminary endocrine assessment (art. 3.8 (a) of the DSD Regulations). If it appears that the athlete may be a Relevant Athlete, the IAAF Medical Manager will anonymize the file and send it to the chair of a team of medical experts appointed by the IAAF (art. 3.8 (b) and list in Appendix 2 of the DSD Regulations). The Chair, alone or with the assistance of other medical experts appointed by them, decides on the need to carry out a complementary evaluation in order to determine the status of the athlete (art. 3.8 (b) of the DSD Regulations in connection with article 11 of Annex 3). When further examinations are judged necessary, the athlete is referred to one of the specialized reference centres mentioned in Annex 4 of the DSD Regulations, in order to establish the origin of their high blood testosterone level and to determine, if necessary, their level of insensitivity to androgens (art. 3.8 (c) of the DSD Regulations). The specialized reference centre draws up a report and sends it to the Expert Panel. On the basis of the said report and the other elements of the file, the Panel of Experts sends its written recommendations to the IAAF Medical Manager, who transmits them to the athlete and their doctor, and if necessary, to the independent mediator (art. 3.9 of the DSD Regulations). The IAAF Medical Manager decides whether or not to adopt the athlete status recommendation; this decision may be appealed to the CAS (art. 3.10 and 5.3 of the DSD Regulations).

A.f.e. The IAAF Medical Manager may require a "Relevant Athlete" to provide scientific evidence of the uninterrupted maintenance of the Eligibility Conditions and proceed at any time, with or without notice, to checks by any appropriate means, such as blood samples (art. 3.12 of the DSD Regulations). If it is determined that a "Relevant Athlete" has failed to maintain her circulating blood testosterone levels continuously at a concentration of less than five (5) nmol/L, the athlete will not be permitted to compete in the female classification in a "Restricted event" during an international competition, until she demonstrates that she again meets the conditions of participation (art. 3.13 (c) of the DSD Regulations). When a "Relevant Athlete" has taken part in a "Relevant Event", while not fulfilling the conditions for participation, the IAAF may, in its absolute discretion, disqualify the individual results obtained by the athlete (art. 3.14 of the DSD Regulations).

The costs related to the assessment and diagnosis of the athlete are the responsibility of the IAAF (art. 3.15 of the DSD Regulations). The athlete bears the fees of her own personal physician(s), the costs of the necessary treatment in order to fulfil the conditions of participation as well as the costs related to the production of evidence (within the meaning of art. 3.12 (a) of the DSD Regulations) aimed to demonstrate compliance with the Eligibility Conditions (art. 3.16 of the DSD Regulations).

A.f.f. Section 4 of the DSD Regulations addresses the issue of confidentiality. It provides that all the investigations carried out and the information collected within the framework of the Regulation will be treated in strict confidentiality (art. 4.1 of the DSD Regulation).

Furthermore, the IAAF will not publicly comment on the elements of a case except in reaction to public statements by an athlete or the athlete's representatives (art. 4.2 of the DSD Regulations). Finally, section 5 of the DSD Regulations contains provisions relating to the settlement of disputes and, in particular, an arbitration clause in favour of the CAS worded as follows:

"Any dispute arising between the IAAF and an affected athlete (and/or her Member Federation) in connection with these Regulations will be subject to the exclusive jurisdiction of the CAS. In particular (but without limitation), the validity, legality and/or proper interpretation or application of the Regulations may only be challenged (a) by way of ordinary proceedings filed before the CAS; and/or (b) as part of an appeal to the CAS made pursuant to clause 5.3".

B

B.a. Ms. Semenya is a "Relevant Athlete" within the meaning of art. 2.2 (a) of the DSD Regulations, which no party disputes.
On 18 June 2018, the runner filed an arbitration request with the CAS to challenge the validity of the Regulations (CAS 2018/O/5794). On 25 June 2018, ASA also approached the CAS (CAS 2018/O/5798). The CAS pronounced the joinder of the cases on 29 June 2018. The Panel ruled in accordance with the provisions applicable to the ordinary procedure. English was used as the language of the arbitration.

On 23 July 2018, the CAS informed the parties that the Panel would consist of Arbitrators Hugh L. Fraser, a Canadian judge, Hans Nater, a Swiss lawyer, and Annabelle Bennett, a retired Australian judge, who would chair it. ASA contested the appointment of two arbitrators, on the grounds that they had already sat in that capacity in the above-mentioned Chand arbitration proceedings (see letter A.c). The Challenge Commission of the International Council for Arbitration in Sport Matters (ICAS) rejected this request by decision of 20 September 2018. During the procedure, the IAAF modified the list of DSDs covered by the DSD Regulations, so that it only applies to "46 XY DSD" Athletes, that is to say to people with XY chromosomes and not XX chromosomes.

At the end of the exchange of documents, the Panel sat in Lausanne from 18 to 22 February 2019. During these five days of hearing, it heard from a very large number of experts. By letter of 5 March 2019, the IAAF informed the Panel of its intention to insert a new art. 3.15 in DSD Regulations "that allows the IAAF to waive disqualification of results and suspension of eligibility where a Relevant Athlete's testosterone levels go above 5 nmol/L, if it is satisfied that that increase was temporary and inadvertent and is unlikely to have conferred any material advantage on the athlete" (award, n. 44). On 15 March 2019, the Panel was notified that the IAAF Council had approved the introduction of a new clause 3.15. The applicants opposed the taking into account of this amendment by the Panel, the athlete emphasizing in passing that the text adopted by the Council did not materially correspond to that appearing in the IAAF letter of 5 March 2019.

B.b. By reasoned award of 30 April 2019, the Panel rejected the two arbitration requests. The CAS sent the reasoned award to the parties by e-mail of 30 April 2019, then notified them of the original signed version by mail of 20 June 2019. The reasons for this award, which covers no less than 165 pages (632 paragraphs), are summarized below.

B.b.a. The Panel begins by briefly providing the general context in which the present dispute takes place (award, chap. III, n. 6-13), before summarizing the arbitration procedure, as it was conducted under its authority (award, chap. IV, n. 14-49). After that, the Panel explains in detail the arguments that were advanced by the Athlete, before setting out, by listing her statements (award, n. 73-87) and the evidence provided by her, including six witnesses. ("Fact witnesses", award, n. 88-115) and fifteen expert witnesses ("Experts witnesses", award, n. 116-222), before reproducing the conclusions of the athlete (award, n. 223). The Panel then proceeds in the same way by detailing, at length, positions supported by ASA (award, n. 224-240) and by the IAAF (award, n. 284-312), the means of proof of each of the parties (including eight testimonies and expert opinions for ASA (award, n. 241-282) and eight for the IAAF (award, n. 313-414)) as well as their respective conclusions (award, n. 283 and 415).

B.b.b. In the chapter entitled "Jurisdiction" of the award under appeal (n. 416-420), the Panel notes on the one hand its jurisdiction, which it deduces from art. R27 of the Sports Arbitration Code read together with art. 5.2 of the DSD Regulations, and on the other hand the standing of the runner, who is an "Relevant Athlete" with regard to the Regulations, and of ASA, the national federation to which the Athlete is affiliated. It emphasizes that it will not take into account the amendments to the DSD Regulations mentioned by the IAAF in its letter of 5 March 2019 (see para **B.a** at the end). Regarding the applicable law (award, chap. VII, n. 421-424), the Panel specifies that, in the absence of agreement between the parties, it is not authorized to rule on an equitable basis. It will therefore apply, in the first place, the internal regulations of the IAAF ("IAAF's Constitution and Rules") and the Olympic Charter; and subsidiary, when necessary, the law of Monaco (award, n. 424).

In the following chapter, the Panel reproduces the content of the main provisions of the DSD Regulations (award, chap. VIII, n. 425-453).

B.c. After the Panel settles these preliminary questions, it comes to the examination of the merits of the joined requests (award, n. 454-632). The arguments developed by the CAS on this point will be summarized below to the extent useful for understanding the dispute and dealing with the grievances raised by the Appellants. For the sake of simplification, the relation of the reasoning held by the Panel will take the form of direct speech as much as possible.

B.c.a. Ms Semenya is a woman. She was born a woman and was brought up as such. She lived and ran as a woman. She is - and has always been - legally recognized as a woman and has always identified herself as such (award, n. 454). The IAAF is responsible for issuing regulations aimed at facilitating and ensuring fair competition for the benefit of all athletes (award, n. 456). After puberty, men outperform women in athletic performance and the gap between them is insurmountable. This is why the IAAF has deemed it essential to create "a protected class" of female athletes (award, n. 456). The need for such a separation between women's and men's competitions is not in dispute (award, n. 461).

Once it is recognized that it is legitimate to have separate categories of males/females, it is imperative to devise an objective, fair and effective means of determining who can enter the "protected class" (award, n. 456 and 462). A priori, the solution seems easy. Restrict access to the "protected class" to female athletes, excluding males. However, this assumes that sex is necessarily a binary notion. Such is not the case. The situation is more complex. While athletics events have been divided into two categories (males/females), a clear distinction

between men and women does not actually exist. The binary classification in the field of athletics therefore does not coincide perfectly with the various sexual characteristics of human biology (award, n. 457). In this regard, it is important to keep in mind that the terms men/women can have several meanings depending on the context: they can refer to the juridical sex of a person (i.e. their sex according to the law), to its subjective gender identity (i.e. how a person identifies himself) or to other aspects of physiology (e.g gonadal characteristics or hormonal profile). A rule that seeks to define the concept of masculinity or femininity for a certain purpose can easily be seen (rightly or wrongly) as an attempt to question an individual's masculinity or femininity for other purposes or in other contexts (award, n. 463).

In recent years, the situation has become even more complex. The issue of legal sex has evolved in many places around the world. In the eyes of the law, sex is no longer necessarily binary. Various states recognize other legal statuses, such as intersex. In addition, some national laws allow an individual to change sex (award, n. 458).

The DSD Regulations are the latest iteration of the IAAF's struggle to enact an effective and legally defensible means of reconciling the binary male/female classification in competitive athletics with the variegated spectrum of biological sex that exist in nature and the increasingly complex and diverse national laws governing legal sex (award, n. 459).

This case involves a collision of scientific, legal and ethical conundrums. Divergent interests clash. Some rights cannot be implemented without restricting others. On the one hand, is the right of every athlete to compete in sport, to have their legal sex and gender identity respected and not to suffer any form of discrimination. On the other hand, is the right of female athletes, who are relevantly biologically disadvantaged *vis-à-vis* male athletes, to be able to compete against other female athletes and to achieve the benefits of athletic success, such as positions on the podium and consequential commercial advantages (award, n. 460).

The Panel admits freely that it has not found the issues in this case easy to decide. The Panel is mindful that, in considering these issues, it is not acting as a policy maker or regulator. It is neither necessary nor appropriate for the Panel to step into the shoes of the IAAF by deciding how it would have approached these issues had it been charged with making the rules itself. Its function is purely judicial. The Panel must be mindful of its judicial role and the limits which flow from it (award, n. 469).

B.c.b. The Panel will not revisit the analysis carried out in *Chand*, but assumes that some of the findings in that case are apposite to this one (award, n. 470). It is important to stress that the findings made in the Chand case do not bind it, because the appeal brought by the Indian athlete aimed at another regulation and the sentence was rendered by another Panel on the basis of the arguments and evidence specific to the said procedure (award, n. 471).

B.c.c. A number of complex factual and scientific issues emerged during the proceeding. In light of those issues and the direct bearing that they have upon the legal tests that the panel must apply, it is necessary to understand the factual matrix before addressing legal issues confronting the Panel (award, n. 473). A number of eminent experts have spoken on the various contentious points. Many of the opinions expressed in their written reports were refined by the mechanism of a series of "hot tubs", where the experts gave concurrent oral evidence before the Panel. Challenges made to the independence of some experts are

rejected. The Panel is convinced that each expert has made an effort to faithfully express his or her own point of view (award, n. 475).

B.c.c.a. The parties all agree that at puberty, circulating testosterone in the body increases the size and strength of bones and muscles as well as the level of haemoglobin. From this period, the testes produce an average of 7 milligrams (mg) of testosterone per day, while the daily production of testosterone is only 0.25 mg in women. The usual concentration of testosterone in a woman without DSD, produced mainly by the ovaries and adrenal glands, is between 0.06 and 1.68 nmol/L (except for women with polycystic ovary syndrome [PCOS]). The usual testosterone level in a man is between 7.7 and 29.4 nmol/L (award, n. 489)

It is not disputed that the testosterone level of 5 nmol/L, provided for by the DSD Regulations, constitutes a threshold that no person of XX karyotype could exceed, with the possible exception of a small fraction of people with PCOS. (award, n. 490). Testosterone, if it is perhaps not the only element explaining the increase in lean body mass ("lean body mass") and haemoglobin level as well as the improvement in athletic abilities, nevertheless represents the factor. main source of the aforementioned physical benefits. The IAAF has produced a statement, endorsed by 42 leading international experts, which includes the following:

"*Based on our collective expertise and experience, the undersigned specialists in the sports science and sports medicine communities consider the following to be indisputable scientific facts:*

1. *The main physical attributes that contribute to elite athletic performance are:*
- *power generation (speed and strength), which is based on muscle mass, muscle fiber type, and biomechanics;*
- *aerobic power (VO2 max), which is based on haemoglobin concentration, total blood volume, maximum stroke volume, cardiac size/mass/compliance, skeletal muscle blood flow, capillary density, and mitochondrial content;*
- *body composition, i.e. lean body mass and fat mass;*
- *fuel utilization, i.e. glycogen and anaerobic capacity; and*
- *economy of motion.*

2. *Biological males and biological females are materially different with respect to these attributes.*

Compared to biological females, biological males have greater lean body mass (more skeletal muscle and less fat), larger hearts (both in absolute terms and scaled to lean body mass), higher cardiac outputs, larger haemoglobin mass, larger VO2 max (also both in absolute terms and scaled to lean body mass), greater glycogen utilization, higher anaerobic capacity, and different economy of motion.

