

Beyond Dimorphism: Intersex Persons and the Continuum of Sex Characteristics

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This paper presents an argument against sex dimorphism. It is puzzling that the existence of intersex persons is well established by medical and social data, but the idea of sex dimorphism is still maintained as a universal assumption about the human body. I argue that the idea of sex dimorphism is empirically inadequate (it ignores the existence of intersex bodies) and harmful (it is the source of “normalizing” surgeries on intersex newborns, the pathologization of intersex people as “disordered” and discrimination against them on the basis of sex characteristics). I argue that the strategy to justify sex dimorphism by reproductive functions is not universal, and I point to the ontology of process where intersex bodies are no longer problematic (there is a place for them on the continuum of sex characteristics). Sex chromosomes, gonads, internal sex organs, genitals, and secondary sex characteristics can be inconsistent with each other or have neither male nor female form. Intersex people are beyond sex dimorphism and remind us that the human body with its sex characteristics is a process.

Keywords: sex dimorphism, intersex people, continuum of sex characteristics, sex/gender as a process

1. Intersex people

Intersex people are people born with non-binary sex characteristics. By *non-binary sex characteristics*, I mean *sex characteristics outside the male/female binary*. An intersex person can have one sex characteristic female, but another male (for instance, a vagina and undescended testes) or a sex characteristic that is neither male nor female (for instance, a vagina and an enlarged clitoris in a form of micro-penis). In medical language, such intersex conditions are referred to as DSD (disorders/differences of sex development). One in every 4500 newborns (Hughes et al., 2006, p. 554) is diagnosed as a DSD case, and additional cases are diagnosed in puberty or later in life (during verification of female sex in sports or when assessing reasons for difficulty with conceiving). Thus, some intersex newborns have visibly non-binary sex characteristics (genitals), and others have non-binary sex characteristics that remain undetected for many years (internal sex organs, traits that develop after puberty). The term *DSD* is not liked by patients (Johnson et al. 2017) and is rejected by most intersex advocates as pathologizing (Vilorio, 2017). It was coined to bring together earlier known medical conditions such as CAH (congenital adrenal hyperplasia), CAIS (complete androgen insensitivity syndrome), PAIS (partial androgen insensitivity syndrome), 5-AR (5-alpha reductase deficiency), mosaic or incomplete chromosomes and others (Hughes et al., 2006; Conway, 2014; Lee et al., 2016). I will give one example of mosaicism and two examples of CAH.

Vivienne Souter (et al., 2007) describes an intersex baby (one of twins) with non-binary external genitalia (a vagina and a small penis/enlarged clitoris). The baby had mosaic 46, XX/46, XY chromosomes, with 46, XX considered typically female and 46, XY typically male. Both gonads were ovotestes (with both ovarian and testicular tissues). The left gonad was predominantly testicular, and that side also had a vas deferens. The right gonad was predominantly ovarian, and a hemi-uterus with a fallopian tube was present on that side (Souter et al., 2007). The second twin also had mosaic 46, XX/46, XY chromosomes and ovotestes, but the gonads contained predominantly testicular tissue, and the baby had male genitalia. In this case, the internal intersex traits were not expressed in the external body.

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Souter (et al.,2007) writes that the first twin was assigned as female on their birth certificate. This was a decision, not a description of their body. This baby raises questions about sex dimorphism in many layers of sex characteristics: chromosomes, gonads, internal sex organs, and genitals. The next examples are not so extreme, but they still question sex dimorphism as a universal principle.

My example of CAH is a three-year-old baby born with a small penis (Gozar et al.,2014). Ultrasound examination revealed the presence of ovaries, a uterus, and an internal vagina, and the chromosomes turned out to be typically female (46,XX). In this case, surgery altered the genitalia to provide a female appearance: clitoroplasty (with the removal of erectile tissue), reconstruction of the labia minor, and vaginoplasty (Gozar et al., 2014,p.550). The prognosis for this baby was probably similar to the real story of another child with CAH (my third example): a thirteen-year-old boy who suffered breast development and bleeding through the penis. The boy happened to have a female (46,XX karyotype), with both a uterus and ovaries. He was diagnosed with CAH with strong masculinization. The bleeding was menstruation. His parents wanted to remove the breasts, uterus, and ovaries (Diamond et al., 2003, p. 12). Such surgeries are “normalizing” because they are conducted not for medical reasons but for cosmetic and social reasons.

