

## **Intersex Between Sex and Gender in *Cause et cure***

**Abstract** This essay argues that intersex is present in medieval medical texts outside of the medieval concept of hermaphroditism. The phlegmatic man, the phlegmatic woman, and the sanguine man, in the twelfth-century medical text *Cause et cure*, all exhibit intersex characteristics. The close examination of the terms in which these figures are described also shows that the elaboration of intersex in this text directly challenges the modern distinction between sex and gender. Contrary to Joan Cadden's influential analysis of *Cause et cure*, I argue that the text has a robust nonbinary system of sexual difference. In particular, phlegm is consistently characterised as an intersex category. The examination of phlegm's intersex properties leads to a re-examination of *viriditas* (greenness). This study reveals that *viriditas* acts as a masculine and masculinising substance, in an almost hormonal sense. Its imbalanced presence in phlegmatic bodies causes them to diverge from prelapsarian ideals of sexual dimorphism. *Cause et cure* identifies the Fall as the cause of humoral imbalance, and illness. The text precisely describes atypical sex as one of the effects of this fallen state. I identify this through an intersex reading which contests the sex/gender distinction and the reification of sex.

**Keywords** intersex theory; queer theory; trans theory; medieval medicine; *Cause et cure*; Hildegard of Bingen; sex/gender

## Introduction<sup>1</sup>

In the account of Genesis which begins the remarkable twelfth-century medical text *Cause et cure* (*Cause and Cure*), controversially attributed to Hildegard of Bingen,<sup>2</sup> we are assured that “nulla creatura est, que una sola proprietate consistat, quin plures habeat” (there is no creature that consists of a single property, rather, each has many) (Moulinier 2003, 24).<sup>3</sup> Yet, with the Fall, the human body became subject to imbalances which it was not subject to when it was “in inmutabili et perfecto statu” (in its immutable and perfect state) (Moulinier 2003, 59). It is with these imbalances that *Cause et cure* is concerned. Contrary to the strand of writing in medieval Christian and Jewish theology which viewed Adam and Eve as androgynes or hermaphrodites (DeVun 2018), *Cause et cure* characterises the prelapsarian *perfectus status* as one of complete sexual dimorphism, an ideal of sexual difference which, as I will show, made salvation possible. The bodies the text aims to cure, however, are all unbalanced, because they are fallen. Some of these humoral imbalances cause bodies to diverge from the prelapsarian ideal of sexual difference: they are intersex.

In his review of the existing scholarship on medieval intersex, Karl Whittington remarks that “the application of modern categories [to medieval sources] tends to treat [modern categories] as far more stable than they actually are” (Whittington 2018, 242). This essay aims to tackle this problem with respect to medieval intersex studies in particular. While much ground-breaking work has recently been produced in this field, most of it is either not concerned with medical texts, or focuses on the medieval category of the hermaphrodite. While “hermaphrodite” is “now an offensive term” (Evans 2018b, 121), it is via the examination of texts which use this term that much of the history of intersex in the West has so far been written. This essay argues that studies of hermaphroditism only tell half the story when it comes to

medieval intersex. Specifically, the exclusive focus on hermaphroditism reflects an enduring scholarly reliance on the sex/gender distinction. This distinction is, however, a very recent idea (Meyerowitz 2002, 98-129), and has been the subject of sustained criticism since the 1990s (e.g. Butler 1990; Stone 1992; Fausto-Sterling 2000), including by medievalists (Biddick 1993; Mills 2015). Certainly, the distinction accurately describes some trans people's experiences, and continues to structure demands for political and medical interventions via the "wrong body" narrative. However, it often reifies "sex" as an unimpeachable truth. Indeed, the coining of this distinction can be directly traced back to the institutionalisation of invasive surgical procedures on intersex children (Downing, Morland, and Sullivan 2015). By uncoupling hermaphroditism from intersex, this essay reveals the sex/gender distinction to be not only a flawed idea in the contemporary context, but also an inappropriate framework through which to examine medieval intersex. It is therefore my objective to allow medieval texts to trouble our own notions of sex, and begin to read and to think with intersex's radical challenge to sex as a disclosable category, an incontrovertible prediscursive fact. For this purpose, I understand "intersex" to be any divergence from the physiologically determined form of maleness or femaleness within a given model of sexual difference. I will show that *Cause et cure's* understanding of maleness and femaleness in particular is wider than that of modern models, so that aspects of mental character are attributed to the physiological features of one sex or another. As a result, intersex in this text takes on quite a different form.

Intersex, whether explicitly or implicitly, has been at the centre of debates surrounding medieval concepts of sex ever since the publication of Thomas Laqueur's *Making Sex: Body and Gender from the Greeks to Freud*, and its "one-sex model" theory (Laqueur 1990, 8), which has proved as enduringly influential as it has been controversial. Laqueur claims that "[f]or thousands of years", up until the eighteenth century, it was believed "that women had the same genitals as men", and that women simply had "inside" that which men had on the outside

(Laqueur 1990, 4-5). Part of the appeal of this one-sex model is that it feeds into scholarly clichés of “the [premodern] period as refreshingly fluid in its approach to sex and sexuality, prior to the biomedical regulatory practices that demanded from the body a single ‘true sex’ beginning in the eighteenth century” (DeVun 2015, 36). Among Laqueur’s many critics (Park 2010; King 2013, and 2007; DeVun 2015), the most influential in medieval medicine studies remains Joan Cadden. The title of her now classic study, *Meanings of Sex Difference in the Middle Ages*, already sets it up as a rebuttal to Laqueur. While Cadden successfully demonstrates the “diversity” and “eclecticism” (Cadden 1993, 4) of medieval theories of sex, her treatment of hermaphroditism is elliptical, and her chapter on “Feminine and masculine types” (Cadden 1993, 169-227) raises more questions than it answers when it comes to medieval intersex.

For example, while Cadden finds that medieval writers believed hermaphrodites existed (Cadden 1993, 198-203), she does not discuss what this term actually meant. This question has been thoroughly explored by subsequent scholars, notably in the *Medieval Intersex* issue of *postmedieval*, and by Leah DeVun in their enlightening essay on the description of hermaphrodites in thirteenth and fourteenth century surgical texts (DeVun 2015). These studies have found hermaphroditism to be an exclusively genital category, which leaves Cadden’s categories of the “masculine female” and the “womanly male” (Cadden 1993, 201) in an epistemic limbo: physiological categories that transgress boundaries of sexual difference without falling under the known intersex descriptor of hermaphroditism. Cadden’s handling of these categories leads her to fall back on the distinction between “reproductive sexual characteristics” and “disposition and social behavior” (Cadden 1993, 205), which is to say, the distinction between sex and gender. A gap therefore remains in the historiography of medieval medicine, in the place where current intersex theory might examine these non-hermaphroditic, yet still atypically sexed figures. This essay endeavours to begin filling that gap, by examining

*Cause et cure*, one of Cadden's main sources (Cadden 1993, 6). The analysis of relevant passages of *Cause et cure* will show that intersex can be located outside of hermaphroditism, and that the sex/gender distinction does not inform the work — rather, *Cause et cure* directly challenges it.

