

## IBN AL-JAZZĀR ON WOMEN'S DISEASES AND THEIR TREATMENT

by

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Abū Ja'far Aḥmad b. Abī Khālid Ibn al-Jazzār, born in Qayrawān, the medieval capital of Tunisia, hailed from a family of physicians.<sup>1</sup> His father Ibrāhīm was a doctor, as was his paternal uncle Abū Bakr. He studied with the famous Jewish philosopher and physician Ishāq b. Sulaymān al-Isrā'īlī (c. 243/855–343/955),<sup>2</sup> who had been a student of Ishāq ibn 'Imrān (d. 296/908),<sup>3</sup> and who at the age of fifty emigrated from Egypt to Qayrawān, where he was appointed court physician by the Fāṭimid caliph 'Ubaydallāh al-Mahdī. Ibn al-Jazzār led an austere life, devoting himself to the study and practice of medicine. Every summer he used to travel to al-Munastīr on the Mediterranean coast where he would stay in a famous Sufi-cell. Unlike many of his colleagues, he did not look for a position, at one of the princely courts. As part of his medical practice he received and examined his patients during the hours of consultation, and analysed their urine. His servant Rashīq would then administer to them the required medicines, free of charge. When he died in 980, well over eighty years old, he left 24,000 dīnārs and twenty-five qintārs<sup>4</sup> weight of books on medicine and other subjects.

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<sup>1</sup> On his biographical data and works see Ibn Juljul, *Ṭabaqāt al-aṭibbā' wa al-ḥukamā'*, ed. F. Sayyid, Cairo, 1955, pp. 88–91; Ibn Abī Uṣaybi'a, *'Uyūn al-anbā' fī ṭabaqāt al-aṭibbā'*, Beirut, n.p., n.d., pp. 481–2; Carl Brockelmann, *Geschichte der arabischen Literatur*, 2, den Supplement-bänden angepasste Auflage, Bd. 1, 2, and Supp. Bd. 1–3, Leiden, E. J. Brill, 1937–1949, GI, 238, SI, 424; A. Chérif, 'Histoire de la médecine arabe en Tunisie' (Diss.), Bordeaux University 1908, pp. 53–70; Manfred Ullmann, *Die Medizin im Islam* (Handbuch der Orientalistik I, Ergänzungsband VI, 1), Leiden and Köln, E. J. Brill, 1970, pp. 147–9; *idem*, *Die Natur- und Geheimpwissenschaften im Islam* (Handbuch der Orientalistik I, Ergänzungsband VI, 2), Leiden, E. J. Brill, 1972, p. 25, n. 5; Fuat Sezgin, *Geschichte des arabischen Schrifttums*, Band III: *Medizin—Pharmazie—Zoologie—Tierheilkunde bis ca. 430 H.*, Leiden, E. J. Brill, 1970, pp. 304–7; *The Encyclopaedia of Islam*, new ed., Leiden and London, E. J. Brill, 1960 (hereafter *Encyclopaedia*), vol. 3, p. 754., s.v. 'Ibn al-Djazzār' (H. R. Idris); Michael W. Dols (transl.), *Medieval Islamic Medicine. Ibn Riḍwān's treatise 'On the prevention of bodily ills in Egypt'*, Berkeley and London, University of California Press, 1984, pp. 67–9; Suwisi and al-Rāḍī (eds), *Zād al-musāfir wa-qūt al-ḥādir* (bks. 1–3), Tunis, al-Dār al-'arabiya li-al-kitāba, 1986, pp. 7–24; G. Dugat, 'Études sur le traité de médecine d'Abou Djafar Ah'mad, intitulé: Zād al-moçafir. La provision du voyageur', *Journal Asiatique*, 1853, 5: 289–353.

<sup>2</sup> See *Encyclopaedia*, op. cit., note 1 above, vol. 4, pp. 111–12, s.v. 'Ishāq ibn Sulaymān al-Isrā'īlī' (A. Altmann). As a physician he became famous in the Latin West through translations into Latin of his *K. al-hummāyāt* (On fevers) and *K. al-bawl* (On urine); see Danielle Jacquart and Françoise Micheau, *La médecine arabe et l'occident médiéval*, Paris, Maisonneuve & Larose, 1990, p. 111.

<sup>3</sup> See Ullmann, *Medizin*, op. cit., note 1 above, pp. 125–6. Ishāq ibn 'Imrān is famous for his work on melancholy, entitled *Maqāla fī al-mālankhūliya*, ed. Karl Garbers, Hamburg, Helmut Buske Verlag, 1977.

<sup>4</sup> One qintār was 45 kilos; see Walther Hinz, *Islamische Masse und Gewichte umgerechnet ins metrische System* (Handbuch der Orientalistik I, Ergänzungsband I, 1). Corrected reprint, Leiden and Köln, E. J. Brill, 1970, pp. 24–5.

Skilled in a variety of sciences including history and geography, Ibn al-Jazzār was a prolific author, especially in the field of medicine. His writings earned him great fame and made him very influential in medieval western Europe.<sup>5</sup> His most important work is without any doubt the *Zād al-musāfir wa-ḡūt al-hāḡir* (Provisions for the traveller and nourishment for the settled), which remains, for the most part, in manuscript. This work is not, as the title suggests, a guide for the traveller, but a systematic and comprehensive medical handbook.<sup>6</sup> It consists of seven books, which discuss the different diseases and their treatment from head to toe. Though comprehensive, it is written in a concise style, so that it can be taken on a journey and consulted if no physician is available. But it is still a voluminous work, covering 303 folios in MS Dresden 209. The work contains many valuable quotations from the works of famous physicians and philosophers such as Hippocrates, Aristotle, Rufus, Galen, Paul of Aegina, and Polemon. Already by the beginning of the eleventh century it had been translated into Greek under the title Ἐφόδια τοῦ ἀποδημοῦντος and widely distributed.<sup>7</sup> Its popularity in Jewish circles is attested by the fact that it was translated into Hebrew three times; namely, by an anonymous translator under the title *Yair Nativ* in 1124, then by Moses ibn Tibbon in 1254 under the title *Zedat ha-Derakhim*, and finally by Abraham Ben Isaac as *Zedah la-Orehim*.<sup>8</sup> Translated into Latin by Constantine the African in 1124 under the title *Viaticum peregrinantis*, and commented upon by the Salernitan masters from the thirteenth century on, Ibn al-Jazzār's *Zād* became one of the most influential medical handbooks in medieval Europe. Being accepted into the so-called *Articella* or *Ars medicinae*, a compendium of medical textbooks, it was widely used in medical schools (Salerno, Montpellier), and in universities (Bologna, Paris, Oxford).<sup>9</sup>