The intersex social movement started in the 1990s (*Intersex Society of North America* ISNA) and involved many intersex people who were objects of “normalizing” surgery. Cheryl Chase, the founder of ISNA, writes: “I had been mutilated by the clitorrectomy, deprived of the sexual experience most people, male and female, take for granted” (Chase, 2002, p. 206). Sociological research shows that many intersex persons who underwent surgical modification were left scarred and live in bad psychological and physical conditions. After such surgery, they are often patients for life because of recurring surgeries, painful genitals, and hormone supplementation (Davis, 2015, p. 90).

One kind of criticism of medical procedures for intersex children originated inside the medical community (Diamond and Sigmundson, 1997; Reiner and Gearhart, 2004; Meyer-Bahlburg, 2005). The important turning point was Chicago Consent in 2006, which was a kind of compromise between the medical community of pediatric endocrinologists and the intersex community. As a result, medical practitioners improved their medical procedures (Houk and Lee, 2008: 175; Lee et al., 2016), but no consensus was established to stop such surgeries. In the UK, there has even been an increase in the number of operations on the clitoris since 2006 (Creighton et al., 2014, p. 38).

Additionally, some intersex people describe living a happy life without any medical intervention. Hida Viloría (chairperson of Organization Intersex International, OII) was born with CAH but was not subjected to medical “normalization” and is happy about it. She has experienced discrimination because of having a larger clitoris but is able to feel sexual pleasure. “I have an intersex body and I feel blessed that it was never altered. I want parents and doctors to know that I’m better off because I was left as is” (Viloría, 2017, p. 215).

Intersex social movements (OII, Human Rights Watch/inter/ACT and others) continue to demand the prohibition of early “normalizing” surgery (HRW/interact, 2017). Only on Malta is such surgery prohibited (Ghattas, 2015). It is questionable whether parents and doctors can decide for a child in cases of genital surgeries without medical necessity. This type of surgery is conducted without informed consent by the body’s owner. Parental stress and school bullying are not sufficient reasons for performing irreversible surgery on a child’s body with the high risk of harm (Tamar-Mattis, 2006). It is especially cruel when the early surgery is inconsistent with later gender identity. “Gender dysphoria generally affects between 8.5–20% of individuals with DSDs, depending on the type of DSD” (Furtado et al., 2012, p. 620). In such cases people regret losing their genitals.

The introduction of “disorder terminology” by the Chicago Consent in 2006 heightened the tension within the intersex community (Davis, 2015, p. 2). Activists from OII (now the world’s largest intersex advocacy organization) were shocked that after many years of fighting against “normalizing” surgeries on intersex newborns, the term *disorder* was introduced that pathologizes intersex people and suggests that they should be cured. There are, however, many supporters of the term *DSD* among intersex people. They prefer to be considered a person with a disorder instead of a queer. They are stigmatized by the ambiguity of their body and try to avoid the stigma on the layer of identity (Greenberg, 2012; Van Lisdonk, 2014). “They prefer to be seen as normal men or women with certain medical conditions or physical differences” (Viloría, 2017, p. 195). By accepting the term *DSD* and rejecting the term *intersex*, Cheryl Chase (the founder of ISNA) has moved away from overt connections with the LGBT community to reach a broader audience: parents, doctors and intersex adults who dislike associations with the gay community (Karkazis, 2008, p. 262). OII cooperates with the LGBT movement to make intersex people visible (Ghattas, 2015).

The most important point here is that the presumption of dimorphism results in harmful surgeries on intersex newborns. These surgeries are intended to erase the traces of non-dimorphism and make the body conform to social expectations and the law. In this sense, the idea of sex dimorphism is dangerous to intersex people. Discrimination on the ground of sex characteristics is the second problem for intersex people, especially those who are visibly intersex. The famous athlete Caster Semenya (from the Republic of South Africa) is an important point of reference for intersex activists. "Semenya is a reminder that attaining bodily autonomy is not our only human rights issue. She is a reminder that some intersex people grow up to look in between, or gender nonconforming" (Viloria, 2017, p. 230). Thus, even genital surgery in childhood cannot prevent the intersex appearance of the whole body in adulthood. The next problem is the lack of a legal category to describe intersex newborns and adults, especially those who identify as non-binary, who feel neither female nor male. One intersex activist writes: "I actually do feel like something other than male or female, or both male and female – a third gender, if you will – and my body looks like it too" (Viloria, 2017, p. 195).