### **The Phlegmatic Man: Intersex, Past and Present**

Somewhat unusually for a twelfth-century medical text which deals extensively with reproduction and sex difference, *Cause et cure* never mentions hermaphrodites. I want to argue that the absence of hermaphrodites from this text is not synonymous with the absence of intersex. On the contrary, *Cause et cure* describes and classifies bodies which it situates as in-between the ideals of masculine and feminine, and which could thus be seen as intersex in two different respects. Firstly, if we understand “intersex” to describe “bodies that are neither discretely male nor discretely female” (Holmes 2009, 1), the mixture of masculine and feminine at work in some of the types described in *Cause et cure* effectively makes them intersex bodies within *Cause et cure*'s own system of sex difference. Secondly, the physical characteristics of these bodies occasionally seem to exhibit what medical professionals would today label “Disorders of Sexual Development” (Hughes et al. 2006), and which academics and activists continue to refer to as “intersex” (Holmes 2009) or “atypical sex” (Delimata 2019, 1-2).

A particularly significant aspect of *Cause et cure* are its descriptions of the humoral archetypes. Three of these exhibit intersex characteristics. The phlegmatic man will be our starting point:

Sed et alii masculi sunt, qui pingue cerebrum et album et siccum habent, ita quod etiam uenule eiusdem cerebri magis albe quam rubee sunt, et grossos ac squalidos oculos habent et muliebrem colorem in facie et non serenam cutem, sed quasi extincti coloris; sed et latas et molles uenas habent, que tamen non multum sanguinem in se continent, ita quod etiam idem sanguis aliquantum sanguineus non est, sed aliquantum | spumusus. Et carnes in corpore suo ad sufficientiam sibi habent et molles secundum carnes feminarum, sed fortia membra, non autem audacem nec strenuum animum tenent.

There is also a type of men, who have a fatty, and white, and dry brain, and even the small veins of their brain are more white than red, and they have large and murky eyes, and a womanly-colored face, and skin that is not bright, but of an almost dead color; and they have wide and soft veins, which cannot contain much blood, and this blood is not quite like blood, rather, it is somewhat foamy. And they have enough flesh in their body, and it is soft like a woman's, but they also have strong limbs, although their intellect is neither bold nor vigorous. (Moulinier 2003, 112)

Cadden notes that “Hildegard’s typology relates personality and behavior not only to indicators of complexion and physiological temperament, such as the qualities of a person’s blood, but also to build and facial features” (Cadden 1993, 186). However, she does not directly engage with the consequences of this with regards to the sexing of bodies. If phlegmatic men have “muliebrem colorem in facie” (a womanly-colored face), and flesh that is “molles secundum carnes feminarum” (soft like a woman’s flesh), does this not explicitly characterise their bodies as not exclusively male? As Judith Butler puts it,

[i]f the immutable character of sex is contested, perhaps this construct called “sex” is as culturally constructed as gender; indeed, perhaps it was always already gender, with the consequence that the distinction between sex and gender turns out to be no distinction at all. (Butler 1990, 9-10)

This sex which is “always already gender” is what we are confronted with when we encounter the notion of a type of man who has “muliebrem colorem in facie”. This passage of *Cause et cure* is expressing a view of sexual difference within which “sex” reveals itself to be a broader category than the modern reader might be familiar with. If we understand sex as the inscription of gender onto bodies through the constitution of “material differences” (Butler 1993, 1) which are themselves gendered in such a way as to situate these differences in a “prediscursive” (Butler 1990, 10) domain, the notion of “muliebrem colorem in facie”, rather than a medieval oddity, reveals itself to be sex operating as it usually does. The construction of sex is done through work that hides its own work, “[i]t is not a simple fact or static condition of a body, but a process whereby regulatory norms materialize ‘sex’ and achieve this materialization through a forcible reiteration of those norms” (Butler 1993, 1-2). Sex is “materialized”, which is to say that it is constructed as a natural given, a prediscursive fact. The sex binary at work in the “muliebrem colorem in facie” is understood to pre-exist our naming it as such:<sup>4</sup> the femininity, or masculinity, of a complexion is a physiological fact which the reader of *Cause et cure* is simply invited to observe.

One could, however, question the application of Butler’s analytical framework to medieval texts, due to their reliance on the concept of norms. Karma Lochrie has influentially argued that “norms were the effect of the science of statistics in the nineteenth century” (2005, xxi), and that normativity therefore constitutes an anachronistic concept when applied to

premodern sources. While sexual difference certainly does not function as a centrally administered “norm” in the sense which Lochrie describes, she emphasises medieval gender’s function as a point of reference in contrast to sexual orientation: “The role that gender deviance plays in the configuration of unnatural acts is crucial to the category [of sodomy], while our modern organization of heterosexual/normal and homosexual/abnormal does not apply at all” (2005, xvi). Ideals of femaleness and maleness are therefore central to the medieval conceptualisation of bodies and their behaviours, and *Cause et cure* reinforces these ideals and their (non)realisation as prediscursive facts.

Our own definition of sex is not limited to the genitals, contrary to what medical authorities and popular culture often assume, as the intersex issue of *postmedieval* (Evans 2018a) argues. On the contrary, John Money, who originally coined the sex/gender distinction in 1955 (Sullivan 2015, 21; Meyerowitz 2002, 114; Money 1955), defined sex as having “genetic”, “morphologic”, “hormonal”, “neurohormonal”, “neural”, “behavioral”, “sociocultural”, “conceptive and contraceptive”, “gestational and parturitional”, and “parental” aspects (Money 1973, 10). The current range of what is and is not a “secondary sex characteristic” is itself a flexible concept. The recognition by the medical establishment of facial feminisation surgery as “medically necessary” (Chyten-Brennan 2014, 283) in the case of some trans people, for instance, suggests a certain porosity between supposedly “social” gender and supposedly “physical” sex (see Butler 1993). It reveals that the enforcement of gender norms is not separable from the materialization of bodies, that there is no easily identifiable point where “sex (re)assignment” ends and “gender expression” begins.