It not only offered a traditional pathology, but also new objects of reflexion for the Western physician. The first book, dealing with the diseases of the head, complemented the information on the cerebral functions given by Nemesius of Emesa (fourth century) in his

<sup>5</sup> For a complete survey of his writings see especially Sezgin, op. cit., note 1 above, pp. 304–7. It should be noted that some of these works have been published: *K. siyāsati al-ṣibyān wa-tadbīrihim* (On the education and regimen of children), ed. Muḡammad al-ḡabīb al-Hilah, Tunis, al-Dār al-Tunisiya li-al-nashr, 1968; *K. fi al-mi'da wa-amrāḡihā wa-mudāwātihā* (On the stomach, its diseases and treatment), ed. Salmān Qatāba, Baghdad, Dār al-ḡurriya li-al-ṡibā'a, 1980; *Risāla fi al-nisyān wa-'ilājihi* (On forgetfulness and its treatment), see my forthcoming *Ibn al-Jazzār on forgetfulness and its treatment*.

<sup>6</sup> See Manfred Ullmann, 'Neues zu den diätetischen Schriften des Rufus von Ephesos', *Medizinhistorisches Journal*, 1974, 9: 23–40, p. 38: "Der Titel von Ibn al-Jazzār's Buch: *Zād al-musāfir* . . . ist dagegen reine Rhetorik, eine *figura per merismum*, die nichts anderes besagt, als dass das Buch für jedermann gedacht ist."

<sup>7</sup> See C. Daremberg, 'Recherches sur un ouvrage qui a pour titre Zad al-Mouṡafir, en arabe, Ephodes en grec, Viatique en latin, et qui est attribué, dans les textes arabes et grecs, à Abu Djafar, et, dans le texte latin, à Constantin', *Archives des missions scientifiques et littéraires, choix de rapports et instructions*, 1851, 2: 490–527; *idem*, 'Extraits inédits des Éphodes, d' Abu Djafar, traduits en Grec x<sup>e</sup> siècle', *Oeuvres de Rufus d' Ephèse*, ed. C. Daremberg and É. Ruelle, Paris, Impr. Nationale, 1879, pp. 582–96; cf. Ullmann, *Medizin*, op. cit., note 1 above, p. 148, n. 3.

<sup>8</sup> See Moritz Steinschneider, *Die hebräischen Übersetzungen des Mittelalters und die Juden als Dolmetscher*, Berlin, 1893, repr. Graz, Akademische Verlagsanstalt, 1956, pp. 703–5.

<sup>9</sup> See Heinrich Schipperges, *Die arabische Medizin im lateinischen Mittelalter* (Sitzungsberichte der Heidelberger Akad. der Wiss., Math. naturw. Klasse, Jahrg. 1976, 2. Abh.), Berlin and New York, Springer Verlag, 1976, pp. 106–8; *idem*, *Die Assimilation der arabischen Medizin durch das Lateinische Mittelalter* (Sudhoffs Archiv, Beiheft 3), Wiesbaden, Franz Steiner Verlag, 1964, pp. 40–3; Jacquart and Mischeau, op. cit., note 2 above, pp. 115–18; Mary Wack, *Lovesickness in the Middle Ages. The Viaticum and its commentaries*, Philadelphia, University of Pennsylvania Press, 1990, deals especially with Ibn al-Jazzār's chapter on *'ishq* (lovesickness) from book 1 of the *Zād al-musāfir*, and with Constantine's Latin translation and its commentaries.

*On the nature of man* and by ‘Alī ibn al-‘Abbās al-Majūsī (tenth century) in his medical encyclopaedia called *Kāmil al-ṣinā‘a al-ṭibbiya* or *al-Kitāb al-malakī*. The chapter on melancholy was, next to Ishāq ibn ‘Imrān’s monograph on the same subject, the point of departure for further developments in Christian Western Europe, where this concept played a prominent role in medicine and literature. The mental pathology of the *Zād* stressed the role played by the malady called ‘*ishq* (lovesickness). Translated by Constantine as *eros* and by one of his students as *heros*, lovesickness turned into “heroic passion”, a disease affecting noblemen most of all, and frequently discussed in Western medicine, philosophy and literature.<sup>10</sup> The section on women’s diseases was the major source for one of the Trotula treatises on gynaecology produced in Salerno in the twelfth century, namely, the *Cum Auctor*.<sup>11</sup>

These women’s diseases are discussed in chapters 9 to 18 of the sixth book of the *Zād al-musāfir*.<sup>12</sup> Ibn al-Jazzār’s major sources for his nosology, aetiology and symptomatology are Galen (second century) and Paul of Aegina (seventh century). By the second half of the ninth century almost all of Galen’s works had been translated into Arabic and were thus accessible to Arabic physicians. The same holds good for the compendia comprising summaries of his major works, produced in Alexandria and called the “*Summaria Alexandrinorum*”. Galen’s teachings thus had a dominating influence on Arabic medicine.<sup>13</sup> This applies also to his humoral pathology, in which the concepts of the temperament of the four humours in the human body, blood, phlegm, yellow bile, and black bile, and their qualities, warm, moist, dry and cold, played a central role. According to Galen, health depends on the balance of the humours, while illness results when this balance is disturbed. In accordance with the general principle of *contraria contrariis curantur*, he used to prescribe hot remedies for diseases caused by cold and cold remedies for diseases caused by heat. This theory was adopted by all Arabic physicians and dominated throughout the Middle Ages.<sup>14</sup> The same is true of Galen’s discussion of women’s diseases, as has been shown by Monica Green.<sup>15</sup> Paul of Aegina, a Byzantine compiler, enjoyed great popularity in the Islamic world especially because of his gynaecological works, and was known to the Arabs as *al-qawābilī* “the obstetrician”.<sup>16</sup> According to Ullmann, his discussion of gynaecology and obstetrics later served as a model for al-Majūsī’s treatment of the same

<sup>10</sup> See Jacquart and Micheau, *op. cit.*, note 2 above, pp. 116–17.