Most intersex people have binary gender identity, male or female, and do not have a problem with gender identity. However, they have still problems with the legal binary sex system: the law presupposes consistency between sex characteristics and gender identity. Intersex people are outside the binary system because their body is beyond sex dimorphism. Moreover, they are against the practice of recognizing only two sexes (Ghattas, 2015, p.19).

In a study of intersex people, 24% reported two-gender identity (including both male and female elements), and 3% reported neither a female nor a male gender identity (Schweizer et al., 2014, p. 56). Both groups can be called intersex people with non-binary identity. People with non-binary gender identity are well described by Christine Richards: "Some people have a gender which is neither male nor female and may identify as both male and female at one time, as different genders at different times, as no gender at all, or dispute the very idea of only two genders" (Richards et al., 2016, p. 95).

One intersex person describes the non-binary experience as follows: "I want people to know that I'm gender ambiguous. I don't feel female, but I don't necessarily feel male either. I feel like I am in the middle...something in between" (Preves, 2000, p. 40). Julia Greenberg describes another case. "Chris was born with ovarian and testicular tissue. At puberty, Chris developed female breasts. Although Chris was raised as a male, he has physical attributes of both genders. More importantly, Chris identifies himself as neither male nor female and prefers to be called intersex" (Greenberg, 2012, p. 94).

Most non-binary identities are found among transgender people, and Christina Richards (et al., 2016) uses the term *non-binary* to refer to gender identity only. In this paper, I use the term *non-binary* in a broader sense. I understand *non-binary* here as being outside the male/female dichotomy on any sex/gender layer, both on biological layers (sex characteristics) and on social layers (gender identity, legal gender category). That is why I write about non-binary chromosomes, non-binary gonads, non-binary internal sex organs, non-binary genitals, non-binary gender identity, and non-binary legal gender.

The existence of intersex persons is a serious challenge to sex dimorphism and male/female dichotomy. There are strong medical data about their existence (Hughes et al., 2006; Kolesinska et al., 2014). There is an international social movement of intersex people (Ghattas, 2013). Intersex people exist all around the world and existed in the past (Reis, 2009). However, the idea of sex dimorphism as an assumption about the human body is still maintained in law (Australia is one of the few exceptions; Bennett, 2014) and science. Medical practitioners know details about intersex people but treat their condition as a kind of "disorder" in sex development. This type of thinking presupposes a dubious normativity for the human body — dubious because intersex people are viable, and there are intersex athletes (Patino 2005).

I claim that this normatively is a form of epistemic injustice in the sense established by Miranda Fricker (2009). The minority with non-binary sex characteristics is ignored during the process of social meaning production. "The social experiences of members of hermeneutically marginalized groups are left inadequately conceptualized and so ill-understood, perhaps even by the subjects themselves" (Fricker, 2009, p. 6). Hermeneutical gaps are "absences of proper interpretations, blanks where there should be a name for an experience which it is in the interests of the subject to be able to render communicatively intelligible" (Fricker, 2009, p. 160). The binary sex/gender conceptual system is the expression of the erasure and exclusion of intersex people. As a result, intersex people are entirely invisible or face discrimination on the basis of sex characteristics.

They are not allowed to live freely as they were born. Society has no place for them in its conceptual system. This epistemic defect is a way to cause them harm, and so it is a kind of systematic injustice inherent in the conceptual system.

2. Argument against sex dimorphism

I can summarize the reasons against sex dimorphism in the following argument:

1. There are intersex newborns with non-binary anatomy that is neither male nor female (Hughes et al., 2006).
2. There are non-binary people who feel neither male nor female; felt gender identity is considered to be at the top of the legal hierarchy of sex/gender characteristics, but it also presents no basis for a male/female binary (Richards et al., 2016).
3. There is no good criterion for verification of female sex in sports (no such criterion was established after many years of experiments and efforts by the best world experts; Amy-Chinn, 2012).
4. Medical practitioners have no good criterion for sex/gender assignment for intersex newborns (Hughes et al., 2006); neither genitals nor gonads nor chromosomes, nor all together, can serve as a criterion to divide all people into two sex groups because there are people with non-dimorphic genitalia, mosaic chromosomes, both male and female gonads, etc.

