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Making Men and Women. Arabic Commentaries on the Gynaecological Hippocratic Aphorisms in Context

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Making Men and Women

Arabic Commentaries on the Gynaecological Hippocratic Aphorisms in Context

♦ **ABSTRACT**

This paper focuses on several passages concerning the differences between men and women as represented in the Arabic commentaries on the Hippocratic Aphorisms, currently the subject of a research project at the University of Manchester. The gynaecological aphorisms and their commentaries, written by male authors, reflect centuries of ancient and medieval thought on women and their bodies. Ibn al-Quff (d. 1286), al-Kilānī (14th century) and other contributors to the Arabic exegetical tradition have plenty to say on the subject of the female body and its pathologies. They discuss, for example, the question of why women are never “ambidextrous” and the various ways that female bodies resemble or differ from male bodies. They also discuss the possible existence of female testicles and semen, as well as the manner in which a “manly woman” or “womanly man” may result from the manner of the in-between gendered person’s conception.

The blending and separation of “male” and “female” in these Arabic debates resonate with the Greek medical tradition, and especially with the writings of the Greek physician Galen (d. c. 216 AD), elaborating on and sometimes challenging his influential commentaries. The rift between Galen and Aristotle (d. 322 BC), centring on the nature of the male and female contribution to the formation of an embryo, elicits much commentary from the Arab authors.

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The physiology of menstruation and lactation likewise invite commentary and debate. We show that the study of such discussions is pertinent not only to the history of medicine, but to representations of manliness and womanliness in a wide range of contexts and genres.

Keywords: medieval Arabic medicine – ancient Greek medicine – Hippocratic Aphorisms – gynaecology – gender

♦ **RÉSUMÉ**

Cet article se concentre sur plusieurs passages traitant des différences entre les hommes et les femmes, dans les Aphorismes hippocratiques. Cette question fait actuellement l'objet d'un programme de recherche à l'université de Manchester. Les aphorismes gynécologiques et leurs commentaires, écrits par des auteurs masculins, reflètent plusieurs siècles de réflexion antique et médiévale sur les femmes et le corps féminin. Ibn al-Quff (m. 1286), al-Kilānī (xiv^e siècle), et d'autres auteurs de la tradition exégétique arabe ont beaucoup à dire sur le corps des femmes et ses pathologies. Ils discutent, par exemple, de la question de savoir pourquoi les femmes ne sont jamais « ambidextres » et des multiples ressemblances et différences entre les corps féminin et masculin. Ils débattent également de l'existence possible de testicules et de sperme féminins, et de la manière dont une « femme masculine » ou un « homme féminin » peuvent résulter du fait que leur conception s'est déroulée, d'une manière ou d'une autre, dans un entre-deux du genre.

Le rapprochement et la distinction entre le masculin et le féminin dans ces débats arabes entrent en résonance avec la tradition médicale grecque, en particulier avec les écrits du médecin grec Galien (m. ca. 216 apr. J.-C.), en enrichissant mais aussi parfois en critiquant ses commentaires, dont l'impact était très grand. La controverse entre Galien et Aristote (m. 322 av. J.-C.), autour de la nature des rôles respectifs du mâle et de la femelle dans la formation de l'embryon, souleva de nombreux commentaires auprès des médecins arabes. La physiologie des menstrues et de la lactation suscita également commentaires et débats. Nous montrons que l'étude de ces discussions est pertinente non seulement pour l'histoire de la médecine, mais également pour les représentations du masculin et du féminin dans différents contextes et différents types d'écrits.

Mots-clés: médecine arabe médiévale – médecine grecque ancienne – Aphorismes hippocratiques – gynécologie – genre

THE HIPPOCRATIC APHORISMS, the Greek medical treatise associated with the “father of modern medicine”, Hippocrates (b. 5th c. BC),¹ was a key text used by medieval Arab physicians in their teaching. Galen, the Greek philosopher-physician (d. c.216 AD), wrote a commentary on the Aphorisms, which was rendered into Arabic by Ḥunayn ibn Iṣḥāq (d. 873), the physician-translator who specialised in the Galenic *corpus*. The Arabs wrote their own commentaries on the text in an exegetical tradition that extended from the tenth to the sixteenth century.²

The Arabic commentaries on the Hippocratic Aphorisms contain fascinating material on the medical and philosophical debates that occupied physicians and scholars throughout the medieval period. The commentary on the gynaecological aphorisms contains some particularly engaging discourse on the female body and the diseases of women.³ The medical theories that guide and shape much of the writing on female pathologies provide clues as to the level of knowledge the male authors had of female anatomy. The commentaries also illustrate certain social attitudes to women, gender and sexuality.

This paper presents a selection of voices from the Arabic commentaries on the Hippocratic Aphorisms, focusing especially on passages that describe the differences between men and women. These differences, compared to some modern perceptions, are at once less defined (as women and men were thought to be essentially the same, even in terms of sex organs),⁴ and more defined (as the inferiority of women was vigorously emphasized in ancient Greek and medieval Arabic sources alike). Our aim is to present a sample of these important commentaries, which mainly survive only in manuscript form.

We will focus especially on the writings of Ibn al-Quff (d. 1286), and al-Kilānī (14th century). Ibn al-Quff was a Christian physician and the most thorough of the commentators, quoting from a wide array of sources and always seeking to describe the hidden connections between the aphorisms’ varied subjects of inquiry. Al-Kilānī was a little-known medical author whose commentary (surviving in only two known manuscripts)⁵ tends to wax philosophical in tone. We will also show the potential significance of these commentaries for scholars outside the field of medical history by examining some literary treatments of people who fall in the grey area between masculinity and femininity, and the relationship of these literary depictions to medical theories of sex and gender.

1. Authorship of the text is disputed by scholars. For a discussion of the ‘Hippocratic question’, that examines the issue of contested authorship of works in the Hippocratic Corpus, see Schiefsky, *Hippocrates*, pp. 1-2, 65-71.

2. See Pormann, Joosse, “Commentaries,” pp. 211-249; for influence of Hippocratic Aphorisms on medical theory and practice, p. 211; and use in medical teaching, p. 248.

3. The gynaecological Aphorisms appear in the fifth section of the treatise; Hippocrates, *Hippocrates*, Jones (ed.), *Aphs.* 5.28-5.62, pp. 165-175; there are also a few stray aphorisms related to women scattered elsewhere in the collection, e.g., *Aph.* 7.43.

4. Modern scholarship on gender theory and the history of the body is divided concerning the degree to which sex difference in men and women was elided in the pre-modern period. See Park, “Cadden,” pp. 96-100; Gadelrab, “Discourses on Sex Differences,” pp. 40-81.

5. We have thus far been unable to access the copy found in Maragheh Public Library Manuscript number 37, and have therefore relied solely on L6 in this paper.

Two Left Feet

In his commentary on Aph. 7.43, Ibn al-Quff describes the term ‘ambidextrous’, referring to some of the interpretations it elicited in the Ancient Greek commentary tradition.⁶ In Greek, the term *amphidexios* (ἀμφιδέξιος) had baffled many earlier commentators. The Hippocratic lemma said, “A woman cannot be ambidextrous” (or literally, in the Arabic rendering, “have two right hands لا تكون ذات يمينين”). Ibn al-Quff, speaking of ‘the nerves and muscles’ (*al-‘aṣab wa-l-‘aḍal*), says:

... لما كانت هاتان الآلتان في المرأة ضعيفة تبعاً لضعف الحرارة الغريزية لم تكن ذات يمينين، أي إنها لم تعمل بيدها اليسرى ما تعمل بيدها اليمنى. قال جالينوس إنني لم أر إلى هذه الغاية امرأة حالها هذه الحال.

“... since these two instruments are weak in a woman, resulting from the weakness of the innate heat, she cannot be ambidextrous, meaning she is unable to do with her left hand what she does with her right one. Galen said: ‘I have not to this day seen such a case in a woman.’”

Y, f. 338a.