3. *The primary reason for these sex differences in the physical attributes that contribute to elite (99th percentile) athletic performance is exposure in gonadal males with functional androgen receptors to much higher levels of testosterone during growth and development (puberty), and throughout the athletic career.*

No other endogenous physical or physiological factors have been identified as contributing substantially and predominantly to these differences. As a policy matter, the exogenous factors that influence elite athletic performance - nutrition, training, sports psychology,

environmental manipulation, sports medicine techniques, etc. - should be equally accessible to biological male and biological female athletes.

4. *Therefore, the primary driver of the sex difference in elite athletic performance is exposure in biological males to much higher levels of testosterone during growth, development, and throughout the athletic career."* (award, n. 491).

The overwhelming majority of the experts cited by the parties believe that testosterone is the main factor in physical benefits and therefore in the difference between the sexes in athletic performance. The Panel accepts this conclusion (award, n. 492 f.).

B.c.c.b. Examining the main characteristics of athletes with an XY karyotype and presenting with DSD (hereafter: 46 XY DSD athletes), the Panel begins by recalling that all DSDs, such as 5α-reductase deficiency (5-ARD, according to its English abbreviation), are likely to affect testosterone levels. People with 5-ARD have male (XY) chromosomes, male gonads (i.e. testes, not ovaries), and testosterone levels comparable to men (award, n. 497).

B.c.c.c. The Panel believes that it should be determined whether women 46 XY DSD have an athletic advantage over other female athletes and, if so, whether the magnitude of that advantage is capable of subverting fair competition in certain athletic events (award, n. 507).
The Panel addresses this last question, after having concluded, beforehand, that the evidence produced by the IAAF, based on the analysis of data collected during the World Athletics Championships in Daegu and Moscow (in particular the study conducted by Stéphane Bermon and Pierre-Yves Garnier ["Serum androgen levels and their relation to performance in track and field: mass spectrometry results from 2127 observations in male and female athletes", in British Journal of Sports Medicine 2017, 0: 1-7]; hereafter: study BG 17), are admissible (award, n. 516).

In order to establish that 46 XY DSD athletes have an advantage over other female athletes, the IAAF provided a series of elements from various sources, namely scientific evidence relating to the physiological effects of certain conditions, such as 5-ARD and the relationship between endogenous testosterone and athletic performance (notably the study carried out by David Joshua Handelsman et al. "Circulating testosterone as the Hormonal Basis of Sex Differences in Athletic Performance", in Endocrine Reviews 2018, vol. 39, n° 5, October 1, 2018, p. 803-829), observation data on the correlation between endogenous testosterone levels and the performances achieved during the World Athletics Championships in Daegu and Moscow, as well as statistics concerning the prevalence of 46 XY DSD athletes in certain athletics events (award, n. 517).

After careful consideration of all the scientific evidence adduced by the parties, the majority of Panel members (hereafter: the majority) accept that, on the preponderance of evidence, athletes with 5-ARD, or other forms of DSD, have a level of testosterone equivalent to the concentration ordinary present in a man. This results in a significant improvement in the capacity for sports performance, which is reflected, for example, in an increase in muscle mass and size as well as in the level of haemoglobin level (award, n. 535). It concludes that this results in a significantly enhanced sport performance ability in certain athletic disciplines covered by the DSD Regulations. To reach this conclusion, it notes that although the BG 17 study cannot, of course, on its own, establish such a causal relationship, and also has a certain number of flaws identified by the Claimants' experts, this is not enough to refute the thesis defended by the IAAF of a relationship between DSD, testosterone and athletic performance. The BG 17 study (even if it is an observational study), on the contrary, provides empirical

data showing that the physiological effects of a high testosterone level provide, in the field of competitive sport, an advantage in meaningful and often decisive performance terms (award, n. 536).

In reaching this conclusion, the majority notably underlines the striking statistical over-representation of athletes with 5-ARD on the podiums of a "Restricted event" at the international level. According to evidence produced by the IAAF, DSD affects one in 20,000 people in the population; in women's elite athletics competitions, 7 out of 1,000 athletes present with DSD, i.e. a prevalence 140 times greater. The 5-ARD deficiency affects less than one in 100,000 ("Diamond League series") by athletes with such a characteristic (award, n. 533). The majority consider that the scarcity of 5-ARD in the general population contrasts with the overwhelming success achieved in "Targeted Evidence" by women with such a characteristic and is important evidence to show that athletes with a 5 -ARD benefit from a significant advantage in terms of performance (award, n. 537). It does not claim to precisely quantify the exact degree of this benefit. After considering all of the evidence, the majority conclude that the evidence gathered supports the thesis that 46 XY DSD athletes have a significant advantage over other female athletes, an advantage of such magnitude that it is capable of subverting fair competition (award, n. 538).

B.c.d. Examining the validity of the DSD Regulations, the Panel notes first of all that it is *prima facie* discriminatory since it creates a differentiation based on legal sex and certain innate biological characteristics. In fact, the eligibility rules only target people who are not male, have a testosterone level greater than 5 nmol/L and have sufficient sensitivity to androgens (award, n. 547). It is therefore for the IAAF to demonstrate that the DSD Regulations constitute a necessary, reasonable and proportionate means of achieving the objective it pursues (award, n. 548).

B.c.e. Regarding the need for the regulations enacted, the Panel recalls that wanting to ensure fair competition in women's athletics events is a legitimate objective (award, n. 556). Once we recognize the legitimacy of the division into two separate categories male/female, it is necessary to establish the criteria allowing to place the athletes in one of these categories. The Panel admits that the only reference to the legal sex of a person does not always constitute a fair and effective means of distinction. The purpose of establishing separate categories is to protect people whose bodies have evolved in a certain way after puberty, by preventing them from having to confront individuals who, due to the fact that their body has developed in another way, have certain physical characteristics giving them a competitive advantage such that any fair competition between the two groups is impossible. In most cases, the first group consists of people with a female legal sex and gender identity, while the second consists of individuals with a male legal sex and gender identity. This is not always true, however. Human biology does not coincide perfectly with legal status and gender identity. This imperfect alignment between nature, law and identity is at the origin of the puzzle at the heart of this case. Just because a person is legally recognized as a woman and identifies herself as such does not necessarily mean that she does not have the insurmountable competitive advantages associated with certain biologic traits predominant in people who are generally (but not always) legally recognized as male and female. identify in this way. It is human biology, and not legal status or gender identity, that ultimately determines which individuals possess the physical traits which give them this insuperable advantage and which do not (award, n. 558 s).

Thus, it may be legitimate to regulate the right to participate in a competition in the female classification by reference to biological factors rather than just the legal sex. The Panel however emphasizes that the necessity criterion is only satisfied if the evidence establishes, to the required degree, that the biological factor provides a sufficiently significant competitive advantage in each event covered by the regulations. If a biological characteristic confers a substantial advantage in discipline A, but not in discipline B, a regulation referring to this biological criterion to allow access to event B will not meet the requirement of necessity (award, n. 560).

According to the IAAF, all the different factors that contribute to athletic performance (training, coaching, nutrition, medical support, etc.) are equally accessible to men and women. In contrast, only men can benefit from exposure to higher testosterone levels which provides them with physical advantages over women in the context of athletic performance. The IAAF maintains that if the goal of creating a female classification is to prevent athletes who do not have this testosterone advantage from having to compete against athletes who have such an advantage, the female classification loses its *raison d'être* if we allow individuals with such an advantage to participate in a competition in this classification (sentence, n. 563 "it is necessarily "classification defeating" to permit any individuals who possess that testosterone-derived advantage to compete in that classification").

The majority accept the logic of the IAAF's argument that the degree of competitive advantage associated with high testosterone is so great that it necessitates protecting athletes who do not. The Panel recognizes that the criterion which determines the right to compete within the "protected class" must be aligned with the reason at the origin of the creation of the female classification. If the existence of this "protected class" is based on the significant impact of certain biological characteristics on performance in various sports disciplines, then it is legitimate to regulate the right to be in the "protected class" by reference to these biological traits (award, n. 564).

According to the Panel, deciding on the need for the DSD Regulation implies determining whether the degree of competitive advantage enjoyed by certain athletes, due to their high testosterone level, is so significant that it requires imposing to these athletes restrictions if they intend to compete in the female classification. The answer to this question involves the resolution of a contentious scientific problem (the existence and importance of the competitive advantage) and an assessment (whether the advantage is so great that it requires the establishment of conditions for eligibility, award n. 569). This advantage may not be in the order of 10-12%, but it is sufficient to allow athletes with 5-ARD to consistently beat female athletes without DSD (award, n. 574). On the basis of the elements put forward by the parties and the hearing of the various experts, the majority conclude that 46 XY DSD female athletes, sensitive to androgens, enjoy a significant competitive advantage and that this results from their exposure to a level of testosterone equivalent to the usual concentration present in a man (award, n. 575). The Panel believes that the high testosterone level of 46 XY DSD athletes may give them an insurmountable advantage over other female athletes without DSD (award, n. 579). The majority also recognize that the IAAF has demonstrated the necessity of the provisions governing the conditions of eligibility of 46 XY DSD athletes in certain events in order to preserve the fairness of women's athletics competitions (award, n. 580). For the same reasons, the majority considers that the DSD Regulations are also reasonable (award, n. 583).

B.c.f. Examining the validity of the DSD Regulations with regard to the principle of proportionality, the majority observe, first of all, that it is neither necessary nor appropriate to examine the possible wider impact of the contested regulation outside the world of athletics, of which the IAAF is the governing body (award, n. 589).

B.c.f.a. The Claimant argue that "Relevant Athletes", if they wish to be able to compete in a "Restricted Event", must undergo treatment which is both not medically necessary and has serious and potentially dangerous side effects. The IAAF retorts that the DSD Regulations do not require an athlete to undergo any surgery. In addition, it argues, taking hormones is a recognized treatment for people with certain DSDs and for transgender patients. The side effects of such treatment are generally limited and the *status quo ante* returns quickly when treatment ends (award, n. 590 s.).

Similar to parties, the Panel assumes that the validity of the DSD Regulations can be assessed in the context of taking contraceptive pills, recognizing that such treatment is not as effective in reducing testosterone levels than the use of gonadotropin releasing hormone (GnRH) agonists, stopping the latter treatment is likely to cause more severe side effects. If oral contraceptives do not keep testosterone levels below the 5 nmol/L ceiling prescribed by the DSD Regulations - thus requiring the athlete to undergo treatment with GnRH or undergo gonadectomy (surgical removal of the gonads) - a different analysis should be performed with regard to the principle of proportionality (award, n. 592).

Based on evidence from people who treat individuals with DSD, regular doses of oral contraceptives are effective in reducing testosterone to normal levels in women. Professor Gomez-Lobo shared his clinical experiences in general rather than with athletes, while Professor Hirschberg spoke about his experience with reducing testosterone levels from 20 to 1 nmol/L. However, the evidence for the effects of such treatment on elite athletes is extremely limited; it mainly concerns the taking of contraceptive pills by Ms. Semenya in order to lower her testosterone level. There is no current guideline for how a clinician should use contraceptive pills in order to lower and maintain a 46 XY DSD woman's testosterone level below 5 nmol/L and maintain it at that level, even though some clinical experts have done so (award, n. 593).

The Panel recognizes that the use of contraceptive pills aimed at reducing testosterone levels can cause a series of undesirable side effects. It notes that the expert reports produced by the Claimants describe various undesirable effects which may result from various pharmacological and surgical methods aimed at reducing the testosterone level. This evidence corroborates the statements of Ms Semenya concerning the side effects that she says she encountered (award, n. 595). The evidence for the side effects experienced by Ms Semenya concerns the reactions during the lowering of her testosterone level to less than 10 nmol/L (i.e. the maximum testosterone level authorized under the empire of the previous regulations enacted by the IAAF). There is no (sufficient) evidence to allow the Panel to determine whether the side effects would increase if the maximum allowable testosterone level was lowered to 5 nmol /L. The Panel starts from the principle, at the very least, that the side effects would be as important as those undergone by Ms Semenya (award, n. 596). It is not possible to conclude that all of the side effects that Ms Semenya encountered, when trying to lower her testosterone levels, were due to the hormonal treatment, that they could not be controlled otherwise, that they would persist, that other 46 XY DSD athletes would experience the same side effects (women respond differently to different types of birth control pills), or that another form of contraceptive pills, if prescribed, would cause similar

side effects (award, n. 597). Regardless, some clinicians report that the side effects are no different in nature from those experienced by thousands, if not millions, of other women with karyotype XX who take oral contraceptives. These clinicians also assert that precautions would be taken to individualize the treatment so as to minimize side effects when taking oral contraceptives intended to lower testosterone levels in 46 XY DSD athletes. With regard to social, mental and psychological problems, it has not been shown that these are simply and exclusively attributable to the use of oral contraceptives. In addition, the evidence has neither established the period in which symptoms appear nor whether they can all be directly attributed to the use of the contraceptive pill (award, n. 598). The majority consider that requiring athletes to take contraceptive pills to reduce their testosterone levels, in order to be able to participate in "Restricted Events" at international women's competitions, is not, in itself, disproportionate. In these circumstances, it believes, on the basis of current evidence, that the side effects that these athletes might experience as a result of taking oral contraceptives do not outweigh the need to apply the DSD Regulations with a view to achieve the legitimate objective pursued which is to protect and facilitate fair competition in the female category (award, n. 599).

B.c.f.b. Claimants argue that the requirement for athletes with a high testosterone level to undergo highly intrusive examinations to determine their degree of virilization would be a form of femininity test that is both subjective and inappropriate, undermining to physical integrity. Finding out that an athlete has DSD and qualifying as a 46 XY DSD athlete can cause psychological suffering (award, n. 600). The Panel recognizes the potential consequences described and notes that undergoing a virilization test can be unwelcome and distressing, even if it is performed with the necessary care and sensitivity. At the same time, it also notes that the testosterone level of all athletes is monitored for anti-doping purposes, which involves identifying the possible existence of exogenous testosterone. If the results of doping controls show elevated testosterone in the sample provided by a 46 XY DSD athlete, who is unaware of her condition, further testing will likely be necessary to rule out doping suspicion and establish that the athlete has a DSD. These investigative measures will likely have the effect of informing the athlete of their condition, whether or not the DSD Regulations are in force. Therefore, when assessing the proportionality of the DSD Regulations, the Panel takes into account both the likelihood that "Relevant Athletes" will undergo unwanted examinations and the possibility that these may, in some cases, allow to reveal medical information likely to help athletes to make informed decisions about any necessary medical treatment and to protect them against possible suspicions of doping (award, n. 601).