<sup>11</sup> This has been shown convincingly by Monica H. Green in her pioneering study ‘The transmission of ancient theories of female physiology and disease through the early Middle Ages’, PhD thesis, Princeton University, 1985, pp. 278–90.

<sup>12</sup> I have prepared a critical edition with translation of book six which will be published in the Wellcome Asian Series; this article is an adapted version of the introduction to this edition. The major subject of the first section, covering chs. 1–8, is sexual diseases occurring in men and their treatment. For a partial discussion of its contents see my forthcoming article ‘Ibn al-Jazzār on sexuality and its disfunction and the mystery of ‘Uбайд Ibn ‘Alī Ibn Gurāga Ibn Hillauf solved’, *JSAI* (Jubilee Volume Pesah Shinar).

<sup>13</sup> See Felix Klein-Franke, *Vorlesungen über die Medizin im Islam*, Wiesbaden, Franz Steiner Verlag, 1982, pp. 72–84.

<sup>14</sup> See Manfred Ullmann, *Islamic medicine*, Edinburgh University Press, 1978, pp. 57–8; Ursula Weisser, *Zeugung, Vererbung und pränatale Entwicklung in der Medizin des arabisch-islamischen Mittelalters*, Erlangen, Verlagsbuchhandlung Hannelore Lüling, 1983, pp. 72–4.

<sup>15</sup> Monica Green has shown this by giving a detailed account of the transmission of three diseases in particular, amenorrhoea, hypermenorrhoea and hysterical suffocation (*op. cit.*, note 11 above). For my discussion of these three diseases as occurring in the *Zād al-musāfir* I am deeply indebted to her work.

<sup>16</sup> Ullmann, *Medizin*, *op. cit.*, note 1 above, p. 86.

subjects.<sup>17</sup> We shall see some examples of how a third important author, Soranus (second century), whose fame rests mainly on his *Gynecology*, had no influence on Ibn al-Jazzār whatsoever. The Arabs had only a slight knowledge of this physician, whose works were possibly never translated into Arabic.<sup>18</sup> In the field of pharmacology Ibn al-Jazzār often refers to Dioscorides (first century) when advising a simple drug, while we find many references to other Arabic physicians when he prescribes compound medicines. It is especially in this area that Ibn al-Jazzār and his colleagues surpassed the achievements of the ancients.<sup>19</sup> The few magical prescriptions recommended by Ibn al-Jazzār are, as we shall see, most probably derived from al-Ṭabarī's *Firdaws al-ḥikma* (composed 850).

The central topic of chapter 9 is the retention of the menstrual blood (amenorrhoea). In the introduction, Ibn al-Jazzār states that women start to menstruate between twelve and fourteen years. The end of the menstruation occurs in two ways, namely, natural and accidental; it is natural when a woman reaches the age of 50, sometimes 60, and for some 35, especially in someone whose flesh has become soft and very fat. This statement is an adaptation by means of the Galenic categories "natural" and "accidental" of a very similar one made by Paul of Aegina in the chapter of his compendium introducing women's diseases.<sup>20</sup> This kind of introduction to women's diseases shows that according to Ibn al-Jazzār menstruation plays a central role in maintaining women's health and in causing women's diseases; he therefore discusses this topic first of all.<sup>21</sup>

Menstruation is, according to Ibn al-Jazzār, caused by the fact that the bodies of women are cold and moist, and contain much moisture. This theory, which supposes that women, because of a lack of natural heat to burn the bodily superfluities, expel them by means of menstruation, was developed by Galen following Aristotle. Because of this lack of natural heat, women are, according to Galen, less perfect than men.<sup>22</sup> This notion of the biological inferiority of women became very prominent in medieval medical literature, and was sometimes combined with data on their psychological and ethical inferiority.<sup>23</sup> According

<sup>17</sup> Ullmann, *op. cit.*, note 14 above, p. 14.

<sup>18</sup> See Ullmann, *Medizin*, *op. cit.*, note 1 above, pp. 76–8.

<sup>19</sup> See Green, *op. cit.*, note 11 above, p. 112. She argues that al-Majūsī's therapy for menstrual retention "demonstrates how far the Arabic physicians had surpassed the ancients in the realm of pharmacology—with regard both to the number of medicaments employed and to the sophistication of their preparation."

<sup>20</sup> *Paulus Aegineta*, ed. I. L. Heiberg, 2 vols (*CMG IX*), Leipzig and Berlin, B. G. Teubner, 1921–1924 (hereafter Heiberg), bk. 3, 60, p. 274, ll. 21–2, 26–8. Since, in my opinion, Ibn al-Jazzār derived this statement from Paul of Aegina, the years he referred to are those of the Julian calendar, namely, solar years. For an account of the ages of menstruation in the Middle Ages see V. Bullough and C. Campbell, 'Female longevity and diet in the Middle Ages', *Speculum*, 1980, 55 (2): 317–325, pp. 323–4.

<sup>21</sup> Some western medical treatises such as the *Lilium medicinae* of Bernard de Gordon (fl. 1283–1308) follow a similar pattern, starting their discussion of women's diseases with the subject of menstrual retention; cf. Helen Rodnite Lemay, *Women's secrets. A translation of pseudo-Albertus Magnus' De secretis mulierum with commentaries*, State University of New York Press, 1992, p. 45.

<sup>22</sup> See, for instance, Galen, *De usu partium* xiv, 6, ed. C. G. Kühn, in *Claudii Galeni opera omnia*, 20 vols, Leipzig 1821–1833, repr. Hildesheim, Olms, 1967 (hereafter Kühn), vol. 4, pp. 158–164; ed. G. Helmreich, 2 vols, Leipzig 1907–1909, repr. Amsterdam, Adolf M. Hakkert, 1968, vol. 2, pp. 296–301; translation Margaret Tallmadge May, *Galen on the usefulness of the parts of the body*, 2 vols, New York, Cornell University Press, 1968, vol. 2, pp. 628–32.

