

Biological sex as used in Dembroff versus Byrne

V0.7, comments are appreciated

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Abstract

The controversy Dembroff versus Byrne concerning the question “when is a person a woman” is of critical importance for gender theory. We discuss the role that biological sex plays in the debate. The main finding is that the arguments used on both sides of the debate show a lack of common understanding of a notion of biological sex. We conclude that without some common ground concerning biological sex the Dembroff versus Byrne debate lacks a convincing structure.

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1 Introduction

Following our [1] biological sex (hereafter b-sex) takes one of three values: male, female and b-neutral. We will propose a “module” (a theory or specification ready for being imported in other work) for dealing with b-sex in philosophical discussions (such as displayed in [3] and [5]). We will distinguish five methods for assigning/determining biological sex, these we call sub-b-sexes.

- morpho/endocrinological b-sex: M/E-sex (which may or may not change in time as a consequence of medical treatments, i.e. a notion of M/E-sex may or may not be transition permissive).
- chromosome structure based b-sex (CS-sex)
- gonad structure based b-sex (GoS-sex)
- gamete size based b-sex (GmS-sex)
- b-sex as assigned at birth, usually obtained as a professional guess concerning M/E-sex just after birth (AAB-sex).

Regarding M/E-sex two variants are distinguished: a transition permissive variant which allows persons to become transsexed, and a transition non-permissive variant which takes a person’s history into account and adopts the first assigned value of M/E-sex, under the provision that the first assignment was made in a competent manner. So unlike b-sex as assigned at birth, the transmission nonpermissive variant of M/E-sex allows for a second opinion on b-sex in due time, which may apply in the rare circumstance that doubts about the b-sex assignment at birth have arisen. We assume that CS-sex, GoS-sex, and GmS-sex are not transition permissive, at least not for the near future.

We understand that detailed descriptions of how to determine each of the different values of b-sex are available in the form of scientific literature combined with biological/medical practice. The various methods of determination may vary gradually in time. It is conceivable that a new method of b-sex determination is introduced and that an existing method is becoming deprecated. We make no claim that the five options for a sub-b-sex as listed above are best possible in the light of the current state of the art. Rather we claim that b-sex can be approached in this manner in principle where details are open to discussion and variation.

There may be a problem of the following kind: it may be that in certain jurisdictions adaptations are made of these definitions (for instance to disallow categorically that female individuals have a penis). Such ramifications do not alter the setup in principle.

However, we find that the five notions of biological sex may each differ from jurisdiction to jurisdiction, moreover biomedical methods for determining each of these characteristics may change in time. Perhaps not each of these sub-b-sexes is recognized in a certain jurisdiction.

For person P at time t each of the five has a specific value. These values may differ pairwise, whence it is not possible to speak simply of the biological sex of a person at a certain moment in time

Definition 1.1. (poly-b-sex) *With poly:b-sex we will denote, for a person P , the collection (or rather 5-tuple) of five values for the five versions of biological sex.*

We may also think of poly-b-sex for P as a function from $\{M/E, CS, GoS, GmS, AAB\}$ to $\{\text{male, female, b-neutral}\}$.

At the moment of writing we do not know which 5-tuples for poly-b-sex occur in reality for persons.

2 A bureaucratic choice of options for b-sex

We will need a notion of biological sex, for short b-sex. None of the options CS-sex, GoS-sex, GmS-sex and AAB-sex represents by itself the concept of biological sex. We imagine that a database DB records the b-sex of a person which is at any time a choice of the entries of the poly-b-sex of P . Making said choice is a matter of policy which depends on a jurisdiction. In addition a protocol for updating DB will be available. The presence of the policy and the protocol gives b-sex an aspect of social construction.

The b-sex of person P is an entry (an element of poly:b-sex of P) in an official database DB for such information. The b-sex results as a choice from the five options mentioned above. It is plausible that above a certain age, and above a certain threshold of cognitive abilities it is up to P to self-determine how their b-sex is chosen. The choice is part of the database.

Definition 2.1. (b-sex) *The b-sex of a person P at time t is the (most recent) choice made out of the poly:b-sex of P in DB at time t .*

Here it is taken into account that when P is moving to another jurisdiction it may be necessary to re-determine b-sex for P and to update DB for P accordingly, because the chosen option is not recognized in said jurisdiction. We notice that b-sex depends on jurisdiction, and moreover that dependence exists without contemplating any notion of gender.