*Cause et cure*’s description of human types is marked by its enumerative style, with its accumulation of coordinate clauses and its liberal use of the conjunction “et” (and). As Margret Berger observes, repetition “is used consistently and in a pattern in which a bit of new information is added with each restatement” (Berger 1999, 125). This paratactic style requires



that the reader fill in the gaps between statements, and establish causal links that are implied rather than stated. We have to deduce from the fact that the type of men being described have “muliebrem colorem in facie et non serenam cutem” (a womanly-colored face, and skin that is not bright) that “cutem” (skin) here does not include the face, and that both of these characteristics of complexion have the same cause. That cause, an excess of phlegm, is not stated either. We are instead led to infer that the balance of the humors is what determines human types, either from our own knowledge of medieval medicine, or from the fact that “elementa compago corporis hominis sunt” (the elements determine the structure of the human body) (Moulinier 2003, 83), and that these elements are manifested in the body as “quatuor [...] humores” (four humors) (Moulinier 2003, 84). The causal relationship of humoral balance to human types is implied rather than stated, in a gesture which is typical of a work that is as vast in its scope as it is fragmented and elliptical (see Berger 1999, 18).

These textual characteristics are particularly suited to the construction of sex. Already, we are asked to fill in the gaps in order to make sense of the title, which is written at the beginning of the manuscript (Copenhagen, Royal Library MS NKS 90 b 2°, fol. 1r): the title implies its central object, illness, without naming it. It is only because we know that illness is that which one “cures,” that we can infer that the “causes” the text is concerned with are the causes of illness. In this way, the rhetorical structure of *Cause et cure* requires of us to constitute the links between its disparate parts ourselves, so that it completes the illusion of a prediscursive sex. Such a rhetorical structure is exemplary when it comes to the formulation of sex difference, because it is uniquely suited to “produce the effect of a prediscursive sex and so conceal that very operation of discursive production” (Butler 1990, 10). The phrase “et muliebrem colorem in facie” therefore appears among the list of the phlegmatic man’s attributes as if the notion that some kinds of complexion are female is self-evident, as if the fact that this shares a cause with having “latas et molles uenas” (wide and soft veins) is self-

evident, and as if the only thing that needs stating is their being grouped together. By implying rather than stating the causal link between humoral determinism and sex difference, *Cause et cure* masks its assumptions, and naturalises them at the same time.

Thus, while what Cadden sees as “the duality with which persistent sex distinctions colored gender notions” (Cadden 1993, 209) is on display in the description of the phlegmatic man as being made up of *muliebris* (womanly) (Moulinier 2003, 112) and *virilis* (manly) (Moulinier 2003, 113) — or rather, the lack of *virilis*— elements, these elements and their implicit *compages* (structure) nonetheless delineate an intersex body. Firstly, the humorally determined sexual makeup of the phlegmatic man’s body is described in *Cause et cure*, as I have shown, as exhibiting an amalgamation of male and female sexual characteristics, as identified by the text. Secondly, insofar as this passage is describing an actual body, this body exhibits what medical professionals would today describe as Disorders of Sexual Development (DSD) — not in the sense that it corresponds to a modern diagnosis, but in the sense that it lies outside our own anatomical norms: “Et due domus eius, que ut duos folles esse deberent ad excitandum ignem, derelictæ sunt in defectione nec uire habent, ut stirpem erigant, quoniam plenitudinem ignis in se non continent” (And their two testicles, which should be like a pair of bellows that could light a fire, are empty and weak, and do not have the strength to cause an erection, for they do not contain much fire at all) (Moulinier 2003, 112).

While there is no way of establishing a precise analogue for the lack of “fire” in the testicles which this passage describes, the associated inability to have an erection appears likely to fall within the symptoms of DSD. It is therefore clear that the phlegmatic man of *Cause et cure* is intersex both in terms of being “neither discreetly female nor discreetly male” within the text’s definition of femaleness and maleness, and in terms of describing a body which could be diagnosed with DSD today. My usage of DSD here is not intended as an uncritical application of the category. As Hil Malatino powerfully argues, the

history of the construal of intersex bodies as disordered implies immediate reference to a normative corporeal ideality, a dimorphically sexed model of bodily normalcy that, in its deployment as standard reference, has been enormously stigmatizing. The imposition of this standard has sanctioned routine violence in the name of treatment and has become a concept that intersex activists have struggled to critique and refuse as a barometer of corporeal and social intelligibility and belonging. (Malatino 2019, 66)

Yet, they also note that “intersex is complicatedly comprised of how modern and contemporary medical and scientific epistemologies have interpreted and diagnosed intersex conditions”, among many other factors (Malatino 2019, 12). I use DSD to account for this complicated genesis of intersex as at once a self-identified category under which experiences are named and activism organised, and a brutal medico-political construct, according to the logic of reverse discourse (Foucault 1976, 134). The phlegmatic man therefore lies outside of typical sex as defined within *Cause et cure*, and outside of typical sex as delineated by contemporary diagnoses of DSD. If *Cause et cure* thus constitutes intersex bodies, could it also be said to interpellate intersex subjects?

### **Disinterpellation and Diagnosis**

While the question of a possible hermaphroditic subjectivity lies beyond the scope of this essay, subjectivity itself remains relevant to the question of intersex in twelfth-century medical texts. While “intersex” did not become a term with which people self-identified until the 1990s (Holmes 2009, 1), the questions of subjectivity and interpellation remain at the centre of the

experiences of people with atypical sex, whether the word “intersex” is used or not, as Natalie Delimata’s recent study (Delimata 2019) has shown. She finds that,

Following disclosure of atypical sex, patients may no longer recognise themselves, feel confident of their place in reality or secure in the conviction that social reality exists. This is in effect an inversion of Althusser’s process of interpellation — a process I have termed *disinterpellation*. Thus, disinterpellation refers to inscribing ontological incoherence onto a subject’s identity, the subjective feeling of incoherence and the experience of *unreality* that follows.<sup>5</sup> (Delimata 2019, 40-41)

This expansion on Althusser’s (1976) concept provides us with an especially precise tool for analysis. By explicitly isolating the importance of the clinical setting in the process of disinterpellation, Delimata helps us identify the precise lines of demarcation for contemporary intersex experiences and concepts. As Katrina Karkazis shows, “[t]he diagnostic techniques, explanations, and categorizations developed in the study of sexual inversions and sex-gender consciousness” in the late nineteenth-century clinic (2008, 40) would later influence John Money’s “systematic model of gender assignment” (47). While a thorough unravelling of this fact lies beyond the scope of this essay, it is worth noting that the clinic and the sex/gender distinction emerge here as co-extensive. Interpellative diagnostic practices do not only assign sex and gender to people, they reveal and produce the structural relations of sex to gender and the relations of people to these concepts which that structure determines. The forms which medical practices took when *Cause et cure* was written and *Cause et cure*’s concepts of sexual difference and diagnosis mutually inform each other, so that the text does not differentiate

between sex and gender identity, and therefore interpellates gender divergence as an intersex — rather than psychological — symptom.