Ms Semenya further argues that the DSD Regulations will inevitably be applied in an arbitrary manner, since there is no objective test to assess the degree of virilization. The examination of virilization would thus depend on the subjective assessment of the clinicians in charge of it. The Panel notes that the eligibility conditions provided for by the DSD Regulations apply only to athletes with a testosterone level greater than 5 nmol/L and with sufficient sensitivity to androgens. The examination of this second condition is the responsibility of the IAAF Medical Manager and the Panel of Experts, composed of independent doctors duly qualified and experienced in this type of assessment. There is a recognized scale of virilization. Professors Auchus and Hirschberg have indicated that it is not difficult for an expert to assess the degree of sensitivity to androgens, by performing a physical examination and laboratory evaluation. In addition, the DSD Regulations provide that the benefit of the doubt will benefit the athlete. In view of all these elements, the

majority considers that the requirement linked to the examination of the degree of virilization does not make the DSD Regulations disproportionate (award, n. 603 f.).

B.c.f.c. Regarding the risk of seeing the status of "Relevant Athletes" made public, the Panel admits that the IAAF has successfully kept confidential the information relating to the athletes covered by its previous regulations. Nevertheless, confidentiality will likely be rendered meaningless, in cases where, for example, a "Relevant Athlete", who has qualified nationally, does not subsequently line up in a "Restricted Event" at the international women's competitions. In such a situation, it would not be difficult for an informed observer to infer from it that it is a 46 XY DSD athlete who refused (or who was not able) to reduce her rate of testosterone below the allowable limit. The Panel considers that this is probably an inevitable detrimental effect of the DSD Regulations. It considers that this element does not make the DSD Regulations disproportionate taking into account the legitimate interests pursued by the Regulations. In reaching its general conclusion as to the proportionality of the DSD Regulation, it nevertheless takes into account the likelihood that some prejudice may result from the disclosure (award, n. 605).

B.c.f.d. The Claimants submit that the "Restricted Events" within the meaning of the DSD Regulations were arbitrarily selected. They point out that certain disciplines, for which the existence of a competitive advantage emerges from the BG 17 study (such as hammer throw and pole vault), do not appear in the DSD Regulations, while others, like the 1,500 meters and the mile, where the proof of such an advantage was less obvious, were included in the list of the "Restricted Events" (award, n. 606). The IAAF has provided evidence regarding all "Restricted Events". According to the IAAF, the decision not to include other events in the framework of the DSD Regulations is explained by the fact that the available evidence establishes that the number of athletes 46 XY DSD practicing, at the international level, certain athletic disciplines, is insufficient to justify the inclusion of these in the list of "Restricted Events". The IAAF asserts that this cautious and conservative approach aims to ensure that the DSD Regulations impose as few restrictions as possible in order to ensure the fairness of competitions within the female category (award, n. 607). Based on the evidence presented to the Panel, the decision to include the 1,500 meter and mile disciplines in the "Restricted Events" appears to be based, at least in part, on the assumption that athletes who run the 800 meters are also doing it successfully in the 1,500 meters and the mile. The Claimants, however, did not submit any observations relating specifically to the inclusion of these two disciplines in the list of "Restricted Events" (award, n. 608). The Panel has certain concerns regarding these two events, the inclusion of which in the DSD Regulations is based on (at least in part) a speculative basis.

However, the majority consider that the IAAF has provided a rational overall explanation of how "Restricted Events" have been defined. Although it has concerns about the 1,500 meters and the mile, the Panel is aware that it does not have the power to rewrite the DSD Regulations to amend the list of "Restricted Events". Rather, it is up to it to assess, as a whole, the proportionality of the DSD Regulations. On the basis of the evidence produced by the parties, the majority do not consider that the choice of the "Restricted Events" considered as a whole ("*in toto*"), would be such as to make this settlement disproportionate (award, n. 609).

B.c.f.e. Regarding the maximum authorized testosterone level, it was 10 nmol/L under the influence of the previous regulations issued by the IAAF, examined in the Chand case. The IAAF lowered this limit to 5 nmol/L in the DSD Regulations. It appears from some evidence

provided by the IAAF that there is a performance advantage, which results in an increase in muscle mass and size as well as haemoglobin levels, when testosterone levels exceed 5 nmol/L while remaining below 10 nmol/L. The Panel therefore considers that the decision to reduce the authorized limit from 10 to 5 nmol/L is not arbitrary (award, n. 610 s.).

B.c.f.f. Another question arises, which the parties did not highlight, in their final submissions, until after the completion of the probationary phase and the "hot tubs". These are the unintentional fluctuations in testosterone levels and an athlete's ability to keep testosterone levels below the 5nmol/L limit, despite them. Spikes in testosterone were recorded in Ms Semenya when she regularly followed her hormonal treatment. Evidence establishes, in particular, that during the period during which Ms Semenya took the contraceptive pill regularly, her testosterone level, although still lower than the value of 10 nmol/L then authorized, underwent significant fluctuations oscillating between 0.5 and 7.85 nmol/L. Ms Semenya suggests that an athlete could, because of these peaks, unintentionally exceed the maximum allowable testosterone level of 5 nmol/L, even while following the hormonal treatment conscientiously (award, n. 612).

The Panel is of the opinion that such a circumstance raises a very important question from the perspective of the principle of proportionality, given the new authorized limit of 5 nmol/L. If an "Relevant Athlete" scrupulously follows the prescribed treatment in order to lower her testosterone level, but this one undergoes fluctuations which lead her above the maximum allowed, she will nevertheless be ineligible according to the DSD Regulations, in its content on the date of the hearing. It will be impossible for the Athlete to show that the involuntary fluctuations in his testosterone level had no impact on her performance. In addition, in order to monitor such fluctuations, she must ensure continuous monitoring herself, probably at her own expense, during training and rest. It seems inevitable that the athlete will not know the results of these tests for several days. Therefore, it is likely that she will be able to participate in an event without being able to know if her testosterone level is below the regulatory limit on the day of the competition. It is seriously to be feared when an athlete could be disqualified - with all the detrimental consequences that this implies - although she has done everything possible to comply with the DSD Regulations (award, n. 614).

To assess the proportionality of the DSD Regulations, a weighing of the various competing interests involved is necessary. On the one hand, there is the setting of a new limit for the level of testosterone, fixed at 5 nmol/L, which corresponds to the highest level of testosterone usually present in women; on the other hand, there are the side effects associated with the drugs used to reduce testosterone levels as well as the risk of fluctuations in it beyond the maximum allowed, not to mention the difficulties for an athlete to constantly maintain her testosterone levels within the regulatory limits, to check their testosterone level adequately and in real time and to bear the cost of these checks (sentence, n. 615). Compliance issues are very important. If the DSD Regulations cannot be applied fairly in practice, they may later prove to be disproportionate, since a regulation which is impossible or excessively difficult to implement does not constitute a proportionate infringement of the rights of the athletes 46 XY DSD. The Panel has, by force of circumstances, no direct proof of compliance with the DSD Regulations, since it has not yet entered into force. However, the Panel is concerned about the maximum level of 5 nmol/L and the ability of 46 XY DSD athletes to ensure, in practice, that their testosterone level will not exceed this limit. This must necessarily be monitored by the IAAF, which must ensure that the application of this requirement is practicable (award, n. 617). With regard to the concrete implementation of the DSD Regulations by the IAAF, the Panel only has the text of the regulations and the opinions

expressed by the various experts. Certain medical experts, who must determine the sensitivity to androgens of their patients as part of their regular clinical practice, and who appear on the list of doctors called on to carry out the examinations provided for by the DSD Regulations, spoke to the Panel, testifying a high standard of care and a caring approach to the treatment of women with DSD. The *bona fides* of that approach and the fact that the benefit of the doubt is given to the athlete, as well as a practical approach in monitoring compliance with respect to the maintenance of a level of 5 nmol/L are of crucial importance for the Panel in the weighing of interests carried out from the angle of the principle of proportionality (award, n. 618). Be that as it may, the problems relating to the potential difficulties in the practical implementation of the DSD Regulations are speculative in nature (except for the possible difficulty of taking the contraceptive pill for an athlete when she suffers from a gastro-intestinal infection) and there is a lack of evidence regarding the practicality of meeting the requirement for a maximum testosterone level of 5 nmol/L. The task of the Panel is to consider the DSD Regulations as promulgated, and not yet implemented. The hypothetical consequences of the way in which the said regulation could be applied do not allow the conclusion that the DSD Regulations is currently and at first sight disproportionate (award, n. 619).

B.c.g. Based on the evidence gathered, the majority believes that the IAAF has demonstrated the necessity, reasonableness and proportionate nature of the DSD Regulations. The Panel nevertheless remains seriously concerned about the future application of the DSD Regulations. Although the evidence at its disposal has not established that these concerns would be justified or invalidate the conclusion drawn, it may be otherwise in the future, if constant attention is not paid to the fairness of the implementation of the regulatory provisions (award, n. 620). Ms Semenya raised questions regarding the difficulty in complying with the requirements of the DSD Regulations which, if proven, could lead to a different conclusion from the perspective of proportionality. However, as it stands, these elements have not been proven, and the majority consider that the side effects of hormonal treatment, even if they are significant, do not outweigh the interests pursued by the IAAF (award, n. 621).

The Panel cannot rule on an equitable basis for lack of authorization from the parties. However, the Panel considers it appropriate to express its concerns on several aspects of the DSD Regulations and to reiterate its concerns about the potential inability of an athlete, following scrupulously the hormonal treatment prescribed to her, to meet the requirements laid down by the DSD Regulations, and, more specifically, regarding the consequences of an involuntary and inevitable exceeding of the limit of 5 nmol/L (award, n. 622). In addition, evidence of a concrete athletic advantage in favour of 46 XY DSD athletes in the 1,500 meter and mile disciplines can be described as scant (rare, weak, “sparse”). The IAAF may consider deferring the application of the DSD Regulations to these two events until further evidence is available (award, n. 623). The Panel strongly encourages the IAAF to take its concerns into account when applying the DSD Regulations. In this regard, it takes note of the IAAF's assertion that the DSD Regulations is a “living instrument”. At the same time, the majority does not exclude that, in practice, the application of the contested regulation brings out elements, duly substantiated, liable to have an overall influence on the proportionality of the DSD Regulations, in the sense that they would establish the need to modify certain provisions of it in order to ensure its application in accordance with the principle of proportionality or that they would provide new arguments for or against the inclusion of certain disciplines in the list of “Restricted Events” (award, n. 624).

Ultimately, the Panel, by a majority of its members, comes to the conclusion that the DSD Regulations, while it is admittedly discriminatory, nonetheless constitutes a necessary, reasonable and proportionate means of achieving the goals pursued by the IAAF (award, n. 626).

C.

C.a. On 28 May 2019, Ms Semenya (hereafter: the Appellant) submitted to the Federal Tribunal an appeal in civil matters, together with a request for super-provisional and provisional measures as well as a request for suspensive effect, in order to obtain the annulment of the sentence of 30 April 2019 (case 4A_248/2019).
By order of 31 May 2019, the President of the First Civil Law Division ordered the IAAF, on a super-provisional basis, to immediately suspend the implementation of the DSD Regulations with regard to the Appellant in order to maintain the situation remains unchanged until a decision is made on the request for interim measures.
By presidential order of 12 June 2019, the IAAF's request for reconsideration of super-provisional measures was rejected. At the end of its determinations of 25 June 2019, the IAAF concluded that the super-provisional measures had been lifted and that, to the extent of their admissibility, the requests for provisional measures and restitution of the suspensive effect were rejected. In its writing of 25 June 2019, ASA requested the suspension of the DSD Regulations in respect of all "Relevant Athletes".

Subsequently, the parties again filed spontaneous submissions.
By order of 29 July 2019, the President of the Court rejected the request for provisional measures and suspensive effect, as well as that filed by ASA. In short, it considered that, as it stood, the condition of the very likely well-founded nature of the appeal had not been met.
Asked to react on the appeal, ASA said it agreed.
In its response of 24 October 2019, the IAAF concluded that the appeal should be dismissed to the extent of its admissibility. The parties filed further submissions dated 12 November, 2 and 9 December 2019.

C.b. On 26 August 2019, ASA (hereafter: the appellant association) also lodged an appeal in civil matters, leading it to request the Federal Tribunal to annul the CAS award (case 4A_398/2019). In its determinations dated 4 October 2019, the Appellant proposed that the appeal be admitted. At the end of its response, the IAAF concluded that the appeal should be dismissed to the extent of its admissibility. The parties were still determined on 12 and 26 November, 2 and 9 December 2019, essentially persisting in their conclusions. The CAS, which produced the case file, declined to file observations on the two appeals.

C.c. In its brief of 28 May 2019, the Appellant requested the Federal Tribunal to refrain from disclosing certain information that she took care to list. With the agreement of the parties, the CAS published on its website, on 19 June 2019, a version of the award of 30 April 2019, certain passages of which have been redacted.
In its writing of 25 June 2019, the IAAF indicated, without being contradicted by the Appellants, that any information appearing in the published version of the said award could not be qualified as confidential. In these circumstances, the Court will not mention the data which have been redacted by the CAS and will only refer to the elements made public with the agreement of the parties.