The message so far is clear: women are not equipped to achieve manual dexterity with both hands. Ibn al-Quff explains further:

البحث الثاني: توفر القوة في الجانبين في الذكور في الأكثر لتوفر الحرارة الغريزية توجب استعمال اليدين، فإن الحرارة شديدة المناسبة للفعل. والنساء لضعف الحرارة فيهن لا يوجدن كذلك ولا الرجال إلا الأقوياء منهم. بل غاية النساء التي يعملن باليد اليمنى أعمالاً معتدلة. قال جالينوس ولأجل هذا كان نساء الصقالبة على ما قاله ابقرات يكونن الثدي الأيمن منهن حتى يأتي غذاؤه إلى اليد اليمنى فتقوى على الأعمال.

“The second inquiry: the abundance of power in both sides of males is, in the main, due to the abundance of innate heat that makes it necessary to use both hands, and heat is strongly appropriate for action. Women, due to their deficiency of heat, are not like that [i.e. ambidextrous], and neither are men, save the strongest of them. But women can perform only modest tasks with their right hand. Galen said, ‘this is why the Scythian women, according to Hippocrates, cauterised their right breast so that its food would go to the right hand so that it would be sufficiently strong for certain tasks.’”

Y, f. 338.

The Scythian women represent a memorable, if fictitious, case-study, mutilating their right breast⁷ so that their right hand might be made stronger. Galen contends that the breasts

6. Aph. 7.43; this is the numbering used in Hippocrates, *Hippocrates*, p. 203, fn. 3, Jones (ed.) summarises the interpretations given to Aph. 7.43 by some ancient commentators, echoed in Ibn al-Quff’s entry.

7. There is the alternative reading in the Arab commentaries in which a ‘hand’ is mutilated; (see e.g. Ibn Abi Šādiq (d. after 1068), MS Arab. SM 4272, online at <http://pds.lib.harvard.edu/pds/view/10811895>; f. 104v° line 13). The confusion is due to the similarity in *rasm* of the Arabic word for both body parts in unvowelled texts.

are a source of nutriment for man and, being positioned near the heart, benefit from its warmth, which aids in the transformation of blood into milk.⁸ By blocking off the blood supply to the right breast through cautery in the manner described, the blood and nutriment would then be diverted to the right hand.

Some commentators, however, thought “ambidextrous” related not to the hands but to the female *in utero*:

البحث الثالث قد فهم بعضهم من قوله المرأة لا تكون ذات يمينين، أي إن المرأة لا تتكون في الجانب الأيمن من الرحم...

“The third inquiry: some of them understood by his statement, ‘a woman is not ambidextrous’, that a woman is not created on the right side of the womb.”

Y, f. 338a.

Ancient Greek left-right binary thinking assigned the female to the left and the male to the right of the uterus.⁹ The right side was the warmer side, due to its proximity to the liver. In Galen’s reproductive physiology, which aligns the left-right principle with temperature theory, the degree of heat is the final arbiter of gender outcome; by and large, warmth generates males and a lack of warmth, females. Medieval physicians embraced the various nuances of the left-right principle and found it to be a flexible theory that could accommodate a range of reproductive outcomes. These often included various gender configurations resulting from male and female seed behaving in complex ways, as evidenced in the Arabic commentaries discussed below.

Ibn al-Quff’s closing comments on this aphorism refer to an historic interpretation of the perplexing lemma:

وفهم قوم منه أنها لا تكون ذات فرجين أي أن الذكر قد يكون له مع آلة الذكورة آلة الإناث وهي الفرج، وذلك هو الخنثى، والأنثى لا يكون لها مع الفرج آلة الذكر، فكل هذا هذيان. والله أعلم.

“Some people understood it to mean that she cannot have two genital openings, meaning that a male may be possessed of both the tool of the male, and the tool of the female, i.e. a vagina; and that is an hermaphrodite. A woman cannot have a male organ in addition to her vagina. This is all drivel. God knows best.”

Y, f. 338a.

8. See Galen, *Galen*, May (ed.), vol. 2, Book 7, section 22, pp. 380-381.

9. Dean-Jones, *Women’s Bodies*, pp. 44, 167; the left-right/hot-cold paradigm is considered in its philosophical and cultural context in Greek thought; see also King, *Hippocrates’ Woman*, p. 8.

The Greek medical writer Paul of Aegina (7th cent.) writes about hermaphrodites in his handbook on medicine, listing four varieties of the condition, three of which occur in men and one in women. In the female version, something resembling a penis and two testicular-like bodies are said to appear above the pudendum. Cutting away the superfluous parts in such a case offers a cure.¹⁰

Similarly, Ibn al-Quff confirms four types of hermaphroditism in his book on surgery. This suggests that Ibn al-Quff is not saying in his “ambidextrous” entry above that the notion of the hermaphrodite (*ḥuntā*) is absurd. On the contrary, he recognizes the existence of this condition and calls it a disease (*‘illa*)¹¹ in his manual, prescribing for it the appropriate medical treatment (using a ‘sharp instrument’ (*āla ḥādda*)).¹² However, for Ibn al-Quff, there is no link between the hermaphrodite and the notion of being ambidextrous, i.e. having ‘two right hands’.

Aristotle (d. 322 BC) in his *History of Animals* uses the term ambidextrous (*amphidexios*) to denote the rare quality of being adept at using both hands with equal ease.¹³ In the Arabic rendering of a lost Greek paraphrase of the work by the philosopher Themistius (c.317-388 AD), the idea is expressed as follows:

وليس في الحيوان شيء يكون له يُؤمنان غير الإنسان، فإن بعض الإنسان يستعمل اليسرى كما يستعمل اليمينى.¹⁴

“There is no animal apart from man which can be ambidextrous,¹⁵ for some people can use their left hand just as they use their right [one].”

What is striking in the commentaries on the *Aphorisms* discussed above, is that the special human quality of being ambidextrous, that is, being able to use both hands with equal agility, is confined exclusively to the male body. No author in the Arabic commentaries confers this exceptional skill on a female body. This is due to the female’s inherent lack of strength and heat, a ubiquitous notion in these commentaries.¹⁶

The idea of female inferiority had a long history in Greek scientific thinking, which interpreted the female as a diminished human being, lacking in certain attributes. Aristotle had said “We should look upon the female state as being as it were a deformity, though one which occurs in the ordinary course of nature.”¹⁷ Galen, likewise, was of the view that the female

10. See Paulus Aegineta, *The Seven Books*, Book VI, section LXIX, p. 381.

11. See Ibn al-Quff, *al-‘Umda* 2, p. 215, line 7.

12. See Ibn al-Quff, *al-‘Umda* 2, p. 215, line 14.

13. See HA, vol. 1, 497b 32, p. 76.

14. See Badawī, *Commentaires sur Aristote*, p. 206, lines 16-17.

15. Literally, “possesses two right hands.”

16. See e.g. al-Siwāsī (early 14th cent.), S4, f. 53a, lines 11-14.

17. GA, 775a 15, transl. p. 460-461. The three zoological works of Aristotle were rendered into Arabic in the ninth century during the Abbasid translation movement. In the Arabic tradition, *The Book of Animals* (*Kitāb al-ḥayawān*) was composed of three books divided into nineteen sections; *Historia Animalium* (1-10), *De Partibus Animalium* (11-14) and *De Generatione Animalium* (15-19) as described by H.J. Drossaart Lulofs in Aristotle, *The Generation of Animals*, p. 2. Here is the edition of the Arabic *Fī kawn al-ḥayawān*

was an imperfect representation of humanity, the male being the model exemplar.¹⁸ The translation of the Aristotelian zoological works and Galenic corpus from Greek into Arabic during the Abbasid translation movement between the eighth and tenth century offered a conduit through which many of these ideas were to seep into Arabic medical culture.¹⁹

Hot and Cold

Galen contends that the male and female genitalia are, though similar in some respects, engendered differently, due to the unequal heat allocated to the bodies of men and women. The heat that is necessary to complete and perfect the male external genital organs is lacking in females, leaving their genitalia on the inside of the body.²⁰ Galen also argued that the female is equipped with ‘testicles’ (ovaries), a smaller version of those found in men,²¹ a point discussed in more detail below. Al-Kilānī echoes this Galenic theory in his commentary:

اعلم أنّ جميع نوع الناس ينقسم إلى صنفين: أحدهما الذي يكون أقوى حاراً غريزياً وأوفر قوة فيظهر فيه الإحليل إلى الخارج ليكون مستعداً للمباوضة والجماع وقذف المنى دفعاً إلى الرحم ويكون خصاهم عظيماً²² خارجة حارة صالحة لأن تولد المنى الكثير الغليظ الحار في غاية النضج لكي يفي بأن يكون مبدأ لتوليد الإنسان وإبقاء نوعه.