<sup>23</sup> It should be noted that already Aristotle (HA 608a21–28, 33–b18) maintained that women have psychological and ethical characteristics inferior to those of men because of their physical inferiority. For an extensive discussion of this theory see G. E. R. Lloyd, *Science, folklore and ideology. Studies in life sciences in Ancient Greece*,

to Soranus, however, women do not have a special physiology based on the notion that their constitution is moister and colder.<sup>24</sup>

Ibn al-Jazzār's aetiology of amenorrhoea is highly formalized according to the categories of Galenic humoralism, as he distinguishes between the following causes of accidental retention: (1) a faculty, namely, the domination of a natural or accidental bad temperament; (2) an organ, namely, a natural or accidental affection of the substance of the uterus or its veins; (3) matter (menstrual blood), namely its quantity (too small), quality (thick, viscous), and movement (streaming in the wrong direction). This schematization is very similar to that employed by al-Majūsī in his chapter on the same subject.<sup>25</sup> A different kind of cause for amenorrhoea referred to by Ibn al-Jazzār, is continuous sorrow, anxiety, or similar psychical affections, such as anger or fear.<sup>26</sup> By contrast Soranus' description of the possible causes of amenorrhoea is totally different, since it is not schematized. He mentions a disease of the uterus, such as callosity, scirrhous, or inflammation or a disease of the rest of the body, such as undernourishment, great emaciation and wasting.<sup>27</sup>

The first series of symptoms of amenorrhoea enumerated by Ibn al-Jazzār, namely, lack of appetite, nausea, and a craving for bad foods, such as charcoal and earth, had already been referred to by Galen.<sup>28</sup> These symptoms are discussed more extensively in chapter 15, dealing with the regimen of pregnant women. The second series of symptoms of amenorrhoea is very similar to that mentioned by Galen as this comparative table shows clearly:

Ibn al-Jazzār

wa-qad ya'ruḍu min dhālika a'rāḍ ghaira mā waṣafnā mithl waj' al-ṣulb wa-al-raqaba wa-al-ra's wa-al-'aynayn wa-qad ya'ruḍu lahunna ḥummāyāt lahiba wa-takūnu abwāluhunna ilā al-sawād wa-ilā al-ḥumra wa-rubbamā kāna yushbiḥu mā' laḥm ṭari'

But it can also cause other affections, apart from those which we have described, such as,

Galen

τοιαῦτα νὲν οὖν ἔπεται συμπώματα ταῖς τῶν καταμηνίωv ἐπισχέσεσι, καὶ χωρὶς τούτων ἀλλήματα κατ' ὁσφύv καὶ τράχηλον καὶ βρέγμα καὶ τὰς τῶν ὀφθαλμῶv βάσεις, πυρετοὶ τε καυσώδεις καὶ οὖρα μελαινώμενα μετ' ἔρυθροῦ τινοῦ ἰχώρος, ὥσπερ εἰ κρεῶv νεοσφαγῶv πλύμασι μίξαις ἰσβόλην<sup>29</sup>

Such are the symptoms which develop from suppression of the menses. Besides these we

Cambridge University Press, 1983, pp. 94–111; Weisser, op. cit., note 14 above, pp. 86–9; Green, op. cit., note 11 above, pp. 4, 41–6.

<sup>24</sup> Soranus, *Gynecology*, transl. Owsei Temkin, with the assistance of N. J. Eastman, L. Edelstein and A. F. Guttmacher, Baltimore, Johns Hopkins University Press, 1956 (hereafter Temkin), pp. 131–2; cf. Green, op. cit., note 11 above, pp. 26–7.

<sup>25</sup> Al-Majūsī, *Kāmil al-ṣinā'a al-ṭibbiya*, repr. from MS A.Y. 6375 Istanbul University Library (Publ. of the Inst. for the Hist. of Arab. Isl. Science, ed. Fuat Sezgin, Series C: facs. editions, vol. 16, 1–3), Frankfurt am Main 1985, part 1, bk. 9, ch. 39. According to Green, op. cit., note 11 above, pp. 110–1, it is precisely this application of Galen's categories which makes this chapter the most original of the many he devotes to gynaecology.

<sup>26</sup> This cause is also stated by William of Saliceto in his *Summa conservationis et curationis*, which was written in 1285; his general description of this disease is in line with that of Ibn al-Jazzār; see Lemay, op. cit., note 21 above, p. 45.

<sup>27</sup> Soranus, Temkin, op. cit., note 24 above, p. 133; Green, op. cit., note 11 above, p. 93.

<sup>28</sup> Galen, *De locis affectis* vi, 5; Kühn, op. cit., note 22 above, vol. 8, p. 434; translation Rudolph E. Siegel, *Galen on the affected parts*, Basel, S. Karger, 1976 (hereafter Siegel), p. 190.

<sup>29</sup> Galen, *De locis affectis* vi, 5; Kühn, op. cit., note 22 above, vol. 8, p. 435.

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for instance, pain in the loins, neck, head and eyes, or high fevers. The colour of her urine will tend towards black and red, and sometimes it will look like the juice of fresh meat.

find pain in the lumbar area, the neck, the forehead, and behind the eyes; we also find a burning fever and a rather dark urine with some reddish serum, similar to a mixture of soot with water in which freshly slaughtered meat has been washed.<sup>30</sup>

Because of this close similarity I have compared Ibn al-Jazzār's terminology with the Arabic translation of Galen's *De locis affectis*, prepared by Ḥubaysh and revised by Ḥunayn, in order to see if Ibn al-Jazzār consulted this particular source.<sup>31</sup> I conclude that Ibn al-Jazzār did not use this translation, since the terminology employed by him is totally different from that used by Ḥubaysh/Ḥunayn:

Ibn al-Jazzār

wa-qaḍ ya'ruḍu min dhālika a'rāḍ ghaira mā waṣafnā mithl waj' al-ṣulb wa-al-raqaba wa-al-ra's wa-al-'aynayn wa-qaḍ ya'ruḍu lahunna ḥummāyāt lahiba wa-takūnu abwāluhunna ilā al-sawād wa-ilā al-ḥumra wa-rubbamā kāna yushbihi mā' laḥm ṭari'