Considering in law:

1.
The appeals in civil matters addressed to the Federal Tribunal both relate to the award rendered on 30 April 2019 by the CAS. They concern the same case and oppose the same parties. The answers to be provided to the questions raised by the Appellants do not vary from one appeal to another. Therefore, the economy of the procedure requires that the request for joinder submitted by the appealing association be accepted. Therefore, cases 4A_248/2019 and 4A_398/2019 are joined to be processed in one and the same judgment.

2.
According to art. 54 para. 1 of the Law on the Federal Tribunal of 17 June 2005 (LTF; RS 173.110), the Federal Tribunal writes its judgment in an official language, generally in the language of the contested decision. When this decision has been rendered in another language, the Federal Tribunal uses the official language chosen by the parties. Before the CAS, they used English, while, in their appeals to the Federal Tribunal, the Appellants used French, thus respecting Art. 42 para. 1 LTF in conjunction with art. 70 para. 1 Cst. (ATF 142 III 521 at 1). In accordance with its practice, the Federal Tribunal will therefore deliver its judgment in French.

3.
In the field of international arbitration, recourse in civil matters is admissible against the decisions of arbitral tribunals under the conditions provided for in art. 190 to 192 of the federal law on private international law of 18 December 1987 (LDIP; RS 291), in accordance with art. 77 para. 1 let. a LTF. The headquarters of the CAS are in Lausanne. At least one of the parties (in this case, the three) did not have its domicile (its seat) within the meaning of art. 20 para. 1 let. a resp. art. 21 para. 1 LDIP, in Switzerland at the decisive moment. The provisions of chapter 12 of the LDIP are therefore applicable (art. 176 para. 1 LDIP).

4.

4.1.

4.1.1. According to art. 76 para. 1 LTF, applicable to both domestic and international arbitration by virtue of art. 77 para. 2 LTF *a contrario*, has the capacity to lodge an appeal in civil matters whoever took part in the proceedings before the previous authority or was deprived of the possibility of doing so (letter a), provided that he is particularly affected by the contested decision and has an interest worthy of protection in its annulment or modification (letter b). The quality to appeal is determined exclusively according to art. 76 LTF (judgment 4A_560 / 2018 of November 16, 2018 at 2.1).
In accordance with art. 76 para. 1 let. b LTF, the appellant must in particular have an interest worthy of protection in the annulment of the contested decision. The interest worthy of protection consists in the practical usefulness which the admission of the action would bring to its author, by avoiding him to suffer the prejudice of an economic, ideal, material or other nature that the decision undertaken would cause him (ATF 137 II 40 recital 2.3 p. 43). The interest must be current (judgment 4A_426/2017 of 17 April 2018 at 3.1 and the cases cited). Moreover, the appellant must have a personal interest in appealing. According to the adage "*nul ne plaide par procureur*" (no one pleads by prosecutor), it is in principle not allowed to take legal action by asserting not his interest, but the interest of others (judgment 4A_560/2018, cited above, rec. 2.1; BERNARD CORBOZ, in Commentary on the LTF, 2nd ed. 2014, n ° 22 ad art. 76 LTF).

4.1.2. The Appellant, who took part in the proceedings before the CAS, is particularly affected by the contested decision, since the DSD Regulations, validated by the CAS, require her to meet certain requirements if she intends to line up in certain events during international athletics competitions. The Appellant thus has a personal, current and worthy interest in having the sentence annulled, which gives it the capacity to appeal (art. 76 para. 1 LTF).

4.1.3. The IAAF questions the capacity to appeal of the appellant association which, according to it, would have no direct interest in the annulment of the award under appeal and would limit itself to pleading in the interest of the appellant. According to the IAAF, the position of the appellant association is identical to that of the *Fédération Internationale de Football Association* (FIFA) in another case judged by the Federal Court (judgment 4A_560/2018 cited above). In this doping case, the Court considered that FIFA had no personal interest in the admission of the appeal. Indeed, FIFA, which had played, in the context of the arbitration proceedings conducted before the CAS, the same role, mutatis mutandis, as that which is usually assigned, in state proceedings, to a court of first instance whose judgment is submitted to the competent appellate court, simply intended, by its own appeal, to support one or other of the arguments put forward by the athlete in their own appeal (judgment cited at recital 2.2).

Whatever the IAAF argues, the particular case is not comparable to that which was the subject of the judgment rendered in the aforementioned case. First of all, the appellant association cannot be assimilated to an authority of first instance, since it itself initiated the arbitration procedure by seizing the CAS on its own initiative. Next, it must be noted that the DSD Regulations, approved by the CAS, impose certain obligations on the appealing association. As a member federation, it is not only bound by the DSD Regulations but it must also cooperate with the IAAF and provide it with support in implementing these regulations (art. 1.3 of the DSD Regulations). It also has the obligation to warn the IAAF Medical Manager when it knows or thinks that a sportswoman is an "Relevant Athlete" (art. 3.1 of the DSD Regulations). In these conditions, it is necessary to recognize in the appealing association an interest worthy of protection distinct from that of the athlete. The appellants therefore have standing to appeal.

4.2.
The admissibility of this appeal presupposes, among other conditions, that the parties have not excluded the possibility of lodging an appeal.

4.2.1. According to art. 192 LDIP, if the two parties have no domicile, habitual residence or establishment in Switzerland, they may, by an express declaration in the arbitration agreement or a subsequent written agreement, exclude any recourse against the awards of the arbitral tribunal; they may also exclude the recourse only for one or the other of the grounds enumerated in art. 190 para. 2 LDIP.

4.2.2. Federal case law has gradually identified the principles resulting from the provision under consideration. It emerges, in substance, that practice only admits exclusion agreements in a restrictive manner and that it considers an indirect waiver insufficient. This is understood to mean a waiver which does not result directly from the arbitration agreement or from a subsequent written agreement, but which appears in a separate and pre-existing document to which the parties refer. Thus, the requirement of the express nature of the declaration of waiver excludes submission to an arbitration rule providing for such a waiver (ATF 133 III

235 at 4.3.1; 116 II 639 at 2c). As for the direct waiver, it does not necessarily have to include the reference to art. 190 LDIP and/or art. 192 LDIP. It is sufficient that the express declaration of the parties clearly and clearly shows their common will to waive any recourse. Whether this is indeed the case is a matter of interpretation (ATF 143 III 589 at 2.1.1).
In sports arbitration, the Federal Court also considered that a waiver of the appeal is in principle not enforceable against the athlete, even if it meets the formal requirements of art. 192 para. 1 LDIP (ATF 133 III 235 at 4).

4.2.3. Art. 5.5 of the DSD Regulations reads as follows:

"The decision of the CAS will be final and binding on all parties, and no right of appeal will lie from that decision. All parties waive irrevocably any right to any form of appeal, review or recourse by or in any court or judicial authority in respect of such decision, insofar as such waiver may be validly made".

4.2.4 Considered in the light of the case-law principles recalled above and, more particularly, with regard to the judgment published in ATF 133 Ill 235, such waiver of recourse is not opposable to the Appellant.
The appellant association maintains, without being contradicted by the IAAF, that the exclusion clause is not valid on the grounds that it is an indirect waiver. Such a statement is however erroneous, since the arbitration clause and the provision providing for the waiver of recourse appear in one and the same document. This being so, we must not lose sight of the fact that the waiver recourse necessarily presupposes the agreement of the parties, as it is apparent from the text of art. 192 para. 1 LDIP. This agreement, as any contract, only comes into force if the parties have, reciprocally and in a concordant manner, expressed their willingness to waive the recourse. The freedom to contract, as a constitutive element of the autonomy of the will, requires that such a manifestation does not emanate from a will constrained by any hindrance whatsoever. It is even more imperative that the expression of the will to waive the remedy is not vitiated by any form of constraint since such a waiver deprives its author of the possibility of challenging any future decision, even if it would violate fundamental principles of a State governed by the rule of law, such as public order, or essential procedural matters such as the regular composition of the arbitral tribunal, its jurisdiction to adjudicate, the equality of the parties or their right to be heard in adversarial proceedings (ATF 133 Ill 235 at 4.3.2.2). However, in this case, the DSD Regulations adopted by the IAAF, which is the governing body of athletics at world level, is binding on all member federations, including the appellant association, and this, regardless their will. It is therefore necessary to admit that the waiver of the recourse, appearing in art. 5.5 of the DSD Regulations, is not the result of consent freely expressed by the appellant association and that it is therefore inoperative.

4.3
For the rest, whether it is about the subject of the appeal, the time limit for appeal, the conclusions taken by the Appellants or the reasons invoked by them in their briefs, none of these admissibility conditions is problematic, in this case. Therefore, nothing prevents the tribunal to proceed and examine the case and this is without prejudice on the review, by the tribunal, of the motivation of Appellants complaints

5.
Before examining the complaints raised by the Appellants, it is appropriate to specify the legal framework in which the present dispute takes place, the role of the Federal Tribunal

when it hears an appeal in matters of international arbitration, and the scope of its power of review.

5.1

5.1.1 The DSD Regulations were issued by the IAAF, a private law association of Monaco. An athlete domiciled in South Africa and her national federation, also constituted in the form of a private law association, contested the validity of the Regulation, by initiating arbitration proceedings, against the IAAF, before the CAS. The latter is neither a state court nor another institution of Swiss public law, but an entity without legal personality, originating from the CIAS, that is to say from a foundation under Swiss private law (judgment of the European Court of Human Rights Mutu and Pechstein against Switzerland of 2 October 2018, § 65). As part of the proceedings before it, the CAS Panel did not examine the validity of the DSD Regulations under Swiss law since it applied the IAAF internal regulations ("IAAF's Constitution and Rules"), the Olympic Charter as well as the law of Monaco (award, n. 424). The headquarters of the CAS thus constitute the only point of connection with Switzerland.

5.1.2 In its leading judgment 'Lazutina' of 27 May 2003, the Federal Court, after a detailed examination of this issue, came to the conclusion that the CAS is sufficiently independent so that the decisions it renders, in cases of interest to this body, can be considered as real sentences, assimilated to judgments of a state court (ATF 129 Ill 445 at 3.3.4). Since then, this case law has been repeatedly confirmed (cf. among others: ATF 144 Ill 120 at 3.4.2; 133111 235 at 4.3.2.3; 4P.149 / 2003 judgments of 31 October 2003 at 1.1 ; 4A_612 / 2009 of February 1O, 201O at 3.1.3; 4A_428 / 2011 of February 13, 2012 at 3.2.3 and 4A_102 / 2016 of September 27, 2016 at 3.2.3).

In the Mutu and Pechstein case against Switzerland case (abovementioned judgment of 2 October 2018), the European Court of Human Rights (hereinafter: the Court of Human Rights) was also called upon to rule on the issue of independence and the impartiality of the CAS. It, first of all, recalled that the right of access to a court, guaranteed by art. 6 of the European Convention on Human Rights (hereafter: ECHR), does not necessarily imply the right to be able to seize a court of the classic type, integrated into the judicial structures of a State. Art. 6 par. 1 ECHR thus does not oppose the creation of arbitral tribunals in order to judge certain disputes of economic nature between individuals (Mutu and Pechstein judgment, cited above, § 93 f.).
As professional speed skater Claudia Pechstein had no choice but to accept the arbitration clause, the ECtHR concluded that it was a forced arbitration, in the sense that there was no possibility for the applicant to withdraw the dispute from the arbitral tribunal. While such a form of arbitration is certainly not prohibited, the arbitral tribunal must nevertheless offer the guarantees provided for in art. 6 par. 1 ECHR, in particular those of independence and impartiality (*Mutu and Pechstein* judgment, cited above, § 95 and 114 f.). Examining whether the CAS can be regarded as an "independent and impartial tribunal, established by law" within the meaning of this provision, the ECtHR ruled that it has the appearance of a tribunal established by law and that it is truly independent and impartial (*Mutu and Pechstein* judgment, cited above, § 149 and 159), which it has moreover confirmed even recently (*Michel Platini v Switzerland* judgment of 11 February 2020, § 65).

5.1.3. These details being made, it should be borne in mind that the Appellants were able to bring the dispute between them and the IAAF before the CAS, which is not only an

independent and impartial tribunal, with full power to review the facts and the law, but also a specialized court.

5.2.
It is now appropriate to recall what is the role of the Federal Tribunal when ruling on an appeal against an international arbitral award and what is the extent of its power of review.

5.2.1. An appeal in international arbitration can only be brought for one of the grounds exhaustively listed in art. 190 para. 2 LDIP (art. 77 para. 1 let. A LTF). Among other provisions, Art. 90 to 98 LTF are inapplicable to this appeal (art. 77 para. 2 LTF), and this excludes, in particular, the possibility of invoking the means taken from the arbitrary application of the law. The substantive review of an international arbitration award by the Federal Tribunal is limited to the question of the compatibility of the award with public order (ATF 121 III 331 at 3a).

An appeal brief against an arbitration award must meet the requirement to state grounds as set out in Art. 77 para. 3 LTF in conjunction with art. 42 para. 2 LTF and the case law relating to the latter provision (ATF 140 III 86 recital 2 and the references). This presupposes that the appellant discusses the reasons for the sentence undertaken and indicates precisely in what way they consider that the author thereof has violated the law (judgment 4A_522/2016 of 2 December 2016 at 3.1). It goes without saying that this can only be done within the limits of the means admissible against the said award, namely with regard to the complaints listed in art. 190 para. 2 LDIP when the arbitration has an international character. Moreover, as this reasoning must be contained in the notice of appeal, the appellant cannot use the process consisting in asking the Federal Tribunal to refer to the allegations, evidence and offers of proof contained in the written submissions of the arbitration. Likewise, would they use the reply in vain to raise pleas, de facto or de jure, which they had not presented in good time, that is to say before the expiry of the non-extendable appeal period (art. 100 para. 1 LTF in conjunction with art. 47 para. 1 LTF), or to complete, out of time, insufficient motivations (judgment 4A_34/2016 of 25 April 2017 at 2.2).