Therefore, there are people outside the binary male/female division. The idea of sex dimorphism applies to most people, but it cannot be applied to all people and serve as a criterion to divide people into two groups. According to Ann Fausto-Sterling, dimorphism is a Platonic ideal. “Complete maleness and complete femaleness represent the extreme ends of a spectrum of possible body types. That these extreme ends are the most frequent has lent credence to the idea that they are not only natural (that is, produced by nature) but normal (that is, they represent both a statistical and a social ideal)” (Fausto-Sterling, 2000, p. 76).

3. Reproduction

Reproduction is the strongest argument for the importance of sex dimorphism, even if it is only statistical. Indeed, the typical reproductive role is binary: there are two sexes in the reproduction process, and the purpose of this division seems to be to mix genes. A typical full mother is an egg producer who has sex with the future father to obtain sperm by intromission and then uses her own uterus to give birth to a child. A typical father is a sperm producer who uses his genitalia for sperm transmission to the mother’s body. However, there are atypical reproductive roles and new reproductive technologies. During the IVF (in vitro fertilization) procedure, eggs are removed from ovaries and fertilized with sperm in a laboratory (Roberts and Throsby, 2008). A father can have no contact with the mother. An atypical female reproductive role may be as an egg donor, only who uses only her ovaries, or a surrogate mother, who uses only her uterus. A woman with a uterus and no ovaries can be helped by egg donors. Similarly, a trans man with a uterus can be pregnant and produce children in his womb (Light et al., 2014). As a result, more than two persons can take part in the reproductive process: one person can be the egg donor, another the gestational surrogate who uses her uterus, and a third is the sperm donor.

One can say that only two gametes are involved in the process. However, on the layer of gametes, the dichotomy is also threatened. There is a “three-parent” technique (legal in the UK since 2017) to give birth to a baby created with DNA from three different adults. For instance, a mother may have eggs with destroyed mitochondria. Her egg’s nucleus with its DNA is fused with cytoplasm containing mitochondria taken from a donated egg (there is also DNA in mitochondria). A baby is then born of two genetic mothers and one father (Liao, 2017). Thus, reproduction in the human species was exclusively binary only in the pre-technology era.

Intersex people have partly male and partly female reproductive capacities, such as one testis and a uterus (Karkazis, 2008, p.118; Harper, 2007, p.160). Atypical genitalia and gonads can be supported by an IVF procedure. Germ cells from residual testes or ovotestes can be used to produce sperm (Conway, 2014, p. 31). Eggs extracted from ovotestes can mature in a laboratory. “In vitro maturation of eggs has resulted in live births” (Creighton et al., 2014, p. 37). Viable sperm can be obtained through micro-testicular sperm extraction techniques. Hence, some non-dimorphic persons can take part in reproduction with exchange of genetic material (medical technology is friendly to them in this aspect). Binary reproduction also has limited application to other species. Nature has both sexual and asexual methods of reproduction. The simpler and less costly one is without the division of species into sexes, namely by cloning or cell division.

Some species (i.e., aphids) use cloning reproduction for quicker replication at one time point and later return to binary reproduction. There are also all-female species, such as whiptail lizards, that produce eggs with full genetic material. "An all-female species can quickly out produce a male/female species, allowing an all-female species to survive in high-mortality habitats where a male/female species can't succeed" (Roughgarden, 2009, p. 17). In the animal world, sex can be changed (clown fish; Roughgarden, 2009, p. 33), and some species contain numerous intersexes, for instance, kangaroo rats: "about 16 percent of the animals have both sperm- and egg-related plumbing, including a vagina, a penis, a uterus, and testes in the same individual" (Roughgarden, 2009, p. 37). We are very astonished to hear about "male seahorses giving birth" or "reptiles with temperature-dependent sex determination" (Rhen and Crews, 2008, p. 4). Mixing genes is better for the long-term survival of a species, but cloning is better for faster expansion. Therefore, there is a one-gamete reproduction process. Additionally, the very process of mixing genes in reproduction is evidence that evolution seeks for new forms of life.