“Know that all species of people are divided into two categories; the first is the one in whom the innate heat is stronger and strength more abundant, so a penis appears on the outside [of the body], so that he is ready to copulate and have sexual intercourse, and to emit the sperm, pushing it into the womb; and their testicles are large, on the outside [of the body], and hot, suitable for generating copious thick hot sperm of the highest degree of coction, to fulfill the function of being the beginning for the generation of man and the continuation of the species.”

L6, f. 165a.

Thus the male is efficiently designed to be able to copulate with the female, his genitals positioned outside his body for the purpose. Concerning the female category of humanity, al-Kilānī says:

والآخر الذي يكون ناقص الحرارة الغريزية لينفع بذلك من وجهين: أحدهما ليكون آلة تناسله في الداخل من البطن وتصير صالحة لقبول المنى وإمساكه وحفظه في حصنٍ خفي وتغذيته ونشوئه حتى يصير إنساناً.

(*De Generatione*), Brugman and Drossaart Lulofs (eds.). For *De Partibus Animalium* in Arabic (*Ağzā' al-ḥayawān*) see Kruk (ed.). For *Historia Animalium* in Arabic (*Ṭibā' al-ḥayawān*), see Badawī (ed.).

18. See Flemming, *Medicine*, p. 283-358.

19. For an overview of the translation movement, see Gutas, *Greek Thought, Arabic Culture*.

20. For a description by Galen of the similarities between female and male genitalia and their respective configuration inside and outside the body, see Galen, *Galen, De Semine*, CMG v 3.1, pp. 189-193. See also Galen, *Galen*, May (ed.), Book 14, p. 268-269 on similarities between male and female genitalia.

21. See Galen, *Galen*, May (ed.), p. 631.

22. عظيمًا] correxi : L6

“The other [category] is the one that is deficient in innate heat, from which it can benefit in two ways; first, so that its reproductive organ can be inside the belly, to be suitable for receiving the sperm, grasping it, and keeping it in a hidden ‘stronghold’ (*ḥiṣn*), and [second], to nourish it and make it grow, until it becomes a human being.”

L6, ff. 165a-165b.

Although al-Kilānī sees a sexual symmetry of sorts between male and female, as noted in other entries,²³ including his comments on Aph. 5.48 discussed below, he notes the unequal distribution of heat in male and female bodies.²⁴ The degree of innate heat conferred on a body influences physical strength and performance, be it of the hands or the sexual organs. This influence also impacts many other attributes and qualities in a body,²⁵ since heat is essential to all functions in life. In describing the differences between the sexes resulting from heat or lack thereof, Ibn al-Quff frequently uses the phrase “without doubt,” presenting the overall superiority of the male as a medical truth patently obvious to all. It is even easier, he writes, to give birth to male babies than to female babies:

ولادة الذكر أسهل من ولادة الأنثى، وليس لهذا علة سوى أن الجبلى تجد من الذكر قوة حركة في سهولة الخروج... ولا شك أن الذكر أقوى شهوة وأجود هضمًا وأسرع إجابة للنمو وأعظم نبضاً ونفساً وشجاعة وإقداماً على الأهوال وأشد عصباً ونطشاً وأجود ذهنًا ورؤية وأكثر سهرًا وأقل نومًا من الأنثى من كل نوع... فإن من كان حار المزاج يابس به كان شعر بدنه أكثر زينةً وأغلظ قواماً وأسود لوناً وأسرع ثباتاً وأشد تقصفاً وأحسن ملمساً. ولا شك أن شعر الذكر من كل نوع ميله إلى ذلك أشد من ميل شعر الأنثى من ذلك النوع إلى ذلك.

“Giving birth to males is easier than giving birth to females, and this is for no other reason than that the pregnant woman finds that males move powerfully for an easy exit... Without doubt males have stronger desire, better digestion, more ready development, and greater pulse, breath, courage, and ability to face terrors, more vigorous nerves and constitution, and superior minds and vision, and greater ability to stay awake and to sleep less than females in every species... So if someone were of a warm dry mixture, the hair of his body would be more beautiful, of a thicker texture, of a black color, quicker to take root, harder to break,²⁶ and more pleasing to the touch. And without doubt male’s hair of every species tends to [these qualities] more strongly than female’s hair of that species tends towards [these qualities].”

Y, ff. 248b-249a.

23. In addition, (not quoted in this paper) al-kilānī (L6, f. 154b-155a) on Aph. 5.62, describes the anatomical correspondence of male and female sex organs, similarly inspired by Galen. For Galen’s view, see Galen, *Galen*, May (ed.), Book 14, section six, pp. 628-629.

24. For a brief overview of Ancient Greek conceptions of the body and modern gender theory, see King, *Hippocrates’ Woman*, pp. 7-12.

25. For a discussion of the significance of the doctrine of ‘innate heat’ in the Hippocratic Aphorisms, see Hippocrates, *Ceuvres*, Littré (ed.), vol. 4, pp. 406 and 427-430.

26. The Arabic here is unclear.

Ibn al-Quff writes, however, that nature has a purpose in designing women this way: “In order that (s)he²⁷ should be overcome with laziness and weakness so that she is suited to a sedentary existence and taking care of herself and raising children.”²⁸ But according to al-Kilānī, nature simply takes a greater interest in males, writing, “The blood that nourishes males is warmer than the blood that nourishes females because of nature’s taking an interest in his affairs.”²⁹

Despite these differences caused by heat or lack thereof, men and women are essentially the same, even anatomically, as described in al-Kilānī’s commentary (Aph. 5. 48):

وقيل إن الذكور والأنثى متساويان في هذه الآلات حتى لو توهمت أن أعضاء التناسل وحدها أرسام فقط في داخل الصفاق ثم إنها في وقت الولادة تبرز من الصفاق إلى الخارج حسب ما برز الجنين من الرحم، فكان المولود ذكراً، وإن بقيت داخل الصفاق وكملت هناك كان المولود أنثى إلا أنها في الأنثى لأنها تقع داخله أعظم مما في الذكور بكثير والبيضتان في الذكور أعظم منهما في الأنثى بكثير. فإن آلة الطبيعة في أفعالها هي الحرارة الغريزية، فحيث ما يكون الحار أكثر وأقوى كان فعل الطبيعة أتم وأكمل، وحيثما يكون الحار أقل كان فعل الطبيعة أنقص وأبعد عن الكمال، وتوفر الحار الغريزي يجعل الأعضاء تامة الخلقة بارزة ظاهرة كما تفعلها الضعيفة من الحرارة ناقصة كامة... فيكون تولد الذكور في الجانب الأيمن من الرحم أحرى وأجدر، وتولد الأنثى الباردة الرطب بالنسبة إلى الذكور في الجانب الأيسر منه أولى.

“It is said that males and females are equal in these organs to the point that if you imagined that the procreative parts on their own are only shaped inside the membrane, then at the moment of parturition, protrude outside the peritoneum just as the foetus protrudes from the womb [i.e. vagina?],³⁰ then the baby will be male, but if it remains inside the membrane and completes [its development] there, the baby will be female, except that they [sc. the sex organs], because they fall inside [the body], are much bigger than males’, while the eggs [i.e. testicles] in men are much bigger than those in women. Nature’s instrument of action is natural heat, so when heat is greater and stronger, nature’s action is fuller and more complete, and when heat is less, nature’s action is more lacking and farther from completion. The abundance of natural heat makes the body-parts completely formed, prominent, and apparent, just as weak [heat] makes those parts lacking and hidden... So males’ being generated in the right side of the womb is suitable and worthy, and females’, wet and cold in comparison to males, being generated in the left side is appropriate.”

L6, f. 162a.

27. Ibn al-Quff actually uses the masculine pronoun here because he is describing one of two “types” (صنف, a masculine word) of human being (sc. the warm and the cold of nature).