5.2.2. It should be remembered that the Federal Tribunal rules on the basis of the facts found in the award under appeal (cf. art. 105 para. 1 LTF). It may not rectify or supplement ex officio the findings of the arbitrators, even if the facts have been established in a manifestly inaccurate manner or in violation of the law (cf. art. 77 para. 2 LTF which excludes the application of the art. 105 para. 2 LTF). The findings of the arbitral tribunal regarding the conduct of the proceedings also bind the Federal Tribunal, whether they relate to the submissions of the parties, to the alleged facts or to the legal explanations given by these parties, to the statements made during the trial, to the parties' evidence requests, or even the content of a testimony or an expert opinion or even to the information collected during an eye inspection (judgment 4A_322/2015 of 27 June 2016 at 3 and the precedents cited).

5.2.3. Also, the mission of the Federal Tribunal, when seized of an appeal in civil matters against an international arbitral award, does not consist in ruling with full cognition, like an appeal court, but only to examine whether the admissible complaints against the said award are well founded or not. Allowing the parties to allege facts other than those found by the arbitral tribunal, apart from the exceptional cases reserved by case law, would no longer be compatible with such a mission, even if these facts were established by the evidence which is in the arbitration file (judgment 4A_386/2010 of 3 January 2011 at 3.2).

5.2.4. According to the case law of the ECtHR, Member States are not required to create appeal or cassation courts. The right of access to a court is not absolute and lends itself to limitations implicitly admitted as regards the conditions of admissibility of the appeal. Nevertheless, the limitations applied cannot be reconciled with Art. 6 par. 1 ECHR only if they pursue a legitimate aim and if there is a reasonable relationship of proportionality between the means and the aim pursued (*Erwin Bakker v Switzerland* judgment of 3 September 2019, § 30 and the judgments cited). The right of access to a court is infringed when its regulations cease to serve the goals of legal certainty and the good administration of justice and constitute a kind of barrier which prevents the litigant from having their dispute settled on the merits by the court. The application by domestic courts of formalities to be complied with in order to file an appeal is thus likely to violate the right of access to a court when the overly formalist interpretation of the applicable rules made by a court effectively prevents the examination. on the merits of the action brought by the person concerned (Bakker judgment, cited above, § 31).

In matters of arbitration, the ECtHR has recognized that the Member States enjoy a considerable margin of appreciation in determining the grounds for annulment of an award (*Suovaniemi and others* judgment against Finland of 23 February 1999). It also pointed out that the LDIP - whose art. 190 regulates the grounds for annulment of an international arbitration award - reflects a choice of legislative policy responding to the wish of the Swiss legislator to increase the attractiveness and efficiency of international arbitration in Switzerland and that the development of the place of arbitration in Switzerland may constitute a legitimate aim (*Mutu and Pechstein*, cited above, § 97 and *Tabbane v Switzerland* of 1 March 2016, § 33 and 36).

With regard to the use of arbitration in the field of sport, the ECtHR stressed that there is a definite interest in ensuring that disputes arising in the context of professional sport, in particular those which have an international dimension, can be subject to a specialized court which is able to rule quickly and in an economic way. Indeed, high-level international sporting events are organized in different countries by organizations headquartered in different states, and they are often open to athletes from all over the world. Recourse to a single and specialized international arbitral tribunal facilitates a certain procedural uniformity and strengthens legal certainty (*Mutu and Pechstein* judgment, cited above, § 98; see also the Ali Riza and others v Turkey judgment of 28 January 2020, § 179). This is all the more true when the awards of this arbitral tribunal can be appealed against to the supreme court of a single country, in this case the Swiss Federal Tribunal, which decides definitively. The Court thus considered that a system providing for recourse to a specialized court, such as the CAS, at first instance, coupled with a possibility of appeal, although limited, before a state court, at last instance, could represent a solution. appropriate in view of the requirements of Art. 6 par. 1 ECHR (Mutu and Pechstein judgment, cited above, § 98).

In another recent judgment, the ECtHR had to examine the request made by a professional cyclist, who denounced in particular the violation of art. 6 par. 1 ECHR, since the Federal Court does not enjoy full power of review in fact and in law. In this case, clearly exhibiting the characteristics of a forced arbitration within the meaning of the Court's case law, the CAS had imposed on the athlete, convicted of doping, a life ban from participating in a sports competition. Seized of an appeal lodged by the cyclist in which he argued in particular that the arbitration award was incompatible with public order (art. 190 para. 2 letter e LDIP), the Federal Tribunal declared it inadmissible, considering in particular that the appeal was from the outset doomed to failure. After recalling the principle that it is for the national authorities

to interpret and apply domestic law, the ECtHR ruled that the conclusion of the Federal Tribunal, according to which the appeal was from the outset devoted to failure, was neither arbitrary nor patently unreasonable. In this regard, it insisted on the fact that, according to the constant case law of the Federal Tribunal, the concept of public order is very limited (*Bakker* judgment, cited above, § 38). Finally, the ECtHR underlined that, having regard to the specific nature of the proceedings before the CAS and the Federal Tribunal, the restriction on the right of access to a tribunal was neither arbitrary nor disproportionate to the aim pursued, namely the proper administration of justice (*Bakker* judgment, cited above, § 40). As for the grievance based on the Federal Tribunal's limited power of review, it considered it unfounded, since the applicant had benefited from a full review before the CAS, relating both to questions of law and to findings of fact (*Bakker* judgment, cited above, § 47).

5.2.5. It should also be noted that, in the aforementioned *Platini* judgment, the ECtHR granted the respondent State a considerable margin of appreciation during the examination, carried out in the context of an action for annulment of an award from the CAS, of the violation, complained of by the applicant, of one of the material rights guaranteed by the ECHR (§ 70). Relying in particular on art. 8 ECHR, the applicant argued that the ban on exercising any football-related activity for a period of eight years which had been imposed on him by FIFA, a ban reduced to a total of four years by the CAS whose sentence had been confirmed by the Federal Court, violated the freedom to exercise a professional activity, protected by this provision. The ECtHR underlined that the sports association, as a private actor, was not directly subject to the ECHR (§ 63). Also, in the absence of a State measure, the complaint based on the violation of art. 8 ECHR had to be understood from the angle of the theory of interference (§ 59). In this regard, the ECtHR recalled that the positive obligations incumbent on the State, deduced in particular from art. 8 ECHR, may require the adoption of measures aimed at respect for private life, even in the relations between individuals (§ 60). In certain circumstances, the State does not adequately fulfil these positive obligations unless it ensures respect for private life in relations between individuals by establishing a normative framework which takes into account the various interests to be protected in a given context (§ 61). According to the ECtHR, the main question which arose in the present case was whether Switzerland was required and, if so, to what extent, to protect the applicant's right to respect for his private life against the measure imposed by FIFA and confirmed *in parte qua* by the CAS (§ 62). The ECtHR considered that the CAS had, in an exhaustive and detailed manner, within the framework of a 63-page award, carried out a full examination of the complaints raised by the applicant, issued a sufficiently detailed award and carried out a convincing balance of interests at stake, taking into account the specificity of the sports arbitration procedure (§ 66). The Federal Tribunal had endorsed with plausible and convincing reasoning the sentence of the CAS (§ 69). Under these conditions, the applicant, according to the Court, had been able to benefit from sufficient institutional and procedural guarantees, namely a system of private (CAS) and state courts (Federal Tribunal) before which they had been able to present their complaints. These courts had also carried out a genuine weighing of the relevant interests at stake in duly reasoned decisions. The ECtHR concluded that Switzerland, taking into account in particular the considerable margin of appreciation it enjoyed, had not breached its obligations under Art. 8 ECHR (§ 70).

5.2.6. In the light of the principles which have just been recalled, it must be admitted that the specific rules which govern an appeal against an international arbitral award - in particular the limitation of admissible complaints (exhaustive list of art. 190) para. 2 LDIP), a material review of the sentence solely from the angle of the restrictive notion of public order (art. 190 para. 2 letter e LDIP), strict requirements in terms of allegations and reasons for grievances

and, in general, a limited review power of the Federal Tribunal - are compatible with the guarantees of the ECHR. It follows from the above that the Federal Tribunal cannot be assimilated to a court of appeal which would oversee the CAS and freely verify the merits of the international arbitration awards rendered by this judicial body.

6.
Before examining the merits of the complaints raised by the Appellants, it should be pointed out that all the parties saw fit to present a summary of the relevant facts and to dwell at length on certain factual questions. Their versions of the facts will not be taken into account insofar as they deviate from the facts observed by the Panel, or even seek to supplement them.

7.
In a first complaint of a formal nature, the appellant association, denouncing the violation of art. 190 para. 2 let. a LDIP, maintains that the CAS would have unduly restricted its power of review. According to the appellant, this unjustified restriction of the power of examination would mean that the Panel could no longer be considered as a regularly composed arbitral tribunal. In support of this plea, the appellant association argues that the Panel indicated that it did not have the power to rewrite the DSD Regulations or to amend the list of "Restricted Events", but that it was, rather, up to entirely assess the proportionality of the DSD Regulations (award, n. 609). According to the appellant association, the Panel, by considering itself bound by the DSD Regulations and by refusing to examine, separately, the need to include each discipline in the list of “Restricted Events”, even though it had expressed concerns about the 1,500 races and one mile races would have unduly restricted its power of review in law. Such an argument does not convince this Court.

It should be noted at the outset that the admissibility of the plea examined appears to be questionable, in two respects. First of all, it is doubtful whether a tribunal, which would have hypothetically restricted its power of review could, by that fact alone, be characterized as an “irregularly composed tribunal” within the meaning of art. 190 para. 2 let. a LDIP. The Federal Tribunal has, moreover, already underlined that an inadmissible limitation of the power of examination could at most constitute an infringement of the right to be heard (judgment 4A_474/2018 of 27 November 2018 at 3.2). Then, the appellant association, under cover of the violation of art. 190 para. 2 let. a LDIP, in reality criticizes the way in which the Panel interpreted the concept of proportionality and the consequences that it drew from it during its implementation, i.e. elements relating to the application of substantive law that the Federal Court can review only from the very narrow angle of public order.

That being the case, the Panel cannot in any event be criticized for having unduly restricted its power of review. Indeed, the fact that the CAS indicated that it did not have the power to rewrite the DSD Regulations nor to amend the list of “Restricted Events” and that it was up to it to assess, as a whole, the the proportionality of the DSD Regulations does not mean that it would have, in practice, neglected to examine with full cognition, both in fact and in law, the legal validity of that regulation, in particular from the angle of the principle of proportionality.

In this case, the Panel stressed that the criterion of necessity is only satisfied if the evidence establishes, to the required degree, that the biological factor provides the "Athletes concerned" with a sufficiently significant competitive advantage in each event covered by the regulations. (sentence, n. 560). On this point, it noted that the IAAF had provided evidence relating to all the "Restricted Events" (award, n. 607). It further considered that the IAAF had

provided a comprehensive rational explanation of how the "Restricted Events" had been defined (award, n. 609). Even though the Appellants had requested the total annulment of DSD Regulations and that they had not specifically criticized the inclusion of the 1,500m races and the one mile races in the list of "Restricted Events" (award, no. 608), the Panel carefully considered this question.

In this regard, it expressed concerns about the decision to include the 1,500m races and the one mile races, which was, at least in part, on a speculative basis. Believing that the evidence of a competitive advantage was weak, the Panel indicated that the IAAF "may consider" deferring the application of the Rules to these two events, until more evidence is available (award , n. 623). However, contrary to what the appellant association suggests, it cannot be deduced from these doubts alone and from the possibility mentioned of deferring the application of the DSD Regulation, that the Panel considered that it was necessary to immediately strike out the 1,500 meters and the mile disciplines of the list of the "Restricted Events" and, by refraining from doing so, that the Panel, had unduly limited its power of examination. The terms used by the CAS ("The IAAF may consider deferring the application of the DSD Regulations to these events until more evidence is available"; sentence, n. 623) rather encourage us to retain the opposite conclusion.

On reading the sentence, it must therefore be admitted that the Panel did not restrict its power of review. On the contrary, it even examined, with full cognition, elements that the parties had not formally questioned. It concluded that the list of "Restricted Events", as defined by the IAAF, was not, ex toto, contrary to the principle of proportionality, notwithstanding certain concerns it wished to express.
In view of the foregoing, the complaint raised by the appellant association turns out to be unfounded.

8.
In a second plea, the appellant association insists on the issue of including the 1,500m races and the one mile races in the list of "Restricted Events", but, this time, under the violation of the right to be heard guaranteed by art. 190 para. 2 let. d LDIP. According to the Appellant, the Panel would have restricted its power of examination by not deciding whether these two disciplines should be included among the "Restricted Events".

8.1.
Case law has inferred from the right to be heard, as guaranteed by arts. 182 para. 3 and 190 al. 2 let. d LDIP, a minimum duty for the arbitral tribunal to examine and deal with relevant issues. This duty is violated when, inadvertently or by misunderstanding, the arbitral tribunal does not take into consideration the allegations, arguments, evidence and offers of evidence presented by one of the parties and which are important for the award to be rendered. It is for the allegedly injured party to demonstrate, in their appeal against the award, how an inadvertence of the arbitrators prevented them from being heard on an important point. It is for them to establish, on the one hand, that the arbitral tribunal did not examine certain elements of fact, evidence or law that they had regularly put forward in support of their conclusions and, on the other hand, that these elements were likely to influence the outcome of the dispute (ATF 142 III 360 at 4.1.1 and 4.1.3; judgment 4A_478/2017 of 2 May 2018 at 3.2.1). If the award completely ignores elements that are apparently important for the solution of the dispute, it is for the arbitrators or the respondent to justify this omission in their observations on the appeal. They can do so by showing that, contrary to the Appellant's assertions, the omitted elements were not relevant to resolve the concrete case or, if they

were, that they were implicitly refuted by the arbitral tribunal (ATF 133 III 235 at 5.2 p. 249; judgment 4A_478/2017, cited above, at 3.2.1).