One of the defenders of dimorphism emphasizes that biological theorists are interested in populations, statistically dominating phenomena/forms of anatomy, and must ignore anomalies. "One of the hallmarks of modern biology is thinking in terms of populations instead of type specimens" (Koertge, 2004, p. 872). According to her, dimorphism still retains its explanatory power. "If we refuse to 'privilege' XX and XY pairs of sex chromosomes in any way we lose our ability to make generalizations about sexual dimorphism in various species and to classify certain diseases as sex-linked. New technologies may make it possible in the future to have reproduction without the involvement of people of two different sexes, but it seems undeniable that the evolution of our present bodies and minds happened within a species that had two clearly distinct and easily recognizable sexes" (Koertge, 2004, p. 873). That is why for biological theories, it is useful to presuppose dimorphism and treat intersex people as anomalies, like "children with six fingers or toes" (Koertge, 2004, p. 873), who are not powerful enough to change the pattern of human anatomy. She concedes that it is an interest of intersex people to opt for a change in the concept. However, the explanatory interest of biological theories is different.

In my view, taking into account more empirical data about existing intersex bodies will not destroy but will improve biological explanations. I agree that it would be counterproductive to eradicate the male/female distinction entirely. However, it would be sufficient to say clearly, with scientific authority, that dimorphism is only statistically dominant and a useful simplification. Biological knowledge allows us to conceptualize the less frequent body forms. It would be wrong if the comfort of biological theories were to have the consequence of reinforcing social myths and stigmatizing minorities. Typical anatomy is not given for eternity but is modified over the course of evolution. The evolution of species is made possible by changes in anatomy. I agree with Alice Dreger that nature does not fit our binary conceptualization. "Humans like their sex categories neat, but nature doesn't care. Nature doesn't really have a line between the sexes" (Dreger, 2010, p. 23).

4. The ontology of process and the continuum of sex characteristics

Ontology of process is known in physics but still not exploited in the biological and social sciences (Abbott, 2016). Karen Barad (2003) refers to physics to offer reasons opposing the existence of fixed material objects. She denies "that there are representations on the one hand and ontologically separate entities awaiting representation on the other" (Barad, 2003, p. 807). It is plausible to presuppose that the matter of the world is in process and can be shaped by different conceptual schemes, but all of them are simplifications. The human body is a multilayered process that gains and loses traits and capabilities as well as sex/gender characteristics.

Let us describe the main layers of this process, emphasizing the problem of binary division. There are several stages of the sex development process: establishment of sex chromosomes and development of gonads, internal sex organs, external genitalia, brain structures, gender identity, secondary sex characteristics and other aspects. These stages are a cascade of events that result in the multilayered sex characteristics of the human body. In the layer of sex chromosomes, the simple distinction between female (46,XX) and male (46,XY) is a simplification. Sex chromosomes were a major discovery in 1905, but nature was quickly revealed as being more complicated. The male-sex-determining gene *SRY* as part of the Y chromosome, can be translocated to the X chromosome, leading to the development of testes and a typical male phenotype in a 46,XX person. Sex is determined not only by sex chromosomes but also by autosomes. The chromosomal test was conducted in sports, and it was harmful toward intersex women (Patino 2005). Other problems with the genetic binary include the existence of mosaic chromosomes, as described in our case of the twin babies, and individuals with a 47,XXY (usually with male phenotype and identity) or 45,XO genotype (usually with female ones).

In the layer of gonads, someone can have two ovotestes, each containing both ovarian and testicular tissues. More asymmetrical but still non-binary gonads can occur as well: one ovotestis and one testis, or ovotestes with a predominance of ovarian tissue. Another possibility is streak gonads that do not produce any germ cells and do not secrete hormones (Hughes, 2006, p. 555). In other cases, a person has testes and external female genitals (CAIS), or a person has ovaries and external male genitals (CAH). Thus, gonads cannot be the criterion for the man/woman distinction. In the layer of hormones, sex/gender is clearly quantitative, as it depends on the level of androgens (higher in males than females) and estrogens (higher in females than males). The problem is assigning sex when an 46,XY body is partly insensitive to androgens or when an 46,XX body has high level of androgens and develops external male genitalia (Hughes et al., 2006, p. 556).