The absence of the clinical sex/gender distinction should not, however, be understood as a rephrasing of the somewhat idealistic portrayal of the premodern world by Laqueur and others. Such a characterisation of *Cause et cure* might be encouraged by a reading of the sanguine man as an intersex figure whom the text views in a very positive light. Because “delectabilem humorem in se habent” (they have a delectable humor in themselves) (Moulinier 2003, 58), sanguine men have “temperata prudential, quam feminea ars habet” (moderated prudence, which feminine art has), and “abstinentiam habere possunt” (they are able to practice abstinence) (Moulinier 2003, 59). The positive portrayal of the sanguine man’s humorally determined femininity is related to the text’s ambivalence regarding sexual intercourse and pleasure, which, as Berger shows, “underlies the tensions and contradictions in Christian sexual ethics” (Berger 1999, 15). The sanguine man’s meek character, as a physiologically determined divergence from bodily ideals, is an intersex characteristic, but it is his only one. Blood is therefore not strongly characterised as an intersex substance in the way that phlegm is. Nonetheless, the passages which describe conception describe typical sexual function as being the attribute of humans in general (Moulinier 2003, 59, 62-63, 75), so that the sanguine man remains marked out by the text as physically divergent. The intersex characteristics of the phlegmatic man, the phlegmatic woman, and the sanguine man index their divergence from the divinely discreet sexual dimorphism of creation (Moulinier 2003, 77-79). *Cause et cure*’s distinction between prelapsarian dimorphism and the intersex characteristics of some fallen bodies does not function exactly as a norm, but instead as an ideal, following Lochrie’s distinction between nature and Nature. As Lochrie argues, “[t]he Nature of medieval theologians was a prelapsarian one that represented all that was good and perfect”, whereas the Fall “introduced another nature [...] that was not so *naturally* natural but was instead the result

of reason's subversion" (2005, xxii). *Cause et cure* enforces its own Natural bodily ideals of sexual dimorphism by contrasting them with naturally occurring intersex — even if it does so with a degree of moral ambiguity. As DeVun (2015) has shown, such bodily ideals, and their brutal enforcement, predate the clinic and its accompanying diagnostic apparatus.

The construction of sex through the very structure of diagnostic practices can be observed with another of *Cause et cure*'s humoral archetypes who exhibits atypical sexual characteristics, the phlegmatic woman. In her case, the medical practitioner is invited to connect "lanuginis circa mentum" (locks around the chin) to the aforementioned "uirilem animum" (manly mind), and with an increased risk of "insaniam capitis, que es frenesis" (the madness which is called *frenesis*) if the woman's menstruation "ante naturale tempus in eis strangulatur" (ends before the natural time) (Moulinier 2003, 127). The gendered interpellation of the subject, through the identification of the "uirilem animum", comes before the diagnosis, rather than with the diagnosis. This different sequencing of interpellation in relation to diagnosis is perhaps what leads Cadden to offer the reading she does of *Cause et cure*, in which she sees an example of "the abstraction of gender to the levels of symbolism and metaphysics" (Cadden 1993, 209). Cadden's language here reveals a certain unease with what she perceives as the leap from anatomical facts such as "lanuginis circa mentum" to metaphysical concepts such as a "uirilem animum". These questions of the sequencing of interpellation and diagnosis therefore allow us a way into a particularly difficult problem at the heart *Cause et cure*'s treatment of intersex, that of "the abstraction of gender", and its relation to the physical, which we have come to know as the sex/gender distinction.

### **Phlegm and *Viriditas***

When Cadden asserts that “the duality [of] persistent sex distinctions colored gender notions” (Cadden 1993, 209), her persistent adoption of this sex/gender distinction ends up obscuring rather than enlightening the intricacies of the text. The phlegmatic man allowed for an understanding of intersex which maintains a familiar emphasis on the physical over the mental, even if, as I have shown, the category of “sex” at work in the description of the phlegmatic man is already wider than that of our contemporary understanding, and therefore begins to trouble the very notion of “sex” by underlining the inconsistency of our current concepts. The phlegmatic woman complicates this even further. The physical effects of her *virilis* elements (“lanuginis circa mentum”) are secondary to the mental symptoms, to the point that a direct causal chain is established, breaking with *Cause et cure*’s usual enumerative style.

The text states that “Et quia etiam aliquantum uiriles sunt propter uiriditatem, quam in se habent, aliquantum lanuginis, circa mentum emitunt” (since [phlegmatic women] are somewhat manly they will occasionally, because of the *viriditas* that is in them, grow locks around the chin) (Moulinier 2003, 127). This passage is made problematic by the term *viriditas*, and its relation to *virilis*. Berger translates “uiriditatem” as “the greenness within them” (Berger 1999: 64), while Priscilla Throop translates it as “the life force in them” (Throop 2008, 73). Both “greenness” and “vigor” are recognised translations of the term (see Glare 2016, s.v. *viriditas*), but either meaning appears to function ambiguously in the sentence. It has not previously been established that the phlegmatic woman contains “greenness”, and the meaning of “greenness” in this context is unclear, while “vigor” (or, as Throop gives it, “life force”) stands in an ambiguous relation to *virilis*. This is compounded by the fact that the precise causal link between *viriditas*, *virilis*, and “lanuginis circa mentum” also lacks clarity. It is evident that the *lanuginis* are caused by the phlegmatic woman being *virilis* and/or by her *viriditas*, but there is no indication as to whether *viriditas* causes her to be *virilis*, or whether being *virilis* and having *viriditas* are separate causes of the same effect (the *lanuginis*).