Ḥubaysh/Ḥunayn

wa-qaḍ yatba'uhu ayḍan a'rāḍ ghaira hadhihi wa-hiya waj' fī al-qaṭan wa-fī al-'unuq wa-fī yāfūkh al-ra's wa-fī aṣl al-'ayn wa-ḥummāyāt muḥarriqa wa-bawl yastawaddu ma'a shay' min ḥadīd aḥmar bi-manzila mā law annaka khalāṭta bi-ghusāla laḥm ṭari'

Introducing his therapy of amenorrhoea, Ibn al-Jazzār quotes Rufus of Ephesus (second century), who says that when a doctor knows its cause he will be able to treat it in the easiest way. I have not been able to trace this quotation in the existing writings of Rufus.<sup>32</sup> The first treatment recommended by Ibn al-Jazzār consists of venesection of the saphenous vein in the foot or of applying cupping glasses to the ankle bones. This kind of venesection was recommended by Galen in his *De venae sectione*.<sup>33</sup> This treatment is exemplified by a quotation from Galen's commentary on Hippocrates' *Epidemics*, stating that he had cured a woman, who had suffered from amenorrhoea for eight months and had become emaciated, by means of bleeding her during three consecutive days.<sup>34</sup> Next Ibn al-Jazzār prescribes, just like al-Majūsī, all kinds of remedies, such as drugs, pills, decoctions, suppositories, compresses, and suffumigations.<sup>35</sup> For some of these prescriptions he consults and quotes from the works of other Arabic physicians. He recommends, for instance, a powder composed by Ishāq ibn 'Imrān (ninth to tenth century), or a decoction of roots to be taken

<sup>30</sup> Siegel, *op. cit.*, note 28 above, p. 191.

<sup>31</sup> Cf. *Ḥunayn ibn Ishāq über die syrischen und arabischen Galen-Übersetzungen*. Zum ersten Mal herausgegeben und übersetzt von G. Bergsträsser (Abhandlungen für die Kunde des Morgenlandes VII, 2), Leipzig 1925, no. 49; Ullmann, *Medizin*, *op. cit.*, note 1 above, p. 41. The MS I consulted was Wellcome Or. 14a, fol. 169b; see A. Z. Iskandar, *A catalogue of Arabic manuscripts on medicine and science in the Wellcome Historical Medical Library*, London, Wellcome Historical Medical Library, 1967, p. 73.

<sup>32</sup> Daremberg and Ruelle, see *op. cit.*, note 7 above.

<sup>33</sup> Galen, *De venae sectione adversus Erasistratum*, Kühn, *op. cit.*, note 22 above, vol. 11, p. 204; see Green, *op. cit.*, note 11 above, pp. 112–13.

<sup>34</sup> Galen, *In Hipp. epidemiorum comm.*, eds E. Wenkebach and J. Pfaff (*Galen in Hippocratis epidemiarum libros*) I–III, VI, Comm I–VIII. Indices; *CMG* v, 10.1; v, 10.2.1; v, 10.2.2; v, 10.2.4, Berlin, B. G. Teubner, 1934–1956, bk. VI, comm. III, 81, ll. 11–3.

<sup>35</sup> Al-Majūsī, *op. cit.*, note 25 above, part 2, bk. 8., ch. 11; Green, *op. cit.*, note 11 above, p. 112.

from an otherwise unknown work by Ibn Māsawayh (eight to ninth century), his *K. al-najh* (On a useful treatment).<sup>36</sup>

In the next chapter (10) Ibn al-Jazzār discusses an excessive loss of blood occurring to women (hypermenorrhoea). Just as in the previous chapter his discussion of its aetiology is highly schematized, using once again Galenic categories. According to the humoral theory, one of the major causes of hypermenorrhoea is the bad quality of the blood assuming different colours, when it is sharp, bitter or mucous. The symptoms enumerated by Ibn al-Jazzār bear a close resemblance to those mentioned by Galen, as the following table shows:

Ibn al-Jazzār

Fa-in kathara nazf al-dam wa-afraṭa ‘araḍa li-al-mar’a radāt al-lawn wa-waram al-rjilayn wa-lā yaḍaju ṭa’āmuhā illā naḍjan ḍa’īfan wa-lā tashahī al-ṭa’ām wa-yadhbulu badanuhā wa-ya’ruḍu lahā istisqā’

If a woman loses much menstrual blood, her colour will be bad, her feet will be swollen, her food will only be digested a little bit, she will not have an appetite, her body will be withered, and dropsy will befall her.

Galen

ταῖς δ’ ἀμέτροις κενώσασιν ἄχρῳαι καὶ ποδῶν οἰδήματα καὶ ὅλον ὑποῖδον τὸ σῶμα, καὶ μοχθηρῶς πέπτειν τὰ σιτία καὶ φαύλωσ ὑρέγεσθαι<sup>37</sup>

Others who have an excessive flow become pale, develop oedema of the legs and a swelling of the entire body, digest their food with difficulty, and have a poor appetite<sup>38</sup>

When this affection is caused by a surplus of blood, Ibn al-Jazzār recommends first of all carrying out venesection on the upper parts of the body, so that the blood will be drawn upwards. When the cause is superfluous phlegm or bile, purgatives should be used in order to extract it. If the loss of blood continues after this, the patient should take astringent and thickening drugs. If this does not help, she should put cupping glasses under each breast to draw the blood upwards. As Monica Green has already remarked, this therapy supposes the existence of a connection between the uterus and the breasts. This notion goes back to the Hippocratic Corpus and was commented upon by Galen.<sup>39</sup> Ibn al-Jazzār concludes this chapter by prescribing a variety of decoctions, electuaries, pills, pessaries, suppositories, and powders.

The central subject of chapter 11 is the disease called “hysterical suffocation”. Though a definition of this disease is hard to give, because every culture had its own particular conception of it, the general notion originating with Hippocrates’ *On women’s diseases* was that it was a displacement of the womb, whereby it came into sympathy with the upper parts

<sup>36</sup> This work is not mentioned in the bibliographical list of his works by Ibn Abī Uṣaybi’a, op. cit., note 1 above, p. 255; cf. Sezgin, op. cit., note 1 above, pp. 233–6.