In the layer of internal sex organs, the most serious problem for the male/female distinction is a body with a half-developed hemi-uterus and one vas deferens connected to one testis (Souter et al., 2007). Some people have a uterus without a vaginal opening (Gozar et al., 2014) or a vagina without a uterus. Therefore, the presence of a uterus cannot be treated as the criterion for being a woman.

In the layer of external genitalia, a newborn can have a non-binary micropenis, open scrotum, no testes in the scrotum, small testes in the labia, enlarged clitoris, fused labia, etc. It is also possible, in the deficiency of 5 α -reductase enzyme condition that apparently female genitalia develop into apparently male form during puberty. The example of twins described above shows that genitals are correlated with the percentages of ovarian and testicular tissues in the gonads. They are also correlated with the levels of hormones, the degree of androgen insensitivity and other factors (Hughes et al., 2006). All these factors are present in degrees and result in the continuum of genital forms.

In the brain, some male/female differences have been found: larger total brain volume, larger nuclei in the hypothalamus in males (Swaab, D. and Garcia-Falgueras A., 2009, p. 19), and others. Progress in neuroscience has led to “dissolving any belief in a binary brain, just as the research on hormones dissolved the belief in a binary biochemistry” (Roughgarden, 2009, p. 240). There are sex/gender differences in the brain but not two distinct categories of male brain/female brain (Joel, 2015). In the layer of gender identity, we have people who have strong feelings of being a man or a woman, people who are doubtful about their gender identity, those who may identify as male sometimes and female at other times (bigender, transvestite) and non-binary people. Non-binary persons do not identify as exclusively male or female. Gender identity is the most important factor for legal gender assignment. The body’s owner has the right to decide their own identity. However, gender identity can also be non-binary (Richards et al., 2016).

In the layer of secondary sex characteristics, there are men with one female characteristic, such as a high voice, and women with one male characteristic, such as facial hair. A non-binary person at the layer of secondary sex characteristics has a mixture of sex characteristics, such as having both fully developed breasts and facial hair. None of these layers deliver a criterion of sex/gender. No criteria for sex have proven adequate during procedures of verification of female sex in sports (Amy-Chinn, 2012). In addition, using the whole list of layers as one large criterion is impossible because the layers are sometimes inconsistent with each other.

Figure 1 shows the continuum. It presents several types of sex development paths starting from chromosomes. Even sex chromosomes can be non-dimorphic, neither male nor female (such as 47,XXY). When sex chromosomes are dimorphic, translocation of the *SRY* gene can cause the simultaneous presence of female chromosomes and male testes. Mutation of the *AR* gene can lead to androgen insensitivity. The complete version of androgen insensitivity causes a reversal of phenotype; a partial version can lead to non-dimorphic internal and external sex organs. Mutation of the *SRD5A2* gene can lead to dihydrotestosterone deficiency and feminization of external genitals in a fetus with male chromosomes. When sex chromosomes are mosaic, the gonads can be ovotestes (gonads containing both ovarian and testicular tissues). The ratio of ovarian tissue to testicular tissue shapes the internal sex organs, which can have a non-binary form. Androgen excess (in a fetus with female chromosomes) can masculinize the external genitals. Secondary sex characteristics are also a continuum of forms, including non-binary ones, such as the presence of facial hair and fully developed breasts in one body. Sex characteristics are a multilayered process and a multilayered continuum without clear boundaries, not divided into two forms.

Figure 1 shows that sex dimorphism is not a universal idea applicable to all people. The figure includes only a few examples and is not meant to represent a complete picture of the structure and dynamics of sex characteristics. A similar figure can be constructed showing different bodily sources of a particular gender identity.

One problem is how to include people who declare they have no gender identity at all, not even a non-binary one (that is why put an asterisk after the term *non-binary person** in Figure 1).