We do not specify how the choices from poly:b-sex are made. Here is room for a social process. It follows that to some degree b-sex is a social category, even if one assumes that

the sub-b-sexes are bodily characteristics only (which is not really the case because of the evolving role of medical methods, techniques and standards).

Definition 2.2. *An adult human P is female around time t if and only if their b -sex is female at time t .*

It is in principle possible that a change in medical methods, standards or technology has as a side effect that determination of poly-b-sex gives rise to another set of characteristics.

Definition 2.3. *An adult human P is male around time t if and only if, according to DB , their b -sex is male at time t .*

Now we find the following refined versions of the claims of Byrne [3]. (In the notation of Byrne A stands for adult, H for human, and F for female.)

Claim 2.1. (AHF_t^{DB}) *An adult human P is a woman around time t if and only if, according to DB , their b -sex is female at time t .*

Claim 2.2. (AHM_t^{DB}) *An adult human P is a man around time t if and only if their b -meta-sex is male at time t .*

Dembroff 2021 refutes the claims made by Byrne in [3] and then in [4] Byrne responds to Dembroff's response. We want to find out what the situation has become after this exchange: has the debate at this stage of its development already a winner? We can draw several conclusions:

1. Reading [3] and [5] we got lost in the various possible interpretations of AHF (and AHM): are these assertions claims about two notions being (or not being): co-extensive, co-extensive by default, modally equivalent, necessarily equivalent, identical? Our only way to approach these matters is as follows: first analyse in detail to what extent AHF and AHM make valid claims about co-extension of two notions, only thereafter delve into more sophisticated comparison of (descriptions of) the notions involved.
2. AHT is relevant for a minority of cases (far less than 5%) so dictionary lookup which is informative only for large majority cases is not going to be informative on these matters.
3. Using Definition 2.3 the arguments of Mason 2022 [7] all disappear. The counterexamples to AHF/AHM as proposed in [7] mostly come about from assuming that female are so by birth (AAB-sex). In [7] the notion of 'woman' is left entirely unexplained. Mismatches of 'woman' with one or more of the other specialized

definitions of b-sex (our sub-b-sexes) are noticed, then to conclude that ‘always’ something is wrong with [3], an argument which we cannot follow, because as far as we can see AAB-sex would do the job.

4. The notion of biological sex as implicitly referred to by Byrne is too unclear to be allowed to play a key role in the evaluation of AHF and AHM given the degree of precision that is required in this case (at least one aims at defensible outcomes, if only from the perspective of Byrne, for various forms of transgenering).
5. The notion of b-sex is quite distant from biological sex in any of its 5 variants as mentioned above because it involves a protocol for decision taking as well as a database for storing information regarding which definition to use. Moreover, there is a rights issue about who will decide which definition of b-sex is to be used (for P at time t).
6. Concerning the protocol just mentioned it is reasonable to allow any person P the right to adopt b-sex S provided S is the outcome of anyone of M/E-sex, CS-sex, GoS-sex, GmS-sex, or AAB-sex (where procedures for checking may be quite systematic, evidence based and scrutinized by way of quality control). So one cannot simply do away with any of these definitions. (For instance while not having a penis, P may still be considered male (on their own request) on the basis of chromosome structure).
7. We find that except for the role exchange argument none of the 6 main arguments (as put forward by Byrne) for the semantic side (as so indicated by Dembroff) for the justification of AHM and AHF survives the setup above.

3 More on the co-extension claims given by AHF and AHM

We understand that according to Byrne [3] the following claims are valid:

Claim 3.1. (NF) *Transwomen are not female, and transmen are not male (in terms of b-sex).*

Claim 3.2. *Transwomen are not women and transmen are not males.*

Claim 3.2 is not literally present in Byrne [3] but it follows from AHF/AMF and NF and there is no indication that Byrne is in doubt about either one of these three principles. Given the long standing tradition of transgenering (with or without a phase of transsex-ing) the question as to the status of transgender persons must be clarified. We assume that

according to Byrne [3] the following assertions hold true (though using terminology taken from [1]):