28. Y, f. 249a. ليغلب عليه الكسل والفشل لتصلح الملازمة المسكن وتديبر أمره وتربية الطفل.

29. L6, f. 162a. لا اهتمام الطبيعة في شأنه.

30. The word *rahim* can refer to either the womb or (euphemistically) the vagina.

Manly Women, Womanly Men

Thus, the relative temperature of the two sides of the womb (the right side being warmer due to the proximity of the liver) determines the sex and gender of the foetus at the moment of conception. Ursula Weisser noted the longevity of the left-right principle in the history of reproductive science,³¹ pointing to a two-fold interpretation; first, the reference to a difference in the sperm produced from the left and right side of the body and, second, an indication of the location in the womb.³² Galen writes that semen that comes from the (warmer) right side of the testicles and falls on the right side of the womb usually creates a male baby, and semen coming from and falling on the colder left side, a female baby.³³ This idea resonates in the Arabic commentaries, along with the notion that this moment of conception can also result in embryos with in-between genders and/or sexes, a rare occurrence, according to Galen.³⁴ In an interesting departure from Galenic thinking, al-Singārī, a relatively obscure physician who probably lived in the 12th century, suggests that these intermediate gender outcomes are actually rather common:

وقد ذكروا أنه ربما وقع المنى من الخصوة اليمنى في الجانب الأيسر فيكون مؤنثاً وربما وقع من الخصوة اليسرى في الجانب الأيمن، فيكون مذكراً إلا أنهما يكونا ناقصين³⁵ عن الذكورية والأنوثية، ولا يكون خلقهما تماماً فيميل الذكر منهما إلى الأنوثية ويميل منهما الأنثى إلى الذكورية وقد شوهد مثل ذلك كثيراً.

“They [sc. doctors?] mentioned that semen may fall from the right testicle into the left side [of the womb], and [the embryo] would then be female, and [the semen] may fall from the left testicle to the right side [of the womb], and [the embryo] would be male, except that they would be lacking masculinity and femininity and their creation would not be perfect, for the male would incline towards femininity and the female would incline towards masculinity. Such things have been witnessed many times.”

G, f. 93a.

Al-Kilānī also mentions the possibility of this occurrence in his commentaries:

وقيل جري مني الرجل من يمينه إلى يمين الرحم أذكر ومن اليسار إلى يساره أنثى، وإن جرى من اليمين إلى يسار الرحم كان ذكراً مؤنثاً وإن كان على العكس كانت أنثى مذكرة.

“And it is said that a flowing of man’s semen from his right side to the right side of the womb makes a male, and from the left to the left, a female. And if it flows from the right to the left of the womb it would be a womanly man, and if the opposite occurred, it would be a manly woman.”

31. Weisser, *Zwugung*, pp. 273-279; section on the longevity of the left-right theory, pp. 278-279.

32. Weisser, *Zwugung*, p. 274.

33. See Galen, *Galen*, May (ed.), p. 637.

34. See Galen, *Galen*, May (ed.), p. 638.

35. ناقصان] *correxi*: G ناقصين.

L6, f. 165b.

In his treatise on “the hidden illness” (*al-dā’ al-ḥafī*, i.e. *ubna*, or passive male homosexual intercourse),³⁶ al-Rāzī (d. 925), the famous physician, philosopher, and alchemist, attributes desire for such intercourse to the movement and interaction of both the male and the female semen during conception, and the resulting heat or coldness of the embryo conceived.³⁷ As Rosenthal puts it, “ar-Rāzī’s use of the word [*ubnah*] comes as close to describing genetic confusion of gender in general terms as can be expected from a man of the Middle Ages.”³⁸ Al-Rāzī’s theory is reliant on an understanding of conception in which both the male and female produce semen, which compete to determine the sex/gender of the baby, with a complete spectrum of masculinity and femininity possible as a result of the relative dominance/weakness of the two semens (a medical theory described more fully in the section below). This accounts for the existence of, for example, bearded women and hermaphrodites.³⁹ In the case of a feminine and effeminate man (*ta’nīṭ/taḥnīṭ*), al-Rāzī prescribes the warming and massaging of the penis and testicles (by attractive slaves),⁴⁰ and the cooling of the anus with pieces of ice.⁴¹ He also provides prescriptions of various pharmacological plants and spices.⁴² None of these treatments, it seems, would be of use if a predilection for passive male homosexual intercourse were not, as al-Rāzī suggests, a congenital medical affliction, but rather, as Ibn Sīnā (‘Avicenna,’ d. 1037) argues, a moral and psychological sickness.⁴³ Despite the fact that al-Rāzī, unlike Ibn Sīnā, appears to view the desire to engage in passive homosexual intercourse as a physical ailment resulting from the manner of conception, and not explicitly as a personal moral failing of one who engages in or desires to engage in such intercourse, he nevertheless feels enough shame in discussing this topic that he apologizes for mentioning it in the conclusion of his treatise.⁴⁴ *Ubna* may perhaps be classed with, for example, melancholy as a disease that involves both the body and the mind.⁴⁵ Indeed it seems that the medieval Arabic medical tradition takes a holistic view of such matters; just as the doctor is also a philosopher, the healthy patient is also the morally upright patient.

36. Franz Rosenthal based his article on this treatise on several manuscripts contained in the General Library in Rabat, Morocco, as he describes (p. 159).

37. Al-Rāzī’s treatise also contains a discussion of the infertility of the mule and the nature of its semen, a subject that also appears in the commentaries on the gynaecological aphorisms (see, e.g. G, f. 98a).

38. Rosenthal, “Ar-Rāzī,” p. 45.

39. Rosenthal, “Ar-Rāzī,” p. 54. See King, “Sex and Gender,” pp. 124-142 for a discussion on the way culture historically determines sex and gender identities.

40. *Al-riqāb* could refer to slaves of either sex.

41. Rosenthal, “Ar-Rāzī,” p. 57.

42. Rosenthal, “Ar-Rāzī,” pp. 57-60.

43. “Their disease is one of the imagination, not a physical one. Things that break the desire, such as worries, hunger, vigils, detention, and beatings constitute useful treatment,” trans. Rosenthal, “Ar-Rāzī,” p. 50. Ibn Sīnā further attributes this “disease” to the “soul’s downfall, a wicked nature, bad habits, and womanly constitution” (*al-Qānūn* 2, p. 549).

44. Rosenthal, “Ar-Rāzī,” p. 60.

45. For a useful overview of melancholy in this medical tradition see Rufus of Ephesus, *On Melancholy*, Pormann (ed.).

In medical descriptions of bodies or behaviors that fall between the masculine and the feminine, the balance between shame and matter-of-factness reflects a conflict in the various societies in which these medical discussions took place. As for active homosexuality, in medieval Arabic literature, as in ancient Greek literature, the desire to penetrate sexually attractive young men (or boys) is treated as normal, while the desire to be penetrated (passive homosexuality) is mocked as perverse. But as James Davidson demonstrates in his lengthy and detailed *The Greeks and Greek Love*, any attempt to represent these sexual relationships as a mere dichotomy of, for example, penetrator and penetrated would be an egregious oversimplification of a complex and varied phenomenon. A full exploration of this phenomenon certainly has no place in this short study.

Although it is difficult to judge moral and social standards based on works of literary *muğūn* intended to shock and entertain,⁴⁶ effeminate men or crossdressers (*muḥannaṭūn*, defined by Ibn Ḥabīb (d. 238/852) as “effeminate” (*mu’annaṭ*) men,⁴⁷ were regularly found in medieval Arabic literature and society performing in what may be called the entertainment industry. This phenomenon occurs in texts from a range of genres and registers, taken from a period of many centuries. Dressed as women, the *muḥannaṭūn* would sing and tell jokes, and though they were sometimes persecuted and frequently mocked, they appear to have been an institution already during the prophet Muḥammad’s time, as described by Everett Rowson in “The Effeminate of Early Medina”. As for the mockery they receive in satirical literature, it is not at all clear that this mockery exceeds that received by women.