8.2.
We do not discern, in the developments of the appellant association supposed to support the complaint alleging a violation of the right to be heard, anything which would justify reaching a solution other than that which was adopted regarding the similar plea examined above (cf. recital 7). It suffices to recall here the following elements: The Panel examined the compatibility of the list of "Restricted Events", with the principle of proportionality in a specific section ("The application of the DSD Regulations to only the Restricted Events"; award, n. 606-609). Even though the parties had not made specific arguments regarding the inclusion of the 1,500m races and one mile races in the "Restricted Events" category, the CAS carefully considered this issue. While it did express some concerns in this context, it nonetheless considered that the IAAF had provided evidence for all the "Restricted Events", that it had provided a rational overall explanation as to how whose "Restricted Events" had been defined and that the category of "Restricted Events", as defined by it, was not, ex toto, disproportionate. In doing so, the Panel admitted, if only implicitly, that the 1,500m races and the one mile races could, in the current state, appear in the list of the "Restricted Events"
Consequently, the plea of violation of the right to be heard is also false.

9.
In a third plea, divided into several branches, the Appellant maintains that the award under appeal violates substantive public policy, within the meaning of Art. 190 para. 2 let. e LDIP, in many ways.
In support of its complaint of violation of substantive public policy, the Appellant, invoking in particular several constitutional guarantees, argues, first of all, that the award under appeal is contrary to the principle of the prohibition of discrimination. Secondly, the Appellant claims to be a victim of an infringement of her personality rights, since the sentence establishes a violation of several fundamental rights. Lastly, she denounces an attack on human dignity.
Before examining the merits of the criticisms formulated in support of this plea, it is appropriate to recall what is covered by the concept of public order referred to in the above-mentioned provision.

9.1.
An award is incompatible with public order if it disregards the essential and widely recognized values which, according to the conceptions prevailing in Switzerland, should constitute the basis of any legal order (ATF 144 III 120 at 5.1; 132 III 389 at 2.2. .3). This is the case when it violates fundamental principles of substantive law to the point of no longer being reconcilable with the legal order and the determining system of values (ATF 144 III 120 at 5.1). That a reason accepted by an arbitral tribunal offends public order is not sufficient; it is the result to which the award leads that must be incompatible with public order (ATF 144 III 120 at 5.1). The incompatibility of the sentence with public order, referred to in art. 190 para. 2 let. e LDIP, is a more restrictive concept than that of arbitrariness (ATF 144 III 120 at 5.1; judgments 4A_318 / 2018 of 4 March 2019 at 4.3.1; 4A_600 / 2016 of June 29, 2017 at 1.1.4). According to case law, a decision is arbitrary when it is manifestly untenable, seriously disregards a clear and unchallenged legal standard or principle, or shockingly offends the feeling of justice and equity; it is not enough for another solution to appear conceivable, or even preferable (ATF 137 I 1 at 2.4; 136 I 316 at 2.2.2 and the references cited). For there to be incompatibility with public policy, it is not enough that

the evidence has been poorly assessed, that a finding of fact is manifestly false or that a rule of law has been clearly violated (judgments 4A_116/2016 of 13 December 2016 at 4.1; 4A_304/2013 of 3 March 2014 at 5.1.1; 4A_458/2009 of 10 June 2010 at 4.1). The annulment of an international arbitration award on this ground of appeal is extremely rare (ATF 132 III 389 at 2.1).

In order to judge whether the award is compatible with public order, the Federal Tribunal does not review, as it sees fit, the legal assessment made by the arbitral tribunal on the basis of the facts found in its award. All that matters, in fact, for the decision to be rendered from the point of view of art. 190 para. 2 let. e LDIP, is the point of knowing whether the result of this legal assessment made sovereignly by the arbitrators is compatible or not with the jurisprudential definition of material public order (judgment 4A_157/2017 of 14 December 2017 at 3.3.3).

It should not be forgotten that even when the Federal Tribunal is called upon to rule on an appeal against an award rendered by an arbitral tribunal having its seat in Switzerland and authorized to apply Swiss law as a substitute, it is required to observe, as to the manner in which this right has been implemented, the same distance as that which it would impose on the application made of any other right and that it must not give into the temptation to "examine with full cognition whether the topical rules of Swiss law have been interpreted and/or applied correctly, as it would do if it were seized of an appeal in civil matters directed against a state judgment (judgments 4A_318 / 2018, cited above , at 4.5.1; 4A_312/2017 of 27 November 2017 at 3.3.4.2; 4A_32/2016 of December 20, 2016 at 4.3). This applies all the more so when, as in the present case, Swiss law was not even applicable as supplementary law in the context of the arbitral proceedings.

9.2.
It should be further specified that the violation of the provisions of the ECHR or of the Constitution does not count among the complaints exhaustively listed by art. 190 para. 2 LDIP. It is therefore not possible to directly invoke such a violation. The principles underlying the provisions of the ECHR or the Constitution can however be taken into account in the context of public order in order to give concrete form to this notion (ATF 142 III 360 at 4.1.2; judgments 4A_114/2018 of 14 August 2018 at 2.2; 4A_384 / 2017 of 4 October 2017 at 4.2.1; 4A_80/2017 of 25 July 2017 at 2.2; 4A_178/2014 of 11 June 2014 at 2.4; 4A_43/2010 of 29 July 2010 at 3.6.1; 4A_370/2007 of 21 February 2008 at 5.3.2). Also the plea alleging a violation of public order is not admissible insofar as it simply tends to establish that the contested sentence would be contrary to the various guarantees, drawn from the ECHR and the Constitution, which the Appellant invokes, this, even less since Swiss law was not applicable to the arbitral proceedings conducted by the CAS.

9.3.
In the first branch of the plea alleging incompatibility with public order, the Appellant denounces a violation of the principle of the prohibition of discrimination (appeal, n. 117). Before examining the merits of the criticisms formulated by the applicant in this context, it is necessary to verify the admissibility of the complaint in the light of art. 190 para. 2 let. e LDIP.

9.4.
In the order of provisional measures of July 29, 2019, the President of the Court hereby underlined that the allegedly inadmissible differentiation is based in this case on a regulation

issued by a private law association. The President added that it is doubtful whether the prohibition of discriminatory measures falls within the scope of the restrictive concept of public order when the discrimination is committed by a private person and occurs in relations between individuals.
Admittedly, the Federal Tribunal has, in constant case law, underlined that the prohibition of discrimination is part of public order (see for example ATF 144 III 120 at 5.1; 138 III 322 at 4.1; 132 III 389 recital 2.2.1; 128 III 191 recital 6b), but if it did so, it was with the idea of primarily protecting the person vis-à-vis the State.

In this respect, it can be noted that, from the angle of Swiss constitutional law, case law considers that the guarantee of the prohibition of discrimination (art. 8 para. 2 Cst.) is addressed to the State and does not in principle have no direct horizontal effect on relations between private persons (ATF 137 III 59 at 4.1; 136 I 178 at 5.1; 133 III 167 at 4.2; judgments 5D_76 / 2017 of 11 May 2017 at 5; 5A_362 / 2016 of 20 February 2017 at 6.3; 5A_847/2015 of 2 March 2016 at 4.1), this echoes the opinion of several authors (cf., among others, GIOVANNI BIAGGINI, Bundesverfassung der Schweizerischen Eidgenossenschaft, 2 e éd. 2017, no 18 ad art. 8 Cst.; REGINA KIENER ET AL., Grundrechte, 3e éd. 2018, § 36 n. 63; BELSER/MOLINARI, in Basler Kommentar, Bundesverfassung, 2013, no 55 ad art. 8 Cst. ; ELEONOR KLEBER, La discrimination multiple, 2015, p. 161; VINCENT MARTENET, La protection contre les discriminations émanant de particuliers, RDS 2006 p. 421).

In addition, it is therefore far from obvious to assert that the prohibition of discrimination emanating from a subject of private law is one of the essential and widely recognized values which, according to the prevailing conceptions in Switzerland, should constitute the basis of any legal order.

The Appellant nevertheless argues, not without relevance, that the relations between an athlete and a world sports federation present certain similarities with those which bind an individual to the State. It is true that the Federal Court noted that competitive sport is characterized by a very hierarchical structure, both internationally and nationally. Established on a vertical axis, the relations between the athletes and the organizations which deal with the various sports disciplines are distinguished, in this respect, from the horizontal relations established by the parties to a contractual relationship (ATF 133 III 235). However, it is not certain that this is sufficient to admit that an athlete can avail themselves of the prohibition of discrimination in the context of a civil action against an arbitration award for the violation of the public order.

The Appellant also refers to two unpublished decisions (judgments 4P.12 / 2000 of June 14, 2000 at 5 a) aa) and bb); 4A_370 / 2007, cited above, rec. 5.4) in which the Federal Tribunal checked whether the arbitration award, rendered in the context of disputes between subjects of private law, revealed a discriminatory element. However, it must be noted that, in the two judgments cited, the present Court did not really examine whether the prohibition of discrimination between private individuals is part of Swiss public order, the means being, in these two cases, clearly unfounded.
In any event, there is no need to examine this question any further here, since, as will be demonstrated below, the award under appeal does not in any way establish discrimination which would be contrary to the public order.

9.5.

According to the jurisprudential definition, there is discrimination within the meaning of art 8 para. 2 Cst., when a person is treated differently because of their belonging to a particular group which, historically or in current social reality, suffers from exclusion or depreciation (ATF 140 I 2 at 6.4.2; 138 I 205 at present. 5.4; 137 V 334 at 6.2.1). However, the principle of non-discrimination does not preclude any distinction based on one of the criteria listed in art. 8 para. 2 Cst., but rather grounds the suspicion of an inadmissible differentiation (ATF 140 I 2 at 6.4.2; 137 V 334 at 6.2.1). In other words, to distinguish does not necessarily mean to discriminate. The inequalities which result from such a distinction must however be the subject of a specific justification (ATF 137 V 334 at 6.2.1 p. 348; 135 I 49 at 4.1 p. 53). In matters of equality between the sexes, separate treatment is possible if it is based on biological differences categorically excluding identical treatment (ATF 126 I 1 recital 2 and the cases cited).

9.6.

9.6.1. In this case, the CAS considered, after an in-depth and detailed examination, that the eligibility conditions fixed by the DSD Regulations were prima facie discriminatory, since they created a differentiation based on legal sex and innate biological characteristics, but that they constituted a necessary, reasonable and proportionate measure to ensure fairness and the defense of the "protected class" and to ensure fair competition.

9.6.2. Regarding the need for the regulations enacted, the Panel used the following reasoning, as was summarized above, in the "Facts" part of this judgment (cf. letter Bce): it, first of all, recalled that wanting to ensure fair competition in women's athletics events is a legitimate objective and that once the legitimacy of the division into two separate male / female categories has been accepted, it is essential to set criteria making it possible to determine which athletes can participate in these events. As such, it recognized that the sole reference to the legal sex of a person does not always constitute a fair and effective means of distinction, which is why it may be legitimate to regulate the right to participate in a competition in the female category by reference to biological factors rather than just legal sex. Indeed, for a person to be legally recognized as a woman and identify herself as such does not necessarily mean that she does not have the insurmountable competitive advantage associated with certain biological traits that predominate in people generally (but not always) recognized as men from the point of view of the law and identifying themselves in this way. It is human biology, not legal status or gender identity, that ultimately determines which individuals possess the physical traits that give them this insurmountable advantage.

The Panel admitted that the criterion which determines the right to compete within the "protected class" must be aligned with the reason for the creation of the female category. If the existence of this "protected class" is based on the significant impact of certain biological characteristics on performance in various sports disciplines, then it is legitimate to regulate the right to belong to this "protected class" by reference to these biological characteristics.
The Training also recognized that testosterone is the main factor in physical benefits and therefore in the difference between the sexes in athletic performance. On the basis of the elements put forward by the parties and the hearing of the various experts, it considered that 46 XY DSD female athletes, sensitive to androgens, enjoy a significant competitive advantage and that this results from their exposure to a level of testosterone equivalent to the usual concentration present in a man. Lastly, it considered that the provisions governing the eligibility conditions of 46 XY DSD athletes for certain events are necessary if women's athletics competitions are to be held in an equitable manner.

For the same reasons, the Panel considered that the DSD Regulation is reasonable.

9.6.3. With regard to the control from the angle of proportionality, the Panel, as indicated above (see letter Bcf), then proceeded to a complete examination of the DSD Regulations, analyzing, in this context, a whole series of aspects, namely the effects linked to the taking of oral contraceptives, the duty of athletes to undergo intrusive physical examinations, the problem of confidentiality, the scope of "Restricted Events", the authorized limit of testosterone levels as well as the ability of athletes to be able to maintain their testosterone level below 5 nmol/L. To assess the proportionality of the DSD Regulations, it considered that a weighing of the various interests involved was necessary. In particular, the Panel stressed that the side effects of hormone treatment, even if they are significant, are not sufficient to outweigh the interests pursued by the IAAF. At the end of this review, it considered that the adoption of the DSD Regulations was an appropriate measure.

9.7.
According to the Appellant, the Panel's conclusion, according to which the disputed differentiation of treatment is justified, disregards the content and importance of the principle of non-discrimination within the meaning of Swiss public order (appeal, n. 124 et seq. In her opinion, the test applied by the CAS to justify this discrimination is insufficient in view of the principles established by the case law relating to art. 8 para. 2 Cst. (appeal, n. 126). Incidentally, a difference in treatment based on the criterion of sex would require solid justifications. Moreover, in Swiss law only an important and legitimate public interest could justify such differential treatment (appeal, n. 128 f.). The interests pursued by the IAAF cannot thus make lawful the treatment reserved for 46 XY DSD athletes, especially since they are particularly vulnerable. The Appellant further maintains that the examination carried out by the Panel from the angle of the principle of proportionality would be "incompatible with fundamental rights", on the grounds that the arbitrators failed to carry out a full weighing of all the interests involved, that the interests pursued by the IAAF are not such as to justify certain infringements and that these not only exceed what is necessary to achieve the aim pursued, but are also clearly disproportionate to the aims pursued by the IAAF (appeal , n. 199 ff). In this context, the Appellant states in particular that the CAS was not in a position to rule on whether the 46 XY DSD athletes will be able to maintain their testosterone levels below the authorized limit in practice, nor to determine the exact intensity and severity of the side effects associated with taking oral contraceptives. It then sets out to demonstrate that the interests pursued by the IAAF - it qualifies them as public (appeal, n. 94) - with a view to guaranteeing the integrity of women's athletics and the fairness of competitions relate only to the absence of external manipulations (doping, corruption and other unfair behaviour) and would not target natural physical differences (appeal, n. 211). Moreover, the alleged defense of the "protected class", advanced by the IAAF as another objective, would in reality only amount to protecting the economic freedom of other female athletes and would therefore be unsuitable for justifying infringements of the rights of 46 XY DSD athletes. From the standpoint of necessity, the Appellant takes issue with the reasoning on the basis of which the CAS concluded that the list of "Restricted Events" is not disproportionate, despite its concerns regarding the inclusion of the 1,500 meters and a mile. Finally, she maintains, by opposing the result of her own weighing of interests, that those of female athletes without DSD cannot outweigh those of 46 XY DSD athletes.