<sup>37</sup> Galen, *De locis affectis* VI, Kühn, op. cit., note 22 above, vol. 8, p. 435.

<sup>38</sup> Siegel, op. cit., note 28 above, p. 191.

<sup>39</sup> Hippocrates, *Aphorisms* v, 37, 38, 39, 50, 52, in É. Littré, *Oeuvres complètes d’Hippocrate*, 10 vols, Paris 1839–1861 (hereafter Littré), vol. 4, pp. 544, 550; W. H. S. Jones, *Hippocrates, with an English translation*, vol. 4 (Loeb Classical Library), Cambridge, Mass., Harvard University Press, 1931, reprinted 1979 (hereafter Jones), pp. 166, 168, 171; Galen, *Hippocratis aphorismi et Galeni in eos commentarii*, Kühn, op. cit., note 22 above, vol. 17B, pp. 827–32, 842–5; see Green op. cit., note 11 above, pp. 38, 44–5.

of the body, causing suffocation and sensory disturbances.<sup>40</sup> It should be noted that Galen's opinion of the nature of this affection is inconsistent. As an anatomist he rejected the idea of a wandering uterus since it was well attached by "fibrous and thin connections" to other organs surrounding it,<sup>41</sup> but as a therapist he remarked: "When the uterus rises or experiences deviations, we apply [cupping glasses] to the groin and the thighs. We also place extremely foetid odors near the nose and extremely pleasant ones near the uterus."<sup>42</sup> In the course of the Middle Ages the idea of a wandering uterus, already rejected by Yuḥannā ibn Sarābiyūn (ninth century), was challenged by ever more physicians.<sup>43</sup>

Ibn al-Jazzār starts his discussion of this affection with an enumeration of its symptoms: lack of appetite, cold, fainting, weak pulse, and sometimes convulsive contractions. Galen mentions similar symptoms, and some others, such as difficulty of breathing, loss of voice, a complete loss of responsiveness and lack of motion.<sup>44</sup> Quoting Galen, Ibn al-Jazzār writes that sometimes the pulse can be so weak that one thinks that the patient is dead. Only by bringing a piece of teased wool to her nose does one discover that she is still alive.<sup>45</sup>

The author does not mention a wandering uterus as causing this affection, but a surplus and corruption of a woman's sperm when she is withheld from sexual intercourse. For, in that case, vapours originating from the corrupting matter in the womb rise to the head. Another cause mentioned by him is the retention of the menstrual blood. Galen refers to the retention of the menses and of the semen as possible causes in his *De locis affectis*, where he rejects, as we have seen, the idea that hysterical suffocation could have been caused by a displacement of the womb.<sup>46</sup> He does not refer, however, to vapours rising from the corrupted matter to the head. The concept that women have sperm, just like men, was already adhered to by Hippocrates, who also stated that both the female and the male sperm were necessary for the formation of the embryo. This theory was adopted and modified by Galen, and thus became dominant until the middle of the thirteenth century, when Aristotle's works, in which he emphatically denied the existence of female seed, were translated and disseminated in the West.<sup>47</sup>

<sup>40</sup> Hippocrates, *On women's diseases* I, Littré, op. cit., note 39 above, vol. 8, chs 1, 7, 32. For the history of this disease and the problems involved in its identification see especially the monograph by Ilza Veith, *Hysteria: the history of a disease*, University Press of Chicago, 1965.

<sup>41</sup> Galen, *Über die Anatomie der Gebärmutter*, Greek text with German translation, ed. Diethard Nickel, *CMG* v, 2, 1, Berlin, Akademie Verlag, 1971, pp. 40–1; English translation based on Kühn's Greek edition by Charles Goss, 'On the Anatomy of the Uterus', *Anatomical Record*, 1962, 144: 79; see as well, *De locis affectis*, Kühn, op. cit., note 22 above, vol. 8, p. 426; Siegel, op. cit., note 28 above, p. 187. My discussion of Galen's theory of hysterical suffocation and its treatment is based on Green's extensive treatment of this subject, cf. op. cit., note 11 above, pp. 47–50.

<sup>42</sup> Galen, *De methodo medendi ad Glauconem*, Kühn, op. cit., note 22 above, vol. 11, bk. 1, ch. 15, p. 54.

<sup>43</sup> See Paul Diepgen, *Frau und Frauenheilkunde in der Kultur des Mittelalters*, Stuttgart, Georg Thieme Verlag, 1963, p. 146.

<sup>44</sup> Galen, *De comp. med. sec. loc.* ix, 10, Kühn, op. cit., note 22 above, vol. 13, p. 319; *idem*, *De locis affectis* vi, 5, Kühn, op. cit., note 22 above, vol. 8, pp. 414, 426; Siegel, op. cit., note 28 above, pp. 183, 187; cf. Pseudo-Galen, *Definitiones medicae*, Kühn, op. cit., note 22 above, vol. 19, p. 428, CCC.

<sup>45</sup> Galen, *De locis affectis* vi, 5, Kühn, op. cit., note 22 above, vol. 8, pp. 414–15; Siegel, op. cit., note 28 above, p. 183.

<sup>46</sup> Galen, *De locis affectis* vi, 5, Kühn, op. cit., note 22 above, vol. 8, p. 417; Siegel, op. cit., note 28 above, p. 184.

<sup>47</sup> See Danielle Jacquart and Claude Thomasset, *Sexuality and medicine in the Middle Ages*, Cambridge, Polity Press, 1988, pp. 61–71.