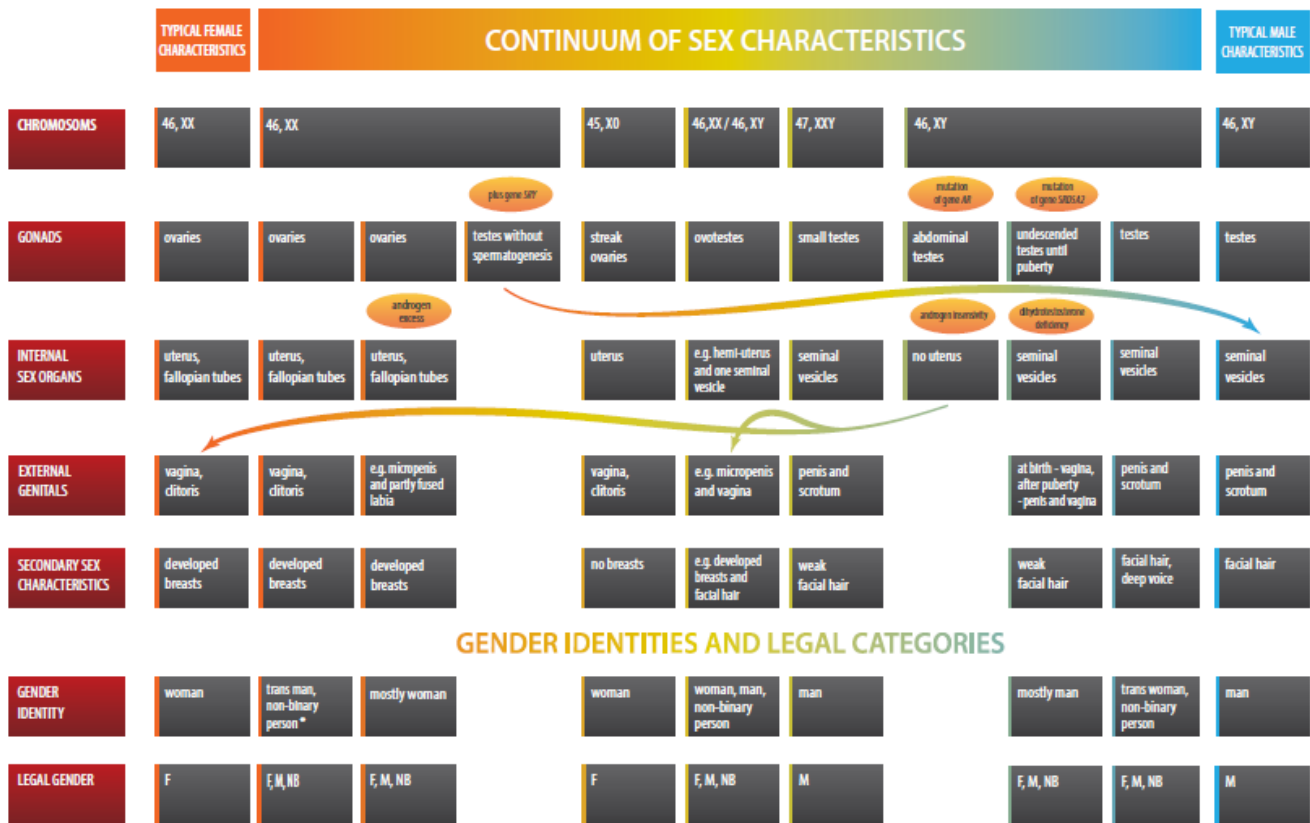


Figure 1. Non-binary and multilayered continuum of sex characteristics (the content is my own elaboration, and the graphics are elaborated by Dawid Kotomski). Polish version of this figure is in my book “Niebinarne i wielowarstwowe pojęcie płci” Warszawa: PWN. 2018, p. 144-145.

Conclusion

Sex dimorphism is statistically dominant among humans and the remainder of mammals, but it cannot be assumed to be applicable to all people and to serve as a criterion to segregate people into two groups. A binary or dimorphic sex/gender system represents a kind of epistemic injustice toward sex/gender minorities. The existence of intersex people and people with non-binary identity is an argument against sex dimorphism, and the statistical domination of binary people does not negate it. Being intersex is not a disorder but a form of diversity, natural to the process of evolution. In this aspect, intersex people are similar to left-handed people. Their diversity is important to show that the human body is a process.

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