However, the adjective *viriles* which I have translated as “manly” and which Berger and Thoop both translate as “virile” (Berger 1999, 64; Thoop 2008, 73) can also be used to mean “vigorous” (see Glare 2016, s.v. *virilis*). *Virilis* and *viriditas* could therefore be used here to mean “vigorous” and “vigour”, respectively. While I do not intend to argue that this would be the correct translation, this semantic connection between the two words opens up a different interpretation of the phlegmatic woman as an intersex body and/or subject. Berger argues that “The significance of the color green ties in, in the literal and theological sense, with [Hildegard’s] views on vegetation, life, and (re)generation; it indicates growing and bearing fruit. As the principle of life, *viriditas* implies generative energy, growing and greening power, verdure and fertility” (Berger 1999, 128; see also Sweet 1999). I would add that *viriditas* is very much a gendered substance in *Cause et cure*. This is abundantly clear from *Cause et cure*’s account of Genesis: “Et idem Adam de uiriditate terre uirilil et de elementis fortissimus erat, Eua autem de medullis suis mollis fuit et aeream mentem ac acutam artem et delici|osam uitam habuit, quoniam pondus terre eam non pressit.” (And Adam was manly from the *viriditas* of the earth, and very strong from the elements, while Eve was soft from her marrow, and her mind was airy and sharp, and she had a delectable life, because the weight of the earth did not press down onto her.) (Moulinier 2003, 77) The *viriditas* of the earth is connected to Adam’s strength, and thus to the inherent strength of men, while the weakness of women is a result of their airiness.

*Viriditas* is therefore established in *Cause et cure*’s account of Genesis as one of the causes for sexual difference; it is from the *viriditas* of the earth that Adam, and therefore, all men, take their masculinity. This is directly relevant to one of *Cause et cure*’s most remarkable passages, regarding the gendered nature of original sin:



Sed et si Adam transgressus fuisset prius quam Eua, tunc transgressio illam tam fortis et tam incorrigibilis fuisset, quod homo etiam in tam magna obduratione incorrigibilitatis cecidisset, quod nec saluari uellet nec posset. Vnde quod Eua prior transgrediebatur, facilius deleri potuit, quia etiam fragilior masculo fuit.

And if Adam had transgressed before Eve, his transgression would have been so grave and so incorrigible, man would have fallen into such a hard incorrigibility, that he would not have wanted to be saved, nor could he have been. Since Eve transgressed first, it was easier to expunge, because she was weaker than the male. (Moulinier, 2003, 79)

In this exceptional argument, *Cause et cure* equates the gravity of the sin with the strength of the sinner, so that it was Eve's feminine weakness that, by lessening the *incorrigibilitas* (incorrigibility) of her transgression, made humankind's salvation possible. This argument is linked to the text's humoral determinism: humoralism is destiny, whether for Adam and Eve, for individual patients, or for humankind as a whole. The function of *viriditas* as a "manly vigor", a humoral substance that is the very source of manliness, is entwined, in *Cause et cure*'s version of Genesis, with the destiny of all people, because it is sexual difference and its effect on behavior that make salvation itself possible. *Cause et cure*'s argument, that Eve's weakness and her sinning in the place of Adam are both paradoxically salutatory is very reminiscent of the by now well-rehearsed feminist reading of Hildegard's framing of her visionary writing, which has been in circulation since the publication of Barbara Newman's revolutionary 1987 study. As Marian Bleeke helpfully summarises it:

Hildegard associates her lack of agency with her femininity in order to further accentuate her exceptionality. She repeatedly describes herself as a “weak woman” and so as someone who would be incapable of producing her works on her own. These statements are consistent with a Christian logic of overturning, in which God chooses the weak, the inferior, or the lowly to be exalted: so he has chosen her to be his instrument. (Bleeke 2010, 42)

Hildegard thus paradoxically uses the doctrine of feminine weakness to justify and elevate female preaching and theological authority (see Newman 1987, 25-51; Duran 2006, 21-48; Ritchey 2014, 55-90). In *Cause et cure*, this strategy is applied to a gendered interpretation of the Fall, in which Eve’s weakness makes her a less efficient sinner than Adam, and therefore the enabler of salvation (see Chance 2007, 11-12). This argument is made possible by *Cause et cure*’s humoral determinism: the view that “disease entered the world as a consequence of the Fall” (Glaze 1998, 137) occurs within a microcosmic sketch of the human being (Glaze 1998, 134) that distinguishes the imbalanced bodies of the eight humoral types from the sexually dimorphic bodies of Adam and Eve, characterised in their prelapsarian state by the masculine strength Adam draws from *viriditas* and the feminine weakness and delight Eve draws from her *medulla*. The reclamation of women’s agency through the doctrine of feminine weakness for which Hildegard has come to be well known by feminists is therefore made possible by the characterisation of *viriditas* as a masculinising substance that biologically determines Adam’s greater strength — and therefore, his greater potential to sin.

While Berger discusses this passage, she does not note the gendered nature of *viriditas* that it establishes (Berger 1999, 14).<sup>6</sup> Victoria Sweet’s magisterial genealogy of the term and analysis of its place in Hildegard’s thought (Sweet 2006, 125-154) conclusively demonstrate that *viriditas* is a substance in *Cause et cure*, and not a “power” or “force” such as previous

commentators had claimed (Sweet 2006, 136). At one point, she even remarkably observes that *viriditas* “had many of the characteristics today implied by the concept of hormone, a special liquid responsible for functional behavior” (Sweet 2006, 152). Yet, she does not notice *viriditas*’s specifically masculine sexing effect on the body, which my analysis of the phlegmatic woman has made clear, and which, most importantly of all, determines the sexually differentiated outcome of original sin. The very possibility of salvation is the result of a sexual difference that is determined by the gendered distribution of *viriditas*. *Viriditas*, in the passages that describe humoral types, acts in accordance with its masculinising role in creation, as a sort of “manly vigour”, a force that is connected to “manliness” via the semantic and phonetic similarities of *viriditas* to *virilis*, the “lanuginis circa mentum” and the “uirilem animum” come to have a shared origin in the phlegmatic woman’s *viriditas*, which is a masculine attribute with both physical and mental effects, caused by phlegm, an intersex substance.