9.8.

9.8.1. The Appellant's argument, thus summarized, calls for a preliminary remark from the Court here. It is in fact necessary to recall here that the plea of incompatibility with substantive public policy, within the meaning of art. 190 para. 2 let. e LDIP and the related case law, is not admissible insofar as it tends only to establish the conflict between the award under appeal and a norm of Swiss law, even if it is a constitutional norm. Consequently, all the considerations relating to the scope of art. 8 para. 2 Cst., and the resulting requirements in Swiss domestic law, are irrelevant. It is therefore also not possible for the Appellant to contend that the case-law rendered on the basis of Art. 8 para. 2 Cst. be transported to international arbitration. The Appelant bases her argument on Swiss constitutional law, even though this was not applicable to the proceedings before the CAS. The only question to be resolved is in fact whether or not the decision of the CAS renders the award referred to, incompatible with substantive public policy.

9.8.2. These clarifications having been made, it should be recalled that the Panel made the following observations in particular:

- testosterone is the main factor in physical advantages and therefore in the difference between the sexes in athletic performance (sentence, n. 492 f.);
- 46 XY DSD female athletes have male chromosomes (XY), male gonads (i.e. testes and not ovaries) and testosterone levels comparable to men (award, n. 497) ;
- 46 XY DSD female athletes, sensitive to androgens, enjoy a significant competitive advantage resulting from their exposure to a level of testosterone equivalent to the usual concentration present in a man (award, n. 575);
- this advantage may not be of the order of 10-12% but it is sufficient to allow athletes with 5-ARD to systematically beat female athletes without DSD (sentence, n. 574).

These findings of fact bind the Federal Tribunal. On the basis of the facts sovereignly noted by it, the reasoning adopted by the Panel from the angle of necessity does not appear to be open to criticism. In this regard, the Appellant cannot be followed when she tries to put into perspective the insurmountable nature of the advantage enjoyed by the 46 XY DSD athletes.
The Appellant cannot be followed either when she argues that the award under appeal would be contrary to public order on the grounds that the list of "Restricted Events", endorsed by the Panel, would create a disproportionate infringement of the 46 XY DSD athletes' rights. First of all, it is very doubtful that this element, taken in isolation, could be contrary to public order. In addition, it is wrong to maintain, as does the Appellant, that the Panel found that the evidence relating to the competitive advantage of 46 XY DSD athletes in the 1,500 meters and the mile disciplines is "insufficient" (appeal, n. 221). Although the CAS has expressed its concerns about the inclusion of these two events in the DSD Regulations and indicated that the IAAF may consider deferring the application of this rule to said events, it nonetheless has considered that the IAAF had provided evidence for all "Restricted Events" as well as a general rational explanation of how this category was defined. In these circumstances, this result cannot be qualified as contrary to public order.

9.8.3.

9.8.3.1. With regard to CAS' analysis, carried out from the angle of the principle of proportionality, the Court hereby wishes first of all to note that the Panel, at the end of an arbitration procedure during which it held a hearing for five days and heard a very large

number of experts, rendered a detailed judgment, comprising no less than 165 pages, dealing not only with very complex scientific questions but also extremely delicate legal problems. In this context, the CAS conducted a full examination of the grievances raised by the parties. In addition, the arbitrators took into account all the elements and did not overlook any important circumstances. Admittedly, the Panel was not in a position, on the basis of the evidence gathered, to provide an answer to all the numerous questions raised by the present case. However, it cannot be criticized for having failed to examine certain decisive aspects concerning the DSD Regulations. It has indeed carried out a careful weighing of the various interests involved. On the one hand, the CAS has taken into account the interest in guaranteeing fair competition within female athletics and in ensuring the defense of the "protected class", with a view to allowing female athletes without DSD to be able to excel at the highest level. On the other hand, it took into consideration the effects of oral contraceptives on the health of 46 XY DSD athletes, the impairments linked to intrusive physical examinations aimed at assessing androgen sensitivity, issues relating to confidentiality and the possibility for them to successfully keep their testosterone levels below the regulatory limit.

9.8.3.2. It remains to be determined whether the Panel's decision is contrary to public order, that is. to the essential and widely recognized values which, according to the conceptions prevailing in Switzerland, should constitute the basis of any legal order. The question must be resolved in the negative. Indeed, the result of the award under appeal is neither untenable nor even unreasonable.

9.8.3.3. In this regard, it should be emphasized that the concern to ensure, as far as possible, fair sport constitutes a completely legitimate interest. Admittedly, as the Appellant points out, there is, according to the case law, no public order specific to sport, a "lex sportiva" (judgment 4A_312 / 2017, cited above, recital 3.3.2). This does not mean, however, that it is not necessary to take into account the particular context in which the present case takes place, that is to say, competitive sport, when it comes to assessing the weighting of interests operated by the Panel and the result to which it has led.

It is important to note that the Court itself gives special attention to sports equity. In a judgment issued on January 18, 2018, the ECtHR recognized that " efforts to ensure equal and meaningful competition in sports, is also linked to the legitimate aim of "protection of the rights and freedoms of others" (*National Federation of Sports Associations and Unions (FNASS) and others against France*, § 166). In this case, the applicants alleged that the location obligation imposed on athletes of a "target group" with a view to carrying out unannounced doping controls infringed art. 8 ECHR. They denounced in particular a "particularly intrusive" control system, commanding athletes belonging to the target group to communicate information on their places of residence, training and competition so that they could be located at any time and to immediately submit themselves to various controls ordered on a discretionary basis and without notice. They complained about the possibility of carrying out checks outside sporting events and outside training periods, that is, even when an athlete is on leave, resting or ill. According to them, this measure infringed on their freedom to come and go, because of the obligation of permanent location, their right to a normal family life and their individual freedom as athlete. Also, this measure constantly exposes the targeted athletes, between 6 a.m. and 9 p.m., to the prospect of physically intrusive controls; such a prospect requiring the prior and systematic declaration of their schedule, in violation of their right to establish relations with their counterparts and the right to the quiet enjoyment of one's privacy. On this point, one of the applicants argued, in

particular, that the location obligation subjected athletes to permanent stress which destroys their physical and mental health.

In addition, the multiple samples damaged the veins and the arm's ability, endangering the health of athletes. Finally, the applicants denounced a violation of the principle of equality, as the location obligation in order to carry out the doping control, is only for athletes belonging to the target group. For its part, the Respondent State argued that the location obligation served two legitimate aims, namely the protection of public health and morals.

The ECtHR ruled that the location obligation was intended to meet health requirements. After having expressly recognized that fair play and equal opportunities constitute one of the foundations of the fight against doping, it saw in the search for an egalitarian and authentic sport, a legitimate aim, namely the protection of rights and freedoms of others (§ 166). Indeed, the use of doping products unfairly excludes competitors of the same level and deprives spectators of a fair competition to which they are legitimately attached. The ECtHR, finally, concluded that there was no violation of art. 8 ECHR.

This judgment thus confirms that the search for fair sport constitutes an important objective which may justify serious infringements of the rights of athletes. This case certainly raises a different issue from that of doping. No one disputes that the 46 XY DSD athletes have never cheated. However, we must not lose sight of the fact that the natural advantage they possess is of such a magnitude that it allows them, on the distances between the 400 meters and the mile, to systematically beat female athletes with no DSD.

In this regard, whatever the Appellant claims, through a criticism that is largely appellatory and invoking a plea which was apparently never raised before the CAS, that the equity and fairness of competitions do not concern only the issues related to doping, corruption and other external manipulations. Inborn characteristics specific to athletes in a particular group can also distort the fairness of competitions. When they issue regulations, the objective of sports federations is to ensure fair and equitable competition (JÉRÔME JAQUIER, *La qualification juridique des rules autonomes des organizations sportive*, 2004, p. 78). Thus, the establishment of separate categories aims at reducing the difference between athletes. This is why, in some sports, several categories have been created on the basis of biometric criteria. For example, boxers are divided into several categories based on their weight. Likewise, in most sports, including athletics, women and men compete in two separate categories, the latter naturally benefiting from a physical point of view.

The separation into two categories, female and male, however, implies having to set a limit and criteria of distinction. However, any binary division between men and women, as it is the case in the field of athletics, necessarily raises certain classification difficulties. The present case is the perfect illustration of this. In this regard, it is also interesting to note, that Australian law, to which the IAAF refers in its response, expressly provides that the prohibition of intersex persons from participating in certain sports competitions is not illegal (see also on this point, MATHIEU MAISONNEUVE, *Chronique de jurisprudence arbitrale en matière sportive*, in *Revue de l'arbitrage* 2019 n° 3, p. 945, footnote 19; this author notes that certain national rights, such as of Australian law, expressly address the issue of differential treatment of the type introduced by the IAAF). It is obvious that athletes will never have the same chances of success in practice. So, for example, a tall athlete will certainly have an advantage if he plays basketball, like a sportsman with big feet who practices swimming. However, it is not for the Federal Court to make, abstractly,

comparisons between the different disciplines to assess whether a particular athlete has an advantage that makes sporting competition meaningless. It is primarily the responsibility of the sports federations to determine to what extent a particular physical advantage is likely to distort competition (MARTIN KAISER, *Sportrecht - Berücksichtigung der Interessen des Sports in der Rechtsordnung*, 2011, p. 34 f.), and, if necessary, to establish eligibility rules, which are legally permissible, to remedy this state of affairs. The Appellant therefore attempts in vain to draw parallels between the situation of athletes practicing other sports or other athletic disciplines and her own.

9.8.3.4. The objective pursued by the IAAF, namely to guarantee fairness in competition, which the Appellant herself describes as being in the public interest (appeal, n. 214), is not the only one that comes into play. Indeed, as the Panel pointed out, the present case is characterized by the fact that private interests are in conflict, since the interests of 46 XY DSD athletes are opposed to those of other female athletes who do not have DSD. On this point, it should be remembered that they are disadvantaged and deprived of any chance of success when they have to face 46 XY DSD athletes. The statistics are particularly eloquent in this regard. The Appellant's contention cannot be supported that the defense of the "protected class" would tend only to defend the economic interests of other female athletes. Such a statement is too reductive. Indeed, the raison d'être of this "protected class" is to allow female athletes to benefit from the same opportunities as those enjoyed by male athletes, in order to encourage them to make the necessary sacrifices to reach the highest level in athletics. The triumph within the international elite allows the athletes to acquire a certain notoriety and to become models with which the young sportsmen of their country and the whole world identify. The desire to excel at the level of the sporting elite is thus not driven solely by financial interests. Sport cannot be reduced to a simple commercial spectacle; it was not created to generate monetary flows (FRANK LATTY, *La lex sportiva*, Recherche sur le droit transnational, 2007, p. 731). When an athlete steps onto the starting line, she seeks personal satisfaction, first and foremost, by trying to beat her opponents (LATTY, ibid.).

9.8.3.5. In an attempt to reconcile the interests of 46 XY DSD athletes, those of other female athletes and the requirements of competitive sport, the IAAF has enacted the DSD Regulations. In doing so, it did not opt for the solution adopted in Australian law, which admits the exclusion of intersex people from any competitive sport activity in which the strength, endurance or physique of the competitors play a role. It has chosen a less drastic solution, by making the participation of 46 XY DSD athletes in various athletics events ("Restricted Events"), within the framework of international competitions, conditional on certain requirements being met. The Panel expressed, on several occasions, certain concerns. However, after having examined the DSD Regulations from all its angles, the Panel concluded that it constitutes a proportionate measure. In this context, it did not neglect any important circumstance, since it took into account in particular the effects of oral contraceptives on the health of athletes, attacks related to intrusive physical examinations and confidentiality issues. With regard to these various points, the Court considers that it is important to highlight certain elements held by the CAS.

Regarding the side effects linked to the use of oral contraceptives, the Panel admitted that these are significant and that the Appellant suffered some when she was taking the contraceptive pill. However, it also refused to conclude that all the side effects encountered by the Appellant when trying to reduce her testosterone level were due to the hormonal treatment, that such effects could not be controlled otherwise, that they would last, that other 46 XY DSD athletes would experience them in the same way (women reacting differently to

different types of birth control pills) or that another type of birth control pills, if prescribed, would have similar side effects. The Panel added that these effects are no different in nature from the side effects experienced by thousands, if not millions of other women with karyotype XX who take oral contraceptives. The Panel further indicated that there is no (sufficient) evidence to admit that the side effects would increase in the event of a reduction in the maximum allowable testosterone level from 10 to 5 nmol/L. Thus, the present Court is bound by the CAS finding, according to which the increase in such effects has not been demonstrated. When the Appellant criticizes the CAS for not having established whether the withdrawal symptoms caused by the hormonal intervention are only temporary, if the 46 XY DSD athletes will have to take higher doses of oral contraceptives than those normally prescribed, if certain effects secondary are more important when the dose of contraceptives is important or if the contraceptives have another impact on athletic performance, she makes a purely appellative criticism which, therefore, is inadmissible. Moreover, when she argues on the basis of the rules of the burden of proof, the Appellant loses sight of the fact that this question is excluded from the examination of the Federal Tribunal called upon to hear an appeal in civil matters against an international arbitration award, because such rules do not form part of substantive public policy within the meaning of art. 190 para. 2 let. e LDIP (judgment 4A_616 / 2015 of September 20, 2016 at 4.3.1 and the precedents cited).