The word *mu’annaṭ* (“feminine”), used to describe men who, for some reason stemming back to their conception, fall closer to the feminine in the hot/cold spectrum of gender, is also used as an insult in satirical literature. For example, the encyclopedically insulting party-crasher Abū al-Qāsim taunts a fellow diner by saying, “O cross-dresser, O feminine, O polluted, O drum-player, O dance-drummer, O tambourine-player” (these last likely refer to the effeminate musical performers described above).⁴⁸ Likewise the relatively common insult of *bazrā’*, literally “big-clitted” (with the additional meaning of having an un-cut clitoris), may stem from perceptions of the relative anatomy of men and women. Their sexual organs are the same, as described in the passages cited above, but because of the relative heat and coldness of their bodies, the female organs should tend towards the inside of the body and the male organs to the outside. For a woman, to have a large clitoris would suggest that she had a warmer body, and consequently a more masculine form. Although the masculine is conceived as superior, the failure of the woman’s body to reflect a medical (and consequently moral?)⁴⁹ vision of the feminine is an invitation to satire, as is a *mu’annaṭ* man’s falling short of the fully masculine.

46. Rowson has devoted considerable scholarly attention to the question of homosexuality and cases of blurred gender, and provides a useful overview of how one might use literary sources when discussing the social and historical occurrence of these phenomena in the beginning of his article “The Categorization of Gender”, pp. 50-53. See Szombathy, *Mujūn*, for an introduction to this playfully obscene style of literature.

47. Rowson, “The Effeminate,” p. 675.

48. يا مدقف، يا مؤت، يا مؤت، يا ملوث، يا مطبل، يا مكرع، يا مدقف: al-Azdī, *Hikāyat Abī al-Qāsim*, p. 352.

49. This insult carries the implication that the woman described is sexually ravenous.

The clitoris itself is notably absent from these medical discussions; we have found no mention of it in commentaries on the Hippocratic gynaecological aphorisms. Ibn Sīnā's famous medical work *al-Qānūn fī al-ṭibb*, in describing signs that women are of a warmer nature, mentions only a lessening of menstruation, a hairy pubic region, and eruptions and ulcers in the womb/vagina.⁵⁰ His otherwise exhaustive anatomy of the vagina/womb does not initially include the clitoris, and he compares the penis not to the clitoris but to the "neck of the womb" (i.e., the vagina).⁵¹ However, among the many reasons that a woman may tend towards infertility, he includes an "excess of obstructive flesh" in the womb/vagina.⁵² In a brief later section on "excess flesh, the long clitoris, and the appearance of something like a penis [on the vagina]), he prescribes cutting (*qaṭ'*) as a 'treatment' for long clitorises".⁵³ He cites Galen and other ancient Greek doctors in saying that the flesh around the vagina extends in the summer and contracts in the winter, again implicitly associating the protuberance of the genitals with heat. As for female genital mutilation, these discussions, like virtually all of the medical topics discussed in this present study, have roots in ancient Greek texts and practices.⁵⁴

A Seminal Matter

Ancient greek philosophers noted how offspring could resemble both parents, an observation which stimulated an inquiry into the true nature of the female contribution to the embryo. Did the mother simply provide a vessel (her womb) in which the male seed would grow, or did she also contribute female semen to the embryo? The writer of the Hippocratic treatise *On Generation*, says that male and female seed (*gónos*) exists in men and women.⁵⁵ This idea also appears in the Hippocratic treatise *Regimen* in an embryological theory in which various combinations of male and female secretions are given to producing different kinds of men and women. These include effeminate men (*androgynoi*) and women who are 'manly' (*andreiiai*).⁵⁶

Galen, as noted above, further developed the idea of female seed in conjunction with the female 'testicles' (ovaries). This marked a dramatic departure from the Hippocratic gynaecological tradition that makes no mention of these organs, discovered by the Greek anatomist, Herophilus (b. c.335 BC).⁵⁷

50. Ibn Sīnā, *al-Qānūn* 2, p. 562.

51. Ibn Sīnā, *al-Qānūn* 2, p. 555.

52. Ibn Sīnā, *al-Qānūn* 2, p. 563.

53. Ibn Sīnā, *al-Qānūn* 2, p. 603.

54. See Paulus Aeginata, *Seven Books*, Book VI, section LXX, pp. 381-382.

55. Hippocrates, *Œuvres*, Littré (ed.), vol. 7, lines 1-2, pp. 478-479.

56. Hippocrates, *Hippocrates*, Jones (ed.), *On Regimen* 1, XXVIII, pp. 266-269. See also King, *Hippocrates' Woman*, p. 9.

57. For more on the understanding of the ovaries in the Greek medical tradition, and Herophilus, see King, *Hippocrates' Woman*, pp. 38, 140, 182.

The issue of female seed put Galen at loggerheads with Aristotle,⁵⁸ a controversy described in great detail in Galen's *On Semen*. Aristotle maintained that the body of the female was, unlike that of the male, incapable of concocting semen from blood, lacking the necessary heat.⁵⁹ The female contribution to generation was menstrual blood,⁶⁰ not seed, the latter a substance Aristotle determined only a male body could produce.⁶¹ In opposition to this, Galen, reasoning that nature does nothing in vain, said that women have 'testicles' for a purpose. This, said Galen, included the production of a watery semen to incite the woman to sexual pleasure.⁶² The female semen also contributed to the forming of the allantoic membrane, used to filter waste from the embryo, and it was able to coat parts of the womb that the male semen could not reach.⁶³

In the Arabic commentaries, although women often are described as being anatomically equal (having all the same sexual organs as men), it is not universally agreed that their semen plays a role in reproduction. There are differing degrees of disagreement on this point, from al-Kilānī's analogy, in which the difference is rather subtle: "The embryo is formed from the male semen like cheese from rennet, and from the female semen like cheese from milk",⁶⁴ to the argument that female semen is only a means to stimulate sexual desire, and plays no role in the formation of the embryo except for its propelling of the menstrual blood, which does play a role. This is argued by Ibn Abī Šādiq (d. after 1068), in response to al-Rāzī's assertion that the two semens vied for the upper position in creating the embryo, just as two substances used in an alchemical experiment produce different results when one is poured on the other, and *vice versa*.⁶⁵

58. For an overview of the salient points in Galenic and Aristotelian conception theory, see Preus, "Galen's Criticism."

59. GA, 765b, Book IV, ch. 1, pp. 385-389.

60. GA, 727b, Book 1, ch. 20, p. 101.

61. GA, 765b, Book IV, ch. 1, p. 385.

62. Galen, *De Semine*, p. 153.

63. Galen, *De Semine*, p. 175.

64. L6, f. 162b.

إن الجنين يتكون من مني الذكر كما يتكون الجنين عن الأنفحة ويتكون من مني الأنثى كما يتكون الجنين عن اللبن.

65. "... He [al-Rāzī] said, "The flowing of fluids one on top of another results in many different things, for I have known a medicine which, when poured on another medicine, generates something like milk in its white colour, although if the second is poured on the first, it is like ink. This is for no other reason than that it makes the low high and the high low'.

... His saying that one of the two [seeds] at one time or another will be high and the other low is meaningless, and he only commits this error because he thinks that creation is brought about by the two semens, and he did not know that the power of semen in a woman is its power over the menstrual blood. For if there were no fertilizing blood, there would be no use for her semen. The semen [of a woman] is only needed for her desire for intercourse, but when it is expelled, the womb-nature [*al-ṭabī'a al-raḥimiyya*] wakes up to propel the fertilising blood to the womb to join with the masculine semen, and from this creation is achieved," H, ff. 71a-71b, ed. & tr. ARABCOMMAPH.

Ibn al-Quff explains the contested issue of male and female seed in response to a lemma that concerns the importance of protecting the foetus of a pregnant woman needing medication “if the humours in her body are turbulent”.⁶⁶ Ibn al-Quff opens his entry (Aph. 4.1) by saying:

البحث الأول في المنى. المنى رطوبة بيضاء تتولد في الهضم الرابع ولها صفات خمس أحدها بياض اللون كما ذكرنا وذلك لتولدها في لحم غددي وثانيها لزوجة القوام وذلك لشدة طبخه وانعقاده بالحرارة الغريزية وذلك صار البرد يذيبه وثالثها أن فيه قوة عاقدة ورابعها أن يحصل منه لذة عند جريانه على عضو مخصوص وخامسها أن تكون رائحته تشبه رائحة الطلع فهذه صفات المنى ومن هذا يعلم هل للمرأة منى أم لا...