This is further corroborated when the description of the phlegmatic woman is compared with that of phlegmatic men, who the text states “tymporum eorum non sunt plene in uiriditate” (do not have much *viriditas* in their temples), and “nec in barba nec in aliis huiusmodi causis uirorum uiriles esse ualent” (are lacking in the ability to grow a beard and in other manly characteristics), because of their “defectum in corporibus” (physical defect) (Moulinier 2003, 113). The connection of *viriditas* to *virilis* is therefore consistent in *Cause et cure* from one humoral type to the next, as well as between its medical and theological passages. The phlegmatic woman has a “uirilem animum” and may grow “lanuginis circa mentum” because of the *viriditas* in her body, while the phlegmatic man is lacking in “causis uirorum” (manly characteristics) and has difficulty growing a beard because he lacks *viriditas*. It is clear, from this analysis, that *viriditas* is the cause of masculine secondary sex characteristics. Its function in *Cause et cure*’s account of the Fall correlates with its function in medical practice — as Berger observes, humoralism is the link that situates the text “at the intersection of theology

and medicine” (Berger 1999, 135). Because it gives rise to masculine characteristics in the phlegmatic woman and feminine characteristics in the phlegmatic man, phlegm is therefore associated neither with femininity nor with masculinity, but rather with intersex itself. This corresponds again to the humoral account of the Fall: *Cause et cure* claims that phlegm entered the human body as a consequence of Adam and Eve’s transgression (Moulinier 2003, 63-64; see also Glaze 1998, 136-137; Duran 2006, 27; Dronke 1992, 390). Since the text situates Adam and Eve’s bodies in Eden as sexually differentiated according to the healthy balance of humors, it is a natural continuation of the text’s synthesis of theology and medicine that fallen phlegmatic people would exhibit intersex characteristics due to a gendered imbalance of *viriditas* — too much for the phlegmatic woman, too little for the phlegmatic man. *Cause et cure* therefore situates phlegm as the cause of intersex symptoms, so that it becomes a sexing sign which the medical practitioner inscribes onto the body, according to the circular logic of the materialisation of sex.

The idea that humoral theory was used to mark out intersex bodies has previously been put forward by Amanda Lehr, in an excellent essay in *postmedieval’s Medieval Intersex* issue (Lehr 2018). Lehr’s argument concerns figures in *The Wonders of the East* and *Beowulf*, and therefore references Old English humoral theory rather than *Cause et cure*’s more elaborate Galenic framework (Lehr 2018, 185), and she does not explicitly reject the sex/gender distinction, instead adopting a fluid understanding of gender’s relation to the body onto whom gender is inscribed (Lehr 2018, 186). I am therefore taking her argument concerning humoral theory further, by showing that humors serve as an intersex marker not only in descriptions of otherworldly creatures, but also in sophisticated medical texts’ account of the human body.

Cadden’s analysis of *Cause et Cure*’s phlegmatic woman, whom she compares to the “virago” (Cadden 1993, 205) does not fully account for this humoral co-origination of mental and physical effects, instead framing the phlegmatic woman and the “virago” as concerning

the realm of “disposition and social behaviour” as opposed to “reproductive sexual characteristics” (Cadden 1993, 205). However, the sex/gender distinction which thus persists in Cadden’s writing is clearly undermined by the links between mental and physical drawn up by the description of the phlegmatic woman, and by Hildegard’s humoral determinism (Berger 1999, 154-155). From *viriditas* to *virilis*, from “lanuginis circa mentum” to a “uirilem animum”, the sex of the phlegmatic woman is simultaneously constituted at both the physical and the mental level, so that no “gender” can be extricated from this portrait that is not already predicted by the sexing of her body according to mixed, intersex characteristics. Social and physiological effects have the same humoral causes, there are no separate sex and gender to speak of, because the very possibility of salvation is founded upon the physiologically and sexually determined characters of Adam and Eve.

This explains the difference in processes of interpellation outlined above. The contemporary Western process of DSD diagnosis both reinforces and is made possible by the sex/gender distinction. The process of disinterpellation which Delimata outlines, in which the medical practitioner, for example, tells “a woman she has testes” (Delimata 2019, 1) is made possible by our current set of assumptions about what it means to be a “woman”, what it means to have “testes”, and the relationship of the mental to the physical that these concepts imply. *Cause et cure* assumes a different framework. With the phlegmatic man, *Cause et cure* assumes physical sex to be made up of a wider range of characteristics than most contemporary models — highlighting the coercive nature of sex for the modern reader by revealing the contingency of our concepts of sexual difference. With the phlegmatic woman, it contests the modern dualism which made John Money’s sex/gender distinction possible in the first place, by including psychological character in the symptoms of intersex, so that the phlegmatic woman’s “identity” and the atypical aspects of her body are one and the same.<sup>7</sup> The introduction of intersex as an analytical category brings this distinction into question and therefore helps us

overcome some of the difficulties which previous studies of *Cause et cure* have encountered in dealing with its model of sex difference.

## Conclusion

Intersex “put[s] the body back at the center of the discourse”, it “helps to return to a view from the inside outwards” (Whittington 2018, 245). While contemporary theorists and medical practitioners continue to separate sex and gender, the people they discuss nonetheless experience sex and gender at once, and the extent to which sex is always already gender is never more acutely felt than during the process of disinterpellation that comes with a diagnosis of atypical sex. By replacing the lens of the sex/gender distinction which previous studies of *Cause et cure* have adopted with an intersex lens, we can begin to perceive the descriptions of the phlegmatic man and the phlegmatic woman, not as proofs of the entrenched sexual dimorphism that may or may not underpin *Cause et cure*, but rather as powerful evidence for a medieval intersex experience.

It is not the case that, as Laqueur claims, “at least two genders correspond to but one sex” (Laqueur 1990, 25). Nor, as I have shown, is Cadden’s claim that *Cause et cure*’s model of sex is exclusively dimorphic correct. Rather, both analytical models are misled by their reliance on the distinction between sex and gender, which is absent from the text, as my intersex reading has revealed. When *Cause et cure* associates certain kinds of gender expression and sexual behaviour to certain humoral types, it does not depart “from the realm of reproductive sexual characteristics into the realm of disposition and social behavior” (Cadden 1993, 205), because disposition and social behavior are sexed, are brought into the category of sex, and behavior which exhibits a mix of *virilis* and *muliebris* attributes is correlated, by *Cause et cure*, with the postlapsarian divergence from discreet dimorphism, and thus, with an intersex body.

The subjects which *Cause et cure* interpellates do not “suffer from DSD”, because *Cause et cure*’s diagnostic methods, contexts, and concepts differ from those of DSD — but these subjects are intersex because they are not discretely male nor female, they diverge from the text’s dimorphic ideals.

*Cause et cure*’s anatomical models are structured by its expansive definition of sex. As I have shown, mental and physical categories are seen to have a shared origin insofar as they constitute the sex of individuals. In addition, reproduction is never too far from view. In the case of the sanguine man, the third humoral type to exhibit intersex characteristics, it is precisely in order to explain his ability to remain celibate that the text alludes to his “feminea natura” (feminine nature) (Moulinier 2003, 109). It is precisely because phlegmatic men cannot procreate that “nec uiriles dicuntur” (they cannot be called manly) (Moulinier 2003, 113). *Cause et cure* does not consider the distribution of people into different types to be a matter of reproductive sex on the one hand and social behavior on the other. It sees the relationship of people to reproduction in their behavior, and their general exhibition of “uirilem” or “muliebrem” mental characteristics to be determined by the same humoral factors which determine their bodies’ sexes, whether discretely male, discretely female, or otherwise.