- An MTF transsexed person (given a transition permissive notion of M/E-sex) is male, is not a woman, but is a transwoman.
- An FTM transsexed person (given a transition permissive notion of M/E-sex) is female, is not a man, but is a transman.
- Transman and transwoman are ‘gender’ categories different from man and woman respectively.
- An MTN transsexed person (given a transition permissive notion of M/E-sex) is male, is not a man, but is a (male) transneutral.
- An FTN transsexed person (given a transition permissive notion of M/E-sex) is female, is not a woman, but is a (female) transneutral.
- A cis-neutral is a (b-neutral) neutral ‘gendered’ person.
- Altogether at least 5 different ‘gender’ labels are to be distinguished: male, female, neutral, transman, and transwoman.

Unfortunately the response given by Dembroff in [5] is almost exclusively about the use of arguments, and not about the state of affairs. Not even the question whether or not Dembroff agrees with Byrne on the validity of AHF and AHM is answered, let alone any of the more detailed questions. But even if all arguments brought forward by Byrne in favour of AHM and AHF would be demonstrably invalid, that state of affairs would be essentially uninformative about the validity of AHM and AHF proper.

In our view Dembroff critically misunderstands the objectives and relevance of the contribution of Byrne. AHM and AHF are philosophical positions that may well turn out to be positioned at the wrong side of history (of course Byrne is well-aware of that fact and is taking a risk by adopting the positions they do in [3]). Nevertheless it is an important philosophical task to find out how strong the arguments in favour of AHM and AHF actually are, and [3] constitutes an attempt to do a best job on that matter. That importance is a matter of thorough investigation, an endeavour that will on the long run be of use to gender studies, and its pursuance has nothing to do with (anyone or Byrne for that matter) taking sides in the feminist cause or any other political objective. In our view, whatever the merits of [3] casting that work as a (problematic) political position rather than as a contribution made from the perspective of a professional philosopher is far off the mark.

4 Potential arguments against AHF_t^{DB} and AHM_t^{DB}

We are now faced with the question if there are cases where P can be said to be a woman while P is non-female. Doing so requires the introduction of a notion of gender which is not co-extensive with b-sex. Given the formidable literature on gender that step by itself is unsurprising, plausible, and possibly illuminating and must have been contemplated by Byrne. Using the terminology of Section 3 above we are contemplating the question under which condition some transwomen may be re-categorized as women and transmen may be re-categorized as men. We will simplify the discussion by assuming that M/E-sex is not transition permissive (though with the opposite assumption one finds similar consequences).

It seems to suffice to adopt (for categorizing P as being of female gender) the following rule, which, so we believe, does not go against woman rights of any kind (and in particular not against perceived cis-woman rights):

Rule 4.1. (FTM-p) *If on no account (i.e for none of M/E-sex, CS-sex, GoS-sex, and GmS-sex) P is considered male (we have excluded AAB-sex because at the time of birth a mistake might have been made), and P has no penis, then P is free (upon their request) to adopt a female gender (and then for that reason to be regarded a woman).*

A somewhat more liberal rule is:

Rule 4.2. (FTM-lp) *If on account M/E-sex P is considered male, and P has no penis then P is free (upon their request) to adopt a female gender (and then for that reason to be regarded a woman).*

Yet more liberal is the rule:

Rule 4.3. (FTM-1) *If on account M/E-sex P is considered male then P is free (upon their request) to adopt a female gender (and then for that reason to be regarded a woman).*

The following gender categorization rule may be adopted, as a rule symmetrical to Rule 4.1:

Rule 4.4. *If on no account (i.e for none of M/E-sex, CS-sex, GoS-sex, and GmS-sex) P is considered female, then P is free (upon their request) to adopt a male gender (and then for that reason to be regarded a man).*

For the neutral gender an age threshold must allow all AFAB and AMAB persons ample time for sex typing (which is considered useful for maintenance of the societal reproductive system).

Rule 4.5. *If the age of P is above 25, then P is free (upon their request) to adopt a neutral gender.*

We will formulate these matters with more precision. The following definitions are reasonable.

Definition 4.1. *A woman is an adult human with female gender.*

Definition 4.2. *A man is an adult human with male gender.*

These definitions correspond with a view that AHF and AHM are valid precisely if gender corresponds to b-sex.