With regard to examinations aimed at determining the degree of virilization, the Panel recognized that these are very intrusive in nature and that undergoing such an examination can be unwelcome and distressing, even if this examination is carried out with care. At the same time, however, it raised the possibility that such examinations could, in some cases, have beneficial effects by revealing medical information that could help athletes who are unaware that they have DSD to make informed decisions about any necessary medical treatment, but also to protect them against possible suspicion of doping.

The Panel also recognised that the IAAF had succeeded in keeping confidential the information relating to the athletes covered by its previous regulations. However, the Panel noted that it would not be difficult for an "informed observer" to deduce, from the absence of an athlete during an international competition, that she presents a DSD, considering the inevitable detrimental effect of the DSD Regulations.

As for the concrete possibility for 46 XY DSD athletes to be able to maintain their testosterone level below 5 nmol/L, the Panel expressed its concerns. It nevertheless considered that the potential difficulties in applying the DSD Regulations were, essentially, of a speculative nature. It added that its mission was to examine the DSD Regulations as enacted and not yet implemented. However, the CAS underlined that the DSD Regulations could subsequently prove to be disproportionate in the event that it is impossible or excessively difficult to apply it. It must therefore be admitted that the CAS did not validate, once and for all, the DSD Regulations but, on the contrary, expressly reserved the possibility of carrying out, if necessary, a new examination from the point of view of proportionality when applying this regulation in a particular case. In this regard, it should be noted that the Appellant herself mentions in her written submissions that the IAAF took into account the concerns expressed by the Panel since it decided to revise the DSD Regulations in order to allow, under certain conditions, to waive disqualification of an athlete whose testosterone level unintentionally exceeds the authorized limit.

9.8.3.6. After examining the various interests involved, it cannot be said that some of them would clearly outweigh others. It should be remembered that 46 XY DSD athletes do not

have the obligation to reduce their testosterone level by following hormonal treatment, unless they wish to take part at a "Restricted Events", in the female category during an international competition. Consequently, the solution adopted by the Panel, at the end of a careful weighing of the different interests involved, is neither unsustainable, that is to say arbitrary, nor, a fortiori, contrary to public order.

10.
Still regarding the violation of public order, the Appellant further complains of a violation of her personality rights due to the unjustified attacks on her bodily integrity, her identity, her private sphere and her economic freedom.

10.1.

In matters of high-level sport, the Federal Court recognizes that personality rights (art. 27 s. of the Swiss Civil Code [CC; RS 210]) include the right to health, bodily integrity, honour, professional consideration, sporting activity and, in the case of professional sport, the right to development and economic fulfilment (ATF 134 III 193 at 4.5). Depending on the circumstances, an infringement of the athlete's personality rights may be contrary to substantive public policy (ATF 138 III 322 at 4.3.1 and 4.3.2). According to the case law, the violation of art. 27 para. 2 CC is not however automatically contrary to substantive public policy; it is also necessary to have a serious and clear case of violation of a fundamental right (ATF 144 III 120 at 5.4.2).

10.2.

With regard to the attacks on her physical and mental integrity, the Appellant denounces both the duty to undergo humiliating intrusive examinations aimed at determining an athlete's sensitivity to androgens and the obligation imposed on her to take oral contraceptives in order to lower her testosterone level below the regulatory limit. It is clear that such measures seriously infringe the right to physical integrity of 46 XY DSD athletes. This being so, one cannot follow the Appellant when she maintains that these attacks are such as to affect the very essence of the right to physical integrity, making any justification impossible.

Regarding intrusive examinations, it should be noted that these will be carried out by duly qualified doctors and will, in no case, be carried out if an athlete objects. Also, the parallel which the interested party tries to draw between a body search carried out by a security officer and the present case is not relevant, since the types of examinations, the context in which they take place, and the people responsible for practicing them, are by no means comparable. In addition, the Panel raised the possibility that these examinations may, in some cases, have beneficial effects by revealing medical information that may help athletes, unaware that they have DSD, to make informed decisions on any necessary medical treatment and by protecting these athletes against possible suspicions of doping. Finally, it should be noted that regardless of the existence or not of the DSD Regulations, the body of a professional sportswoman is already fairly scrutinized for the purposes of the fight against doping. All these elements lead to relativize the extent of the violation of the right to physical and psychological integrity, even though it remains significant.

As for the taking of oral contraceptives, it is true that it does not meet, in the present context, any medical necessity. Neither the CAS nor the parties dispute this. However, one cannot follow the Appellant, when she maintains that the present case is "similar" to the cases of

forced treatment or when she transposes to the present case, the federal case-law, rendered from the angle of Swiss constitutional law, in relation with the treatment of schizophrenics against their will. That an athlete decides, albeit reluctantly, to comply with the requirements set by the IAAF to be able to participate in certain competitions and, therefore, agrees to take oral contraceptives to reduce her testosterone level on the basis of a consent that she has not expressed completely freely is one thing. It is quite another to have treatment forcibly imposed on someone unwillingly. While it is true that the athlete's consent, for want of being completely free, cannot, in this case, in itself justify the attack on physical integrity, this does not mean that interests predominant public or the need to protect the rights of third parties cannot justify such an infringement.

With regard to the effects associated with taking oral contraceptives, as recalled above (see recital 9.8.3.5), the Appellant, through a criticism of a purely appellatory type, criticizes the Panel's assessment as to the seriousness of the hormonal intervention. Such a criticism, which ignores the nature of the remedy in international arbitration, will therefore not be taken into account.

It follows from the foregoing that, if the taking of oral contraceptives involves significant side effects and is not based on a completely free and informed consent, to the point of constituting a serious infringement of the right to physical integrity of the athletes concerned, we cannot, however, accept that such a measure affects the very essence of this right, excluding any justification.

This being said, it will be recalled, once again, that the DSD Regulations constitute a necessary and proportionate measure to achieve the goals sought by the IAAF. In this regard, the considerations put forward by the present Court on the necessity and proportionality of the contested measure, with regard to the principle of the prohibition of discrimination, apply here mutatis mutandis. Consequently, the award under appeal does not appear to be contrary to public order from the point of view of the right to physical integrity either.

10.3.
The argument developed by the Appellant from the angle of the right to respect for social and gender identity is false. Indeed, the DSD Regulations are in no way intended to "redefine" or even to question the sexual or gender identity of 46 XY DSD female athletes. It only establishes eligibility rules intended to guarantee sporting fairness and equal opportunities for all female athletes. In any event, this is by no means a serious and clear case of violation.

10.4.
Regarding the protection of the private sphere, the Panel recognized that it will not be difficult for an informed observer to determine if an athlete is concerned by the DSD Regulations. In this regard, it concluded that this is probably a detrimental effect of the DSD Regulations. It nevertheless considered that this constituted a necessary and proportionate measure. Such a result is not contrary to public order. On this point, we can repeat, mutatis mutandis, the considerations already expressed in connection with the principle of the prohibition of discrimination.

10.5.
From the point of view of economic freedom, it should be noted that the new eligibility rules restrict the possibility for the Appellant to line up in the "Restricted Events" during international competitions, whereas she was, until now, totally free to participate. In doing so,

the DSD Regulations, validated by the CAS, infringes her economic freedom. However, for a restriction of economic freedom to be considered as excessive within the meaning of the case-law of the Federal Tribunal, this restriction must lead the obliged party to suffer arbitrariness from their co-contracting party, suppress their economic freedom, or limit to such an extent that the foundations of their economic existence are endangered (judgment 4A_312 / 2017, cited above, recital 3.1 and the precedents cited). However, it must be noted that the eligibility conditions do not make the Appellant's participation in the "Restricted Events" impossible. In addition, the interested party can align herself in other disciplines not covered by the DSD Regulations, even at the international level. It is thus difficult to claim that her economic existence would be really endangered. Be that as it may, the DSD Regulations constitute, in any event, a measure suitable, necessary and proportionate to the aims pursued, and thus justify the infringement of economic freedom. The considerations made above about the necessity and proportionality of the measure, from the point of view of the principle of the prohibition of discrimination, can be repeated here.

For the rest, whatever the Appellant argues, her situation is not comparable to that of Brazilian footballer Matuzalem, who had been threatened with an unlimited suspension from all footballing activity in the event that he did not pay a compensation higher to 11 million euros, plus interest, to his former club at short notice (ATF 138 III 322). In this case, FIFA sought to facilitate the enforcement of an arbitration award. This measure was aimed at directly protecting the interests of the club so that it could obtain the payment of damages from the defaulting player and, indirectly, the interest of the sports association in ensuring that footballers respect the principle of contractual loyalty. Examining the question of its proportionality from the angle of public order, the Federal Court questioned whether such a measure would make it possible to promote the recovery of the claim for damages when the player does not have the funds necessary to pay the amount, given that the suspension of all footballing activity deprives the player of the possibility of receiving a salary, by exercising his profession, in order to pay off his creditor. The Federal Court considered that the sanction was not necessary to achieve the aim, since the creditor could obtain the enforcement of the award through the New York Convention of June 10, 1958 for the recognition and enforcement of foreign arbitral awards (RS 0.277.12). Finally, it considered that FIFA's abstract interest in footballers respecting the principle of contractual loyalty vis-à-vis their employer was clearly less important ("eindeutig weniger gewichtig") than that of the player not to have to undergo an unlimited suspension in time and space.

The situation is appreciably different in the present case since the DSD Regulations, ratified by the CAS, constitute a measure suitable, necessary and proportionate to the legitimate aims of sporting fairness and the maintenance of the "protected class". Moreover, such interests cannot be qualified as "clearly less important" in relation to the rights of 46 XY DSD athletes.

10.6.
The criticisms made by the appellant association, in its own brief, from the point of view of the violation of the personality rights of athletes, if they are admissible at all, do not establish any incompatibility with public order. Moreover, when the appellant association incidentally mentions, without providing very detailed motivation as required by this case, that the taking of oral contraceptives may be contrary to the moral and religious convictions of an "Athlete concerned", it makes an ‘abstract’ reasoning by, moreover, raising a plea that it never seems to have raised before the CAS. Therefore, its criticism is inadmissible.

10.7.
Ultimately, the arguments developed by the Appellants, in no way, demonstrate the existence of a breach of public order resulting from a serious and clear violation of personality rights. Consequently, the plea is also rejected.

11.
Lastly, the Appellant maintains that the award under appeal violates her human dignity, which undoubtedly falls within the concept of public order.

11.1.
In a first branch of this plea, the Appellant argues that the award would convey gender stereotypes. According to her, the reasoning of the CAS would neglect her human dignity, since only women possessing biological characteristics corresponding to the stereotype of women would be allowed to compete freely in the "protected class", that is to say as real women (appeal, n. 189). However, it should be noted that the award in no way seeks to call into question the female sex of the 46 XY DSD athletes or to determine whether they are sufficiently "female". The question is not what a woman or an intersex person is. The only problem to be resolved is whether the creation of certain eligibility rules, for the purposes of sporting fairness and equal opportunity, applicable only to certain women enjoying an insurmountable advantage, arising from certain biological characteristics innate, is contrary to human dignity.

It cannot be accepted that the result reached by the CAS, on the basis of the reasoning criticized by the Appellant, would, per se, be incompatible with the guarantee of human dignity. In certain contexts as specific as that of competitive sport, it can be assumed that biological characteristics may, exceptionally and for the purposes of fairness and equal opportunity, eclipse a person's legal sex or gender identity. Otherwise, the very idea of a binary division between men and women, present in the vast majority of sports, would lose its raison d'être. In these conditions, the fact of restricting the access of 46 XY DSD female athletes, who naturally have an insurmountable advantage over other women, to certain competitions, does not appear to be contrary to the human dignity of these athletes.

11.2.
In the second part of the same plea, the Appellant complains that the 46 XY DSD female athletes would serve as "human guinea pigs".
The Federal Tribunal has admittedly recognized that drug treatment administered against the will of an individual constitutes a serious violation of personal freedom and goes to the very heart of dignity (ATF 130 I 16 recital 3). However, it should be borne in mind that contraceptive pills are not, here, forcibly prescribed to 46 XY DSD female athletes. They always retain the possibility of refusing to follow such "treatment". While it is true that such a refusal will lead to the impossibility of taking part in certain athletics competitions, it cannot be accepted that such a consequence could, in itself, undermine a person's human dignity.
In addition, it is not, in this case, to test the effects of a new drug, completely unknown, on a group of people. Also, the reference to "humiliating pharmacological experiments" or to the concept of "human guinea pig" appears misplaced.

11.3.
Consequently, the plea of violation of human dignity must be rejected.

12.
It follows from the foregoing examination carried out by the present Court, within the limits imposed by case law on its cognition, that the award under appeal is not incompatible with substantive public policy within the meaning of art. 190 para. 2 let. e LDIP, from whatever side you approach it.

13.
However, these appeals must be dismissed. The appellants, who fail, will bear, at the rate of one half each, the legal costs relating to the two joined cases (art. 66 al. 1 and 5 LTF). Each will also pay the IAAF compensation for costs (Art. 68 (1) and (2) LTF).

For these reasons, the Federal Tribunal pronounces:

1.
Cases 4A_248 / 2019 and 4A_398 / 2019 are joined.

2.
The appeals are dismissed.

3.
The legal costs relating to the two joined cases, fixed at 14,000 francs, are charged to the appellants, at a rate of half each.

4.
The Appellants will each pay the IAAF an indemnity of 8,000 francs for costs.

5.
This judgment is communicated to the representatives of the parties and to the Court of Arbitration for Sport.

Lausanne, 25 August 2020

On behalf of the First Civil Law Division of the Swiss Federal Court

The President: Kiss

The Registrar: O. Carruzzo