As I have shown, this must be understood within the context of *Cause et cure*’s theological argument about the Fall, and the way it relates to the text’s model of human anatomy. When it states that “elementa compago corporis hominis sunt” (the elements determine the structure of the human body) (Moulinier 2003, 83), the word *compages* also means “a joining together, a connection” (see Glare 2016, s.v. *compages*). The humors, which are consistently identified as the cause of sex difference, both determine the makeup of the body, and “join”, hold it together. The text therefore frames the human body as having a sexed essence from the very beginning. The critical analysis of sex and/or gender therefore constitutes a natural, necessary response to this influential work. Such an analysis, in order to accurately

reflect the text, must keep the body at its centre, and allow the body the possibility of difference, divergence, and indeterminacy.

We should not assume that medieval categories, such as hermaphroditism, will easily correspond to our own labels. Past scholarship has shown that not all hermaphrodites are intersex (Soyer 2012; Whittington 2018). This essay has shown that not all medieval intersex figures are hermaphrodites. It is an invitation to think with and to work with this fact. An analysis of the past and the traces it has left us which introduces intersex into its thinking is not a matter of bluntly imposing a modern label onto premodern figures. Rather, it allows the bodies which have been passed over by previous scholarship to re-emerge in all their difficult differences. It invites the past to question our present, to trouble and unsettle our own sense of our bodies and the concepts we have of them.

Scholarship which reads our modern distinction between sex and gender back into medieval texts such as *Cause et cure* as if it were a self-evident truth fails to engage with an important and unsettling fact: that the principles according to which we relate to our bodies are contingent, and that the study of premodern texts demonstrates this. To expose these concepts as contingent is essential in order to do justice to the people they marginalise and harm — in our case, people with atypical sex. Writing which accurately represents medieval thought is therefore necessarily intersex writing, because medievalism is allied with intersex theory in its quest to denaturalise modern thinking.

---

<sup>1</sup> I am grateful to Bill Burgwinkle for his feedback on several early versions of this essay, and for his continuous encouragements that led me to seek publication for this work. I would also like to thank Phil Knox for his comments. Jessica Rosenfeld generously invited me to present



---

this work to her students at the revision stage, I am grateful to her and her students for their comments and encouragements. Finally, my thanks to the editors and to my anonymous readers, who prompted many improvements.

<sup>2</sup> On the debate regarding the attribution of *Cause et cure*, see Müller 1995; Müller 1997; Berger 1999, ix-xi; Glaze 1998, 144-147; Moulinier 2003, lvii-lxiii; Moulinier 2001; Sweet 2006, 35-49. While I occasionally refer to Hildegard's other works in this essay, it is not my intention to make any claims about the text's authorship, as this does not affect *Cause et cure*'s interest and value as a work of medieval medicine.

<sup>3</sup> All translations from Latin are my own, unless stated otherwise.

<sup>4</sup> As Blake Gutt has previously argued, these “radical implications of [Butler's] theorization are yet to be fully explored” (Gutt 2018, 131). The present essay builds on Gutt's analysis of Butler and his pioneering application of this analysis in bringing transgender theory to medieval studies, as well as Abdulhamit Arvas's (2020) contributions to early modern trans theory.

<sup>5</sup> Italics in quotations are always in the original.

<sup>6</sup> Other studies (such as Ritchey 2014, 55-90) tacitly assume that *viriditas* is a feminine force, perhaps because of its association with fertility. My analysis of *Cause et cure* makes clear that, in this particular text, the opposite is true.

<sup>7</sup> See Duran on *Cause et cure*'s “complex vitalistic monism” (Duran 2006, 24).

## References

### Manuscript

Copenhagen, Royal Library MS NKS 90 b 2°

### Other

Althusser, Louis. 1976. "Idéologie et Appareils Idéologiques d'État: Notes pour une recherche." In *Positions: 1964-1975*, 67-125. Paris, France: Éditions Sociales.

Arvas, Abdulhamit. 2020. "Early Modern Eunuchs and the Transing of Gender and Race." *Journal of Early Modern Cultural Studies*, 19.4: 116-136.

Berger, Margret. 1999. *Hildegard of Bingen on Natural Philosophy and Medicine: Selections from 'Cause et cure', Translated from Latin with Introduction, Notes and Interpretive Essay*. Cambridge, UK: D. S. Brewer.

Biddick, Kathleen. 1993. "Genders, Bodies, Borders: Technologies of the Visible." *Speculum*, 68.2 (April 1993): 389-418.

Bleeke, Marian. 2010. "Considering Female Agency: Hildegard of Bingen and Francesca Woodman." *Women's Art Journal*, 31.2 (Autumn/Winter 2010): 39-46.

Butler, Judith. 1993. *Bodies that Matter: On the Discursive Limits of "Sex"*. London: Routledge.

Butler, Judith. 1990. *Gender Trouble: Feminism and the Subversion of Identity*. London: Routledge.

Cadden, Joan. 1993. *Meanings of Sex Difference in the Middle Ages: Medicine, science, and culture*. Cambridge, UK: Cambridge University Press.

Chance, Jane. 2007. *The Literary Subversions of Medieval Women*. New York: Palgrave Macmillan.

Chyten-Brennan, Jules. 2014. "Surgical Transition." In *Trans Bodies, Trans Selves: A Resource for the Transgender Community*, edited by Laura Erickson-Schroth, 265-290. Oxford, UK: Oxford University Press.

Delimata, Natalie. 2019. *Articulating Intersex: A Crisis at the Intersection of Scientific Facts and Social Ideals*. Cham, Switzerland: Springer.

DeVun, Leah. 2015. "Erecting Sex: Hermaphrodites and the Medieval Science of Surgery." *Osiris*, 30.1 (January 2015): 17-37.

DeVun, Leah. 2018. "Heavenly hermaphrodites: sexual difference at the beginning and end of time." *Postmedieval*, 9.2 (June 2018): 132-146.

Downing, Lisa, Morland, Iain, and Sullivan, Nikki. 2015. *Fuckology: Critical Essays on John Money's Diagnostic Concepts*. London: Chicago University Press.