“The first inquiry is on semen. Semen is a white moisture that is generated in the fourth digestion and has five properties; first, it is white in colour, as we mentioned, and that is because it is generated in glandular flesh; second, it is of a viscous consistency, and that is due to its strong coction and its coagulation by innate heat, which is why cold starts to dissolve it; third, it has the power to coagulate; fourth, pleasure is produced by it when it flows to a specific part; fifth, its smell resembles the fragrance of pollen. These then are the properties of semen, and from this it can be known whether women have semen or not...”

Th4, f. 2b.

Ibn al-Quff’s opening comments detail the constituent parts of semen. He then reasons that if the moisture of women requires all the properties mentioned in order to be termed ‘semen’, then women do not have semen. If, however, the female moisture needs some, not all, of these properties to qualify for the appellation ‘semen’, then women do have it.

In his second inquiry, Ibn al-Quff comments on the provenance of semen in the body.⁶⁷ He then returns to the theme of whether women have semen, sifting the evidence at his disposal:

البحث الثالث: هل للمرأة منى كما للرجل؟ هذا الأمر فيه خلاف بين أرسطو وجالينوس فإن أرسطو ينكره، وجالينوس يثبت. وقد طال الكلام بينهما في هذه المسألة ونحن قد حررناها في شرحنا لكليات القانون والذي يليق ذكره منها في هذا الموضوع أن أرسطو لم ير له دليلاً في هذا الباب بل قال إن لها دم الطمث فقط. وأما جالينوس فقد ذكر في هذا وجوه ثلاثة، أحدها أنه وجد وعاء المنى في بعض النساء التي شرح أرحامهن فيه رطوبة منوية قال إلا أنه أرطب من منى الذكر وثانيها أن النساء يحتلمن ويرقن منياً ويلتذدن به وثالثها أنه كان ببعض النساء اختناق الرحم لطول عزوبتها ثم استفرغت منياً كثيراً وحصل لها من ذلك لذة عظيمة كلذة الجماع وصحت مما بها. واعلم أن الخلاف في هذه المسألة خلاف لفظي فإنه إن أريد بالمنى على ما عرفت ما اجتمعت فيه الصفات المذكورة لم يجز أن تسمى تلك الرطوبة منياً وإن أريد به ما حصل بعضها فيه جاز تسميته بالمنى، والله أعلم.

“Third inquiry: Does a woman have semen similar to that of a man? On this matter there is disagreement between Aristotle and Galen, because Aristotle rejects it and Galen confirms it. The dispute between the two of them on this issue has gone on for a long time and we wrote about it in our commentary on *The Generalities of the Canon*. The thing that is worth mentioning here, is that

66. Aph 4.1, Th4 f. 2b. إذا كانت الأخلاط في بدنها هائجة

67. The first and third sections only are quoted here.

Aristotle did not show any evidence in this matter, but said that ‘she only has menstrual blood’. Galen mentioned three points on this; first, that he found a semen vessel in some women whose wombs he had dissected,⁶⁸ in which there was a semen-like moisture (he said), except that it was more moist than the male semen; second, women have nocturnal ejaculations and eject semen and derive pleasure from it; third, there was a woman with ‘suffocation of the womb’ (*iḥtināq al-raḥim*), due to being celibate for a long time, [who] then ejaculated a great deal of semen and she derived great pleasure from this, rather like the pleasure from sex, and she recovered from it.⁶⁹ Know that the disagreement on this issue is a dispute about terms; so, if what is meant by semen, as you know, is that which combines all the properties mentioned, then it is not permitted to call that moisture ‘semen’; if what is meant by it is something which possesses some of them [i.e. the properties], it is permitted to call it semen. God knows best.”

Th4, f. 3b.

In this entry, Ibn al-Quff nicely captures the essence of the great rift between Galen and Aristotle on the male and female contribution to the embryo. It is a reminder of how strongly the ancient Greek philosophical debates on reproduction and embryology outlined above continued to influence Arab medieval scientists and physicians in their own inquiries into human generation.

Ibn al-Quff’s reference to “suffocation of the womb” refers to a disease linked to seed that is trapped in the female body. The existence of this illness is a notion that was also translated from Greek medical works into Arabic.⁷⁰ Ibn al-Quff, describing the condition, notes that female sexual pleasure is linked to the release of the female moisture. The existence of a sexual emission from women is not in doubt for Ibn al-Quff, who considers its release to be of therapeutic value.

Galen had taught that ‘suffocation of the womb’ resulted not only from retained ‘seed’ but also from retained menses.⁷¹ The pathological consequences of these noxious materials accumulating in the female body are described by al-Kilānī in his vivid account of ‘suffocation of the womb’:

إذا كانت بالمرأة علة الأرحام أو عسر ولادها فأصابها عطاس فذلك محمود.

“If a woman suffers from an illness of the womb, or a difficult birth, then a bout of sneezing is a good thing.”

68. Galen did not do human dissection, so it would appear that Ibn al-Quff is relating a passage where Galen speaks about comparative anatomy conducted on female animals and refers to the results of human dissections conducted by Herophilus; see e.g. Galen, “On the Anatomy of the Uterus,” pp. 77, 81.

69. For a similar account of nocturnal emissions and the widow voiding excess semen, see Galen, *De Semine*, pp. 150-151; Galen uses the term νοσήματα ὑστερικά, p. 151 line 6, rendered as ‘hysterical diseases’ by De Lacy, p. 151, line 7.

70. For more on the mobile womb in ancient Greek thought, see Dean-Jones, *Women’s Bodies*, pp. 69-71; King, *Hippocrates’ Woman*, ch. 11 on the ‘hysteria’ tradition, pp. 204-206.

71. See Pormann, *The Oriental Tradition*, pp. 29-31; here is an account of ‘suffocation of the womb’ by the Syriac author Ibn Sarābiyūn (9th cent.) that is preserved in Arabic.

يعني لو احتبس طمث المرأة بسبب الأخلاط الغليظة اللزجة اللحجة⁷¹ على فوهات عروق الرحم أو عرض لها اختناق الرحم بسبب كثرة المنى وتراكمه واجتماعه في الرحم فيغمر الحرارة الغريزية ويطفئها ويستحيل إلى كيفية سمية فيتقلص ويتشنج الرحم منه ويرتفع منه بخار رديء سمي ويصل إلى القلب والدماغ فيحدث هذه العلة، أو بسبب احتباس دم الطمث إذا طال به الزمان وكثر في الرحم فيعرض منه ما يعرض من المنى. فالعطاس ينفع هذه العلة بسبب هزة وتحريكه الرحم لأنه ينفذ ما لصق به ويقلع ما لثق بالعنف والحركة إلى أسفل بالقوة ويعين على إخراج الجنين⁷².

“This means if the menses of a woman are retained, due to thick viscous humours stuck on the mouths of the vessels of the womb, or if she is afflicted by ‘suffocation of the womb’ because of a lot of semen accumulating and collecting in the womb, this douses the innate heat, extinguishing it; the semen turns into a poisonous quality, the womb contracts and convulses because of this and a bad toxic vapour rises from it, reaching the heart and brain and causing this illness; or, if retention of menstrual blood persists and builds up in the womb the same thing happens as happens in the case of the semen. A sneeze benefits these maladies as it jolts and moves the womb, violently dislodging what has adhered to it with the force and the downward movement, helping to expel the foetus.”

L6, f. 165b, lines 8-13-f. 166a, lines 1-3.

Al-Kilānī’s entry is a reminder of the pernicious consequences that may attend a woman’s constitution if her menses are retained or if she abstains from sex. Evil vapours⁷⁴ will rise from the trapped menstrual blood or the female seed stagnating in her body, wreaking havoc on her heart and brain.

Menstruation: What is it Good For?