Definition 4.3. *A notion of gender is natural if it comes about as b-sex given some DB for maintaining b-sex with policy of choice and update protocol.*

Then Byrne's claims, adapted from the perspective of b-sex as specified above can be reformulated thus, now taking necessity into account where necessity is conceived in a modal logic where different worlds adopt different, though plausible, notions of gender:

Claim 4.1. *Every plausible notion of gender is natural in the sense of Definition 4.3.*

However, we hold that we have just refuted Claim 4.1 because upon adopting Rules 4.1, 4.4 and 4.5 a plausible and acceptable, though still very restrictive, notion of gender, say $gender_r$, is found which refutes Claim 4.1. We notice that the very idea that allowing $gender_r$ as an adequate notion of gender may be considered gender critical.

Claim 4.2. *Taking DB based b-sex as a point of departure, whether or not M/E-sex is supposed to be transition permissive, and understanding modal necessity in terms of a possible world semantics where different perspectives on gender constitute the key source of variation, it is the case that both AHM and AHF are NOT necessarily valid.*

To see this assume a world working with M/E-sex assigned at birth. One may consider a person P who is female according to CS-sex, GoS-sex, GmS-sex, and who has been assigned male (M/E-sex) at birth because of the presence of male organs. Upon reassignment therapy, say at the age of 20, P is in the situation that an assessment of M/E-sex does not anymore produce result male. Now, using Rule 4.1 P may adopt female gender, then to be considered a woman thus recognized in $gender_r$, in spite of their b-sex still being male.

If one looks at a world where M/E-sex is transition permissive, and where b-sex is understood as M/E-sex relevance of an appropriate definition of gender can also be indicated. In this case upon adequate reassignment therapy the M/E-sex of P may change.

Now, once more contemplating P , a difference is found in circumstances where reassignment therapy ends up in an (M/E-sex wise) intersex condition which for that reason fails to qualify as M/E-female. In this case Rule 4.1 will allow P to adopt female gender, while the M/E-transition to female has not been achieved.

5 Concluding remarks

We have made explicit the dynamic and political dimension of b-sex. The upshot of our considerations is that we believe the following points, with regard to “Dembroff versus Byrne”:

- Byrne’s analysis of AHM and AHF leaves us unconvinced: there may well be notions of gender which are acceptable for everyone and which create a gap (for adult humans) between being a woman and being female.
- Our Rules 4.1 and 4.4 are very restrictive and have only been made to demonstrate that Byrne’s analysis in [3] does not succeed in disposing with notions of gender.
- Developing and using notions of gender, preferably more transition permissive than our Rules 4.1 and 4.4 will give rise to, is an important challenge in the field of gender studies.
- However, in contrast with the assesment of Dembroff [5] we certainly believe that Byrne has made significant progress by formulating AHM and AHF as defining positions in gender theory, and by providing an initial thorough analysis of these positions. The detailed analysis of AHM/AHF may well prove to be of significant relevance for the further development of gender theory.

5.1 On the style of Dembroff’s response to Byrne

At various places where Dembroff disagrees with Byrne they somehow connect their disagreement with the suggestion (or even accusation in the sense of [2]), of lack of scholarly competence as displayed by Byrne etc.

A charitable reading of Dembroff requires to ignore such suggestions throughout the paper, an option which we found rather implausible because said pattern of criticism pops up several times. Moreover, we were unable to determine whether Dembroff in fact disagrees with Byrne’s conclusion (of the validity of AHM and AHF) to the extent that the conclusion might be false (which in fact we find plausible), or merely disagrees with the arguments and the extent to which these settle the matter, thereby leaving open the option

that Byrne's two conclusions (the validity of AHF and AHM) are true (from the perspective of Dembroff).

5.2 Options for future work

At present we are unable to assess the relative strength of various arguments as put forward by Byrne in [3, 4] and the counter arguments as listed by Dembroff in [5] in a systematic manner. It would, however, be worthwhile to be able to make such comparisons so as to find out whose arguments are stronger at the end of the day.

Secondly we have only looked at AHM and AHF as different but quite related claims about co-extensiveness. The controversy about these claims seems to exist at different levels of abstraction, and it might be rewarding to spell out such matters in more detail, by contemplating the controversy at hand for different abstraction levels.

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