Dronke, Peter. 1992. "Platonic-Christian Allegories in the Homilies of Hildegard of Bingen." In *From Athens to Chartres: Neoplatonism and Medieval Thought: Studies in Honor of Edouard Jaunneau*, ed. by Haijo Jan Westra, 381-396. Leiden, Netherlands: Brill.

Duran, Jane. 2006. *Eight Women Philosophers: Theory, Politics, and Feminism*. Urbana: University of Illinois Press.

Evans, Ruth, ed. 2018a. *Medieval Intersex: Language and Hermaphroditism. postmedieval*, 9.2.

Evans, Ruth. 2018b. "Gender does not equal genitals." In Evans, 2018a, 120-131.

Fausto-Sterling, Anne. 2000. *Sexing the Body: Gender Politics and the Construction of Sexuality*. New York: Basic Books.

Foucault, Michel. 1976. *Histoire de la sexualité 1: La volonté de savoir*. Paris: Gallimard.

Glare, P.G.W., ed. 2016. *Oxford Latin Dictionary*, 2<sup>nd</sup> edn. Oxford, UK: Oxford University Press.

- Glaze, Florence Eliza. 1998. "Medical Writer: 'Behold the Human Creature'." In *Voice of the Living Light: Hildegard of Bingen and Her World*, edited by Barbara Newman, 125-148. Berkeley: University of California Press
- Gutt, Blake. 2018. "Transgender Genealogy in *Tristan de Nanteuil*." *Exemplaria*, 30.2, 129-146.
- Holmes, Morgan M. 2009. "Straddling Past, Present and Future." In *Critical Intersex*, edited by Morgan Holmes, 1-14. Farnham, UK: Ashgate.
- Hughes, I. A., C. Houk, S. F. Ahmed, P. A. Lee, and LWPES1/ESPE2 Consensus Group. 2006. "Consensus statement on management of intersex disorders." *Archive of Disease in Childhood*, 91: 554-563.
- Karkazis, Katrina. 2008. *Fixing Sex: Intersex, Medical Authority, and Lived Experience*. Durham, NC: Duke University Press.
- King, Helen. 2007. *Midwifery, Obstetrics and the Rise of Gynaecology: The Uses of a Sixteenth-Century Compendium*. Aldershot, UK: Ashgate.
- King, Helen. 2013. *The One-Sex Body on Trial: The Classical and Early Modern Evidence*. London: Routledge.
- Laqueur, Thomas. 1990. *Making Sex: Body and Gender from the Greeks to Freud*. London: Harvard University Press.

- Lehr, Amanda. 2018. "Sexing the cannibal in *The Wonders of the East* and *Beowulf*." In Evans, 2018a, 179-195.
- Lochrie, Karma. 2005. *Heterosyncrasies: Female Sexuality When Normal Wasn't*. London: University of Minnesota Press.
- Malatino, Hil. 2019. *Queer Embodiment: Monstrosity, Medical Violence, and Intersex Experience*. Lincoln: University of Nebraska Press.
- Meyerowitz, Joanne. 2002. *How Sex Changed: A History of Transsexuality in the United States*. London: Harvard University Press.
- Mills, Robert. 2015. "Transgender Time." Chap. 2 in *Seeing Sodomy in the Middle Ages*. Chicago: University of Chicago Press.
- Money, John. 1955. "Hermaphroditism, gender and precocity in hyperadrenocorticism: psychologic findings." *Bulletin of the John Hopkins Hospital*, 96.6: 253-264.
- Money, John. 1973. "Sexology: Behavioral, cultural, hormonal, neurological, genetic etc." *Journal of Sex Research*, 9.1: 1-10.
- Moulinier, Laurence, ed. 2003. *Beate Hildegardis: Cause et cure*. Berlin, Germany: Akademie Verlag.

- Moulinier, Laurence. 2001. "Hildegard ou Pseudo-Hildegard? Réflexions sur l'authenticité du traité 'Cause et cure'." In *"Im Angesicht Gottes suche der Mensch sich selbst": Hildegard von Bingen (1098-1179)*, edited by Rainer Berndt, 115-146. Berlin, Germany: Akademie Verlag.
- Müller, Irmgard. 1995. "Zur Verfasserfrage der medizinisch-naturkundlichen Schriften Hildegards von Bingen." In *Tiefe Des Gotteswissens: Schönheit Der Sprachgestalt Bei Hildegard von Bingen. Internationales Symposium in Der Katholischen Akademie Rabanus Maurus Wiesbaden-Naurod Vom 9. Bis 12. September 1994*, edited by Margot Schmidt, 1-17. Stuttgart-Bad, Germany: Bad Cannstatt by Frommann-Holzboog.
- Müller, Irmgard. 1997. "Wie authentisch ist die Hildegardmedizin? Zur Rezeption des *Liber simplices medicinae* Hildegards von Bingen im Codex Bernensis 525." In *Hildegard von Bingen: Prophetin durch die Zeiten*, edited by Edeltraut Forster. Freiburg, Germany: Herder.
- Newman, Barbara. 1987. *Sister of Wisdom: St. Hildegard's Theology of the Feminine*. Berkeley: University of California Press.
- Park, Katharine. 2010. "Cadden, Laqueur, and the One-Sex Body." *Medieval Feminist Forum*, 46.1: 96-100.
- Ritchey, Sara. 2014. *Holy Matter: Changing Perceptions of the Material World in Late Medieval Christianity*. London: Cornell University Press.

- Soyer, François. 2012. *Ambiguous Gender in Early Modern Spain and Portugal: Inquisitors, Doctors and the Transgression of Gender Norms*. Leiden, Netherlands: Brill.
- Stone, Sandy. 1992. "The 'Empire' Strikes Back: A Posttranssexual Manifesto." *Camera Obscura*, 10.2 (29): 150-176.
- Sullivan, Nikki. 2015. "The Matter of Gender." In Downing, Morland, and Sullivan, 2015, 19-40.
- Sweet, Victoria. 1999. "Hildegard of Bingen and the Greening of Medieval Medicine." *Bulletin of the History of Medicine*, 73.3: 381-403.
- Sweet, Victoria. 2006. *Rooted in the Earth, Rooted in the Sky: Hildegard of Bingen and Premodern Medicine*. New York: Routledge.
- Throop, Priscilla, trans. 2008. *Hildegard of Bingen, Causes and Cures: the complete English translation of Hildegardis Causae et Curae Libri VI*, 2<sup>nd</sup> edn. Charlotte, VT: MedievalMS.
- Whittington, Karl. 2018. "Medieval intersex in theory, practice, and representation." In Evans, 2018a, 231-247.

**Total word count: 8,892**