As with semen, commentators clash over the function of menstrual blood. Ibn al-Quff writes that menstrual blood is the “lowest” or “basest” (الأسفل) of all the body’s waste products during his discussion of the disease gout.⁷⁵ This is a disease that was thought to result from the overproduction of blood due to the heat produced by excessive eating and drinking, and also from having too much sex, which enervates the limbs. Aphorism 6.29 states that women get gout only if they stop getting their periods. According to Hippocrates, normally women do not get gout, nor do eunuchs, who, like women, have colder bodies. But Ibn al-Quff, echoing Galen, writes that women in his day now do get gout because of their laziness and overindulgence. These faults overtax women’s periods, which are intended to flush out the impurities accumulated in the female body:

72. See Ullman, *Wörterbuch Band (Lām)*, *lahiḡa* – to get stuck, p. 276 (and pp. 276-279).

73. Aph. 5.39, L6, f. 166b.

74. For an overview of uterine suffocation in the Arabic tradition, see King, *Hippocrates’ Woman*, pp. 238-241; King identifies vapours as ‘a new explanatory device’ in selected Arabic accounts of conditions in which the womb affects other parts of the body, p. 241.

75. Compare to al-Kilānī’s assertion that “original moisture” (الرطوبة الأصلية), which comes from the natural heat in which woman are naturally deficient, is the “most noble of the humors” (أشرف الأخلاط), L6, f. 142a. Ibn al-Quff writes elsewhere that blood (also generated by heat) is the noblest of the humors, Th4, 151b.

وإنما كان ذلك حقاً في ذلك الزمان لقلّة الخطأ الذي كان تخطئه النساء في الزمان المتقدّم. وأمّا في هذا الزمان فلعظم الخطأ الذي تخطئه على أنفسهنّ قد يعرض لبعضهنّ النقرس من غير أن يكون الطمث انقطع عنهنّ، وذلك يعرض للكثير منهنّ إذا انتقص الطمث وللقليل منهنّ والطمث معتدل.

“That [i.e. that women do not get gout unless their periods stop] was true only in those days because of how few errors women committed in former times. In this present time, because of the magnitude of the mistakes that they commit to their own harm, gout occurs in some of them without menstruation having stopped. This [i.e. gout] happens to a lot of them if menstruation is inadequate, and to a few of them if it is moderate.”

E5, 57B.

Ibn al-Quff notes that well behaved women did not get gout “in the good old days”. The remarkable persistence of the trope that things were better and people better behaved in the past is demonstrated by Galen’s nostalgia for the days of Hippocrates, echoed by the Arabic commentators who wrote centuries later, looking back at Galen’s time.⁷⁶ Ibn al-Quff adds:

إذا كان طمثها جارياً على عادته نقي بدنهما من فضلات لأنه فضل بدنهما وذلك لأنها لما كانت كثيرة السكون والدعة سيئة التدبير كانت فضلات بدنهما متوفرة فاحتاجت الطبيعة أن تدفعها، ولذلك لما كانت نساء البادية والبر كثيرات الحركة قلّ مقدار دم طمثهن. فإن انقطع احتبست تلك الفضلات واحتدت باحتقانها وتعفنوا وانصب شيء منها إلى مفصل إبهام الرجل وحصل فيه المرض المذكور، ولذلك لأن هذا الفضل أسفل جميع مفاصل البدن فإن كان انقطاعه لأجل السن كان حدوث ذلك أكثر.

“If a woman’s menstruation is flowing normally, it purifies her body of waste products, because it is a waste product of her body. For when she is very sedentary and languid with a bad diet, her body’s waste products would be abundant, and nature would need to expel them. For that reason when bedouin and desert women move a lot, they menstruate little. When [menstruation] stops, those waste products are blocked and become pungent due to their blockage, and become corrupted, and some of this flows to the joints of the big toe of the foot so that the aforementioned disease occurs. Therefore, because this waste product [i.e. menstruation] is the lowest of all the waste products of the body, if it stopped because of age [i.e. menopause], [gout] occurs more often...”

Th4, ff. 255b-256a.

The adjective *al-asfal* (“lowest” or “basest”) here is both a physical description and a value judgement. Laziness and bad diet increase this base excretion, which tends to flow down in the body. The body, understood as a microcosm, is divided into parts described in terms of “high” and “low”, or “noble” or “base”, and “hidden” or “apparent”. Those assignments reflect the body’s mirroring of the universe with all its similarly high and low qualities.⁷⁷

76. In Arabic this trope is called *fasād al-zamān*, “the rottenness of the age.”

77. The philosophical concept of man-as-microcosm is found in many different contexts, from many different cultures, over the course of many centuries. Its application to medical discussions (both in ancient Greek and

‘Abd al-Laṭīf al-Baġdādī (d. 1231), both physician and philosopher, wrote a brief commentary on this aphorism that is similar to Ibn al-Quff’s, but which adds that women’s bodies are the opposite of men’s bodies in that their lower members are greater than their higher members, and women’s brains are weak and therefore deficient in intelligence:

... وأما في زمننا هذا فإنه يعرض لهن النقرس مع وجود الطمث لكثرة خطأهن. وأدمغة النساء ضعيفة، ولذلك تضعف عقولهن والأعضاء السفلية منهن كبار أكبر من الأعالي بخلاف الحال في الرجال، فما يصير إليها من الفضل مع كثرة يحتاج إليه في التغذي به.

“... At the present time, gout does occur in [women] even when menstruation is present, because they make so many mistakes. Women’s brains are weak and therefore their intellects are weak. Their lower parts are big, bigger than their higher [parts], unlike the case in men. So the waste products found in [the lower parts of women], even given [these waste products’] abundance, are needed to nourish [the large lower parts].”

CB1, f. 100.

This is meant to show that women’s lower parts, being larger, do not get overwhelmed with excess fluids as easily, and consequently do not usually get gout. The reference to their deficient intelligence is seemingly extraneous to the central argument, and yet reflects the value judgements implicit in the rest of the discussion.

The belief that the purpose of menstruation was to purge the corrupted excesses of the female body was widespread, and it seems impossible to Ibn al-Quff that such a base product could play a role in the formation and growth of the embryo. In defining menstrual blood (*al-ṭamṭ*) he says:

... لا ما يغذو الجنين ولا ما يصعد إلى الثديين لأن دم الطمث فضلة بدن المرأة وهو من الفضلات التي لم ينتفع بها في التغذية كالبراز والبول. فإنه لا ينتفع بهما إلا نادراً، ودم الطمث لا ينتفع به إلا في وقت خروج الجنين. ولذلك اشتق له اسم من النجاسة، فسُمي طمئاً. ودم يكون حاله كذلك كيف يجوز أن يقال إنه يغذي بدنناً...

“... [It is] not what nourishes the embryo nor what rises to the breasts, because menstrual blood is a waste product of the female body, and it is one of the waste products that is not useful at all for nourishment, like feces and urine, which are hardly ever useful for nourishment. Menstrual blood is only useful when the embryo emerges. Therefore [menstruation’s] name is derived from its impurity [*al-naġāsa*], and it is called *ṭamṭ*. How can blood like that be said to nourish the body?”...

Y, f. 238b.

classical Arabic) is only one of its many uses. For an overview of some of the manifestations of this theory, see Conger, *Theories of Macrocosms*.

ṭ-m-ṭ is a root associated with filth and impurity, as well as the blood of deflowered virgins, another type of female blood that has both medical and moral significance.⁷⁸ The idea that menstrual blood was a noxious, filthy waste substance and yet it formed the basis of human milk and nutrition for the baby was unsettling to some physicians. The nub of the issue was, how could a maligned waste material also provide adequate nutrition for a growing foetus and a newborn baby?⁷⁹ The physiological link between menstruation and lactation had a scientific explanation in a three-fold typology assigned to menstrual blood during pregnancy;⁸⁰ the higher quality blood flows to the womb to feed the foetus, the medium grade is channelled to the breast to form milk, and the dregs are expelled at birth. Frequent recourse to this explanatory model is made by the authors of the Arabic commentaries.⁸¹ A shared system of vessels between the uterus and the breast that enables blood to flow up and down the female body allows the necessary chemistry to take place.⁸² The physiological link between menstrual blood and breast milk is underlined by Ibn al-Nafis, the Muslim physician (d. 1288), in his commentary:

من شأن الثدي توليد اللبن، إذا حصل فيه دمٌّ زائدٌ على غذائه. وذلك قد يكون من غير دم الطمث كما يدر لبعض الرجال لبن، وهو نادر، وفي الأكثر إنما يكون من دم الحيض. أما في حال الحمل، فكما قلناه، أو بعد ذلك، كما في مدة الرضاع، أو في غير هذين الوقتين، فيكون ذلك منذراً بانقطاع دم الطمث، أو لقلته، وذلك هو المراد بقوله فطمثها قد ارتفع.