Ibn al-Jazzār states that two categories of women are especially liable to this affection, namely, widows, and virgins. This idea became popular in medieval western Europe through the Latin translation of the *Zād al-musāfir* and through its adoption by two other works as well, namely, Moschion's *Gynaecia*, and the *De mulierum affectibus*.<sup>48</sup> It originated in the Hippocratic Corpus, where it is stated that this disease occurs mostly in women who do not have sexual contacts, and in elderly rather than in young women.<sup>49</sup> Galen claimed that it was generally agreed to affect mostly widows.<sup>50</sup>

All kinds of treatment are recommended for this affection by Ibn al-Jazzār, such as massage, the sniffing of ingredients with a horrible smell, sternutatories, fumigations, cupping glasses, suffumigations, and fragrant drugs. The sniffing of ingredients with an evil smell was prescribed by physicians from Hippocrates on, in the belief that the uterus fled from it, while fragrant substances and suppositories were applied from below so that the uterus was attracted by them. In this way, they thought that the uterus might move back to its place. This kind of therapy was, as we saw, also recommended by Galen as a devoted adherent of Hippocrates in his *De methodo medendi ad Glauconem*, although elsewhere he denied the possibility that the uterus might move through the body, in which context this therapy would not make any sense.<sup>51</sup> This therapy presupposes the existence of a direct channel between vagina, uterus, and mouth (or nose), a concept that already occurs in the Hippocratic Corpus and is confirmed by Galen.<sup>52</sup> Ibn al-Jazzār, a true devotee of Galen, retained his inconsistency in his discussion of this affection without any comment whatsoever. The only physician who, as far as we know, voiced strong opposition to this therapy was Soranus (second century). He remarked mockingly: "We, however, censure all these men who start by hurting the inflamed parts and cause torpor by the effluvia of ill-smelling substances. For the uterus does not issue forth like a wild animal from its lair, delighted by fragrant odors and fleeing bad odors; rather it is drawn together because of the stricture caused by the inflammation."<sup>53</sup> A therapy one would obviously have expected to be recommended by Ibn al-Jazzār in the first place, namely, sexual intercourse, is not referred to by him at all, although his colleague al-Majūsī recommended it explicitly when he remarks: "When the patient is still a virgin, she should marry; and when she has not had sexual intercourse for a long time, she should have it; because this evacuates the seed retained in the vessels and opens the obstructions caused thereby, so that the disease will disappear, God willing."<sup>54</sup> This therapy had already been recommended by the author of the Hippocratic treatise *On women's diseases*, who remarked that for a widow the best thing to

<sup>48</sup> *Ibid.*, p. 174.

<sup>49</sup> Hippocrates, *On women's diseases* I, Littré, op. cit., note 39 above, vol. 8, ch. 7, p. 32.

<sup>50</sup> Galen, *De locis affectis* VI, 5, Kühn, op. cit., note 22 above, vol. 8, p. 417; Siegel, op. cit., note 28 above, p. 184.

<sup>51</sup> Cf. the quotation from his *De methodo medendi ad Glauconem*, note 42 above.

<sup>52</sup> Hippocrates' *Aphorisms* V, Littré, op. cit., note 39 above, vol. 4, p. 554; Jones, op. cit., note 39 above, vol. 4, p. 174; Galen, *Hippocratis Aphorismi et Galeni in eos commentarii*, Kühn, op. cit., note 22 above, vol. 17, pp. 857–8; see Green, op. cit., note 11 above, p. 38.

<sup>53</sup> Soranus, Temkin, op. cit., note 24 above, p. 153; this rejection was in the High Middle Ages reiterated by Moschion, cf. Jacquart and Thomasset, op. cit., note 47 above, p. 174.

<sup>54</sup> Al-Majūsī, op. cit., note 25 above, part 2, bk. 8, ch. 12. English translation by the present author. If a woman's circumstances are such that she cannot have sexual intercourse with a man, al-Majūsī recommends the midwife to dip her finger in fragrant oil and rub the orifice of the uterus. This will, according to him, have the same effect as coitus, it will warm the seed so that it will be expelled and the woman will become relaxed (*ibid.*).

do is to become pregnant, and for a virgin to marry.<sup>55</sup> It is possible that Ibn al-Jazzār's silence on this particular point is not motivated by strict morals, but goes back to the fact that his greatest source of inspiration, Galen, not only does not make this kind of recommendation, but, as we saw, even reduces the two categories of women to one, namely, widows.

For part of this treatment—namely the rubbing of the cervix with fragrant oils—Ibn al-Jazzār stipulates specifically that it should be carried out by the midwife. We find the same stipulation in the next chapter, which discusses palpation of the orifice of the uterus. In chapter 13 Ibn al-Jazzār remarks about the treatment of ulcers in the uterus, that the patient should pour into her vagina those drugs which clean the ulcers, alleviate their throbbing pain and extinguish their sharpness. These statements touch upon the problem of the examination and treatment of the patient in the case of women's diseases in medieval Islamic society. Ibn Khaldūn (fourteenth century) states as a general rule that the craft of midwifery is restricted to midwives only "since they, as women, may see the pudenda of other women".<sup>56</sup> Al-Suyūṭī (fifteenth century) refers to the opinion of Aḥmad ibn Ḥanbal (ninth century), founder of one of the four major Sunni schools, the Ḥanbalī, that a physician may look at "the forbidden parts" of a woman's body if his intervention is absolutely necessary.<sup>57</sup> The extant medical sources do not give us a uniform picture, but the prevailing idea is that the physician should only take an active part in the treatment of women's diseases when it is impossible for the midwife alone to do so, as, for instance, in the case of certain operations. Sometimes one can distinguish a tendency towards leniency in the external treatment of the patient, in which case the physician was allowed to perform certain kinds of treatment, contrary to the internal treatment.<sup>58</sup> This generally passive role of the physician most probably explains why the Arabs did not perform well in the field of women's diseases, but only handed down the ancient traditions.

In the next chapter (12) the author discusses the occurrence of tumours in the uterus. His aetiology is once again humoral, ascribing the first two possible causes of this affection to superfluities of yellow bile and of coarse black bile. Other causes mentioned are coarse winds, injuries, and amenorrhoea. The symptoms enumerated by Ibn al-Jazzār for tumours occurring in specific parts of the uterus, are similar to those mentioned by Paul of Aegina:

Ibn al-Jazzār

Fa-in kāna ḥudūth al-waram fī muqaddam al-raḥim ittaba'a dhālika waj' fī al-qubl shadīd ma'a ḥuṣr al-bawl, fa-in kāna al-waram fī fam al-raḥim ittaba'a dhālika waj' al-surra wa-al-maq'ada, fa-idhā adkhalat al-qābila iṣba'ahā

Paul of Aegina

τῶν μὲν γὰρ ὄπισθεν αὐτῆς μόνον φλεγμαινόντων τὸ ἄλγῆμα κατὰ τὴν ὄσφυν γίνεται, καὶ τὸ σκύβαλον ἐπέχεται θλιβομένου τοῦ ἀπευθυσμένου, τῶν δὲ ἔμπροσθεν ἢ τε

<sup>55</sup> Hippocrates, *On women's diseases* II, Littré, op. cit., note 39 above, vol. 8, ch. 127, p. 275.