“It is the business of the breast to generate milk, if blood surplus to its nourishment reaches it. That sometimes takes place without ‘menstrual blood (*dam al-ṭamt*)’, as when milk flows to some men, which is rare. Mostly, it is created from ‘menstrual blood (*dam al-ḥayḍ*)’. As regarding the state of pregnancy, as we said, or after that, such as in the period of breast-feeding, or at times other than these, then that is a warning of a ‘cessation of the blood of menses (*ṭamt*)’, or its small quantity, and that is the meaning of his [i.e. Hippocrates] saying ‘then the menses have withdrawn.’”

Hippocrates, *Ṣarḥ*, Zaydān, ‘Abd al-Qādir (eds.), p. 383.

Here, breast milk is linked, in the main, to the female reproductive physiology that is associated with menstruation and pregnancy. However, Aristotle had said men lactate, albeit rarely,⁸³ and Ibn al-Nafis refers to the same phenomenon above. The idea that a male body

78. See e.g. Hava, *Arabic English Dictionary*, p. 438: “Menses Filth, dirt. طمث” (sic). Steingass, *A Learner’s Arabic-English Dictionary*, p. 644: “menses; dirt, impurity, pollution; vice.” Ibn Manẓūr, Lane, and Wehr also associated it with the blood of a deflowered virgin.

79. For a discussion on this in the context of Jewish medieval medicine, see Barkaï, *Les infortunes*, pp. 47-57.

80. The typology is rooted in Aristotelian and Hippocratic physiology. For a discussion of this, see e.g. Dean-Jones, *Women’s Bodies*, pp. 219-222. See also Ibn Sīnā, *al-Qānūn*, 2, p. 559, lines 13-14.

81. See e.g. Aph. 5.39, G, f. 90 a.

82. For more on the link between the womb and breasts in ancient Greek medical conceptions of anatomy, see King, *Hippocrates’ Woman*, pp. 34-35, and Dean-Jones, *Women’s Bodies*, pp. 215-217.

83. *HA*, 522a, 11-21, Books I-III, transl. p. 227; for this citation and a discussion on male lactation in Aristotle, see Dean-Jones, *Women’s Bodies*, pp. 216-217.

might be capable of generating the same nutritive material as a female body nods in the direction of a more syncretic interpretation of physiology where the difference between male and female bodies is not so clear.

Conclusion

This paper has revealed some of the ideas on women and gender that are distilled in the Arabic commentaries on the Hippocratic Aphorisms, ideas that resonate in non-medical genres of classical Arabic literature. Women are clearly inferior beings according to these male medical authorities. For example, no woman can use her left hand as well as her right one, mainly due to a lack of innate heat and an overall weakness.

However, al-Kilānī and others show a strong interest in the possible equivalence of the sexual anatomy of men and women, though due to the female's deficiency in heat, the female genitals are internalised, as opposed to those of the male, which are prominent and fully formed. Galen promotes the female gonads and is intent on assigning them a real job, that of producing a female semen with some agency. These female 'testicles' (ovaries) are mentioned by the Arabic authors in their discussions of the female seed or semen, a substance which is perceived to be less robust than that of the male. Ibn al-Quff is interested in the precise status of the female semen, and after much deliberation, decides that it is not of the same calibre as male seed. Ibn Abī Šādiq assigns the female seed the functional role of facilitating sexual desire and performance, even if there is some confusion about its precise role in procreation. With a shift in focus on the same theme, al-Kilānī and Ibn al-Quff see the health risks of female seed that is not expelled. If it is left to accumulate inside the body, this substance may cause 'suffocation of the womb'. Menstruation is treated with a certain amount of disgust by some commentators, although it is recognised as necessary to evacuate noxious matters prevalent in female bodies. Lactation, connected to menstruation, is, as Ibn al-Nafīs points out, not exclusively female business; male breasts sometimes produce milk too.

The border between male and female physique and physiology is, indeed, quite porous in these comments.⁸⁴ For al-Kilānī and al-Singārī, 'manly women' and 'womanly men' are generated when paternal seed from the right or left testicle ends up on the left or right side of the womb respectively. The reference to hermaphroditism and Ibn al-Quff's surgical technique for treating this "disease" serves as a reminder that not all bodies conform to a strict binary division of male and female sexual identity. The effeminate men and cross-dressers found in literary texts further attest to a more complex body culture that resists clear polarised gender definitions. This complexity (and confusion) is reflected in the numerous conception theories expounded by the Arabic scientists, a sample only of which are discussed in this paper.⁸⁵

84. For a discussion on sex difference and gender in medieval Islam, see Gadelrab, "Discourses on Sex Differences."

85. For a more thorough discussion of conception theory in medieval Arabic medicine see Weisser, *Zwugung*, pp. 145-149. Entries in the commentaries on Arab medicine often foreground the uterus and paternal seed

Finally, it is often impossible to separate medical discussions of the human body from cultural and moral assumptions, many of which are passed down by tradition. Centuries of Arabic commentaries on the Hippocratic Aphorisms preserve, develop, and challenge ancient medical beliefs and practices, especially of the Greeks, and of Galen. These commentaries, currently surviving mostly in manuscripts, are being transcribed and shared by the Arabic Commentaries on the Hippocratic Aphorism project. By providing a sample of some of the controversies and resonances of these discussions as they pertain to one topic (the differences between the sexes/genders), and by exploring similar issues in non-medical literature, this paper aims to demonstrate the potential importance of these texts for scholars from a wide range of disciplines.

as main influences on the gender of the foetus, sidelining the female seed, as noted by Ursula Weisser. Of particular note in the Arab tradition which departs somewhat from Galenic conception theory is a more complex inter-sex theory of gender determination developed by al-Baladī (10th cent.) as described in detail by Weisser. This theory is loosely predicated on the Left-right paradigm posited by Galen in which male babies were aligned with the warmer right side of the womb and females with the left. However, whereas Galen interpreted the Left-right theory with an emphasis on the heat and cold of the uterine cavities which determined gender outcomes, al-Baladī introduces a greater set of variables that can affect the gender of the child. His theory accommodates a highly schematic typology of body types deviating from a male standard. The theory, as Weisser notes, resonates with the embryology theory outlined in the Hippocratic work, *Regimen*, discussed below. Of particular note, as Weisser states, is that al-Baladī's typology embraces more factors than the Greek theory outlined in *Regimen*, a theory Weisser claims al-Baladī was unaware of as the work was not translated into Arabic.

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Abbreviations

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- E5: Galen, *Tafsīr Ġālīnūs li-Fuṣūl Buqrāt*, Ḥunayn ibn Ishāq (trans.), Escorial, Madrid, MS árabe 789.
- G: al-Singārī, ‘Alī ibn Abī Ṭāhir, *Kitāb taysīr al-wuṣūl ilā tafsīr al-Fuṣūl li-Abuqrāt*, Fondation Salem, Aleppo, MS Ar. 1037.
- GA: Aristotle, *Generation of Animals*, Arthur Leslie Peck (trans.), Loeb, Harvard University Press, Cambridge, Mass., 1943.
- H: Ibn Abī Šādiq, *Šarḥ Fuṣūl Abuqrāt*, Houghton Library, Harvard, MS Arab SM4272.
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- L6: al-Kilānī, Ibn al-Qāsim, [Untitled], The British Library, Oriental MS Or. 5939.
- S4: al-Siwāsī, ‘Abdallāh ibn ‘Abd al-‘Azīz ibn Mūsā, *Umdat al-fuḥūl fī Šarḥ al-Fuṣūl Abuqrāt*, Süleymaniye Kütüphanesi, Istanbul, Şehid Ali Paşa, MS 2045.
- Th4: Ibn al-Quff, Ya‘qūb b. Ishāq, *Šarḥ Fuṣūl Buqrāt*, Gotha, Landesbibliothek MSS 1895.
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