<sup>56</sup> Ibn Khaldūn, *The Muqaddimah. An introduction to history*, translated by Franz Rosenthal, 3 vols, New York, Pantheon Books, 1958, vol. 2, p. 368.

<sup>57</sup> See Weisser, op. cit., note 14 above, p. 57.

<sup>58</sup> For a more extensive, but tentative, discussion see Ullmann, *Medizin*, op. cit., note 1 above, pp. 250–1; Diepgen, op. cit., note 43 above, p. 32; Weisser, op. cit., note 14 above, pp. 56–9; R. Blumenfeld-Kosinski, *Not of a woman born, representations of caesarean birth in Medieval and Renaissance culture*, Ithaca and London, Cornell University Press, 1990, pp. 94–5.

wajadat fam al-raḥim munṭabiqan jāsiyyan. Wa-in kāna al-waram fī jānib al-raḥim al-mu'akhhār ittaba'a dhālika waj' shadīd fī al-zuhr wa-iḥtibās al-ṭabī'a wa-alam fī mā dūna al-sharāsif.

If the tumour occurs in the front part of the uterus, it is followed by a severe pain in the vagina with retention of urine, and if it occurs in the orifice of the uterus, it is followed by pain in the navel and stomach, and if the midwife inserts her finger, she finds the orifice of the uterus closed and hard. If the tumour is in the side of the back part of the uterus, it is followed by a severe pain in the back, by retention of the faeces, and by pain under the epigastrium

ὀδύνη κατὰ τὸ ἦτρον καὶ στραγγουρία ἢ δυσουρία γίνεται τῆς κύστεως θλιβομένης... τοῦ δὲ πτύγματος φλεγμαινόντος κατὰ τὸν ὀμφαλὸν ὁ πόνος μάλιστα γίνεται σὺν ὄγκῳ πέρι δὲ τὸ στόμιον οὔσης τῆς φλεγμονῆς κατὰ τὸ ἐπιγαστριον ὀδυνῶνται, καὶ τῷ δακτύλῳ καθιεμένῳ σκληρὸν καὶ ἀπηγὲς ὑποπίπτει τὸ στόμιον.<sup>59</sup>

When, therefore, the posterior parts only are inflamed, the pain is in the loins, and hardened lumps of faeces are confined by the compression of the rectum; but when the anterior parts are affected the pain is seated at the pubes, and there is strangury or dysuria from pressure on the bladder. When the sides are inflamed, there is tightness of the groin and heaviness of the limbs, but when the fundus is affected the pain is principally near the navel, with swelling thereof; and when the inflammation is in its mouth there is pain in the hypogastrium, and if the finger be introduced per vaginam, the mouth of the womb will feel hard and unyielding.<sup>60</sup>

For a treatment of these tumours the author differentiates between tumours caused by hot superfluities and those caused by cold. For the former, he recommends bleeding the patient as much as possible from the basilic vein or the median cubital vein. Quoting Galen, he states that women suffering from these tumours derive much more benefit from venesection of their feet than of their wrists.<sup>61</sup> He then describes different decoctions, plasters, poultices, and suppositories. Quoting Dioscorides, he remarks that nard boiled in water and used for a compress and for a sitz bath, is a good remedy for hot tumours.<sup>62</sup> From Paul of Aegina Ibn al-Jazzār takes over a recommendation for the saffron-pessary.<sup>63</sup> For tumours caused by cold, coarse humours the author prescribes a variety of decoctions, suppositories, poultices, and salves, as well as a regimen of finely ground foodstuff.

In chapter 13 Ibn al-Jazzār discusses the occurrence of ulcers in the uterus and their treatment. The causes which he gives for such ulcers are similar to those mentioned by Paul of Aegina:

<sup>59</sup> Op. cit., note 17 above, Heiberg, bk. 3, 64, p. 280, ll. 8–16.

<sup>60</sup> Francis Adams (transl.), *The seven books of Paulus Aegineta. Translated from the Greek with commentary embracing a complete view of the knowledge possessed by the Greeks, Romans, and Arabians on all subjects connected with medicine and surgery*, 3 vols, London, printed for the Sydenham Society, 1844–7 (hereafter Adams), bk. 3, ch. 64.

<sup>61</sup> Galen, *De venae sectione adversus Erasistratum*, Kühn, op. cit., note 22 above, vol. 11, p. 303.

<sup>62</sup> Dioscorides, ed. Max Wellmann, *Pedanii Dioscuridis Anazarbei de materia medica libri quinque*, repr. in I vol., Berlin, Weidmannsche Verlagsbuchhandlung, 1958 (hereafter Wellmann), bk. 1, ch. 7; transl. I. Berendes, *Des Pedanios Dioscurides aus Anazarbos Arzneimittellehre in fünf Büchern*, Stuttgart, 1902, repr. Wiesbaden, Dr Martin Sändig oHG, 1970 (hereafter Berendes), bk. 1, ch. 8.

<sup>63</sup> Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 7, 24, 3 (p. 395).

*Ibn al-Jazzār on women's diseases*

Ibn al-Jazzār

Innahu qad yatawallad al-qurūh wa-al-jirāh min qibal waram hār aw dubayla tanfajiru wa-rubbamā 'araḍa min dawā' hār tashrabuhu al-mar'a aw min isqāṭ al-ḥaml.

Ulcers and wounds originate in the uterus from a hot tumour or an abscess which bursts open, and sometimes they occur from a hot drug which a woman takes or from a miscarriage.

The symptoms enumerated by Ibn al-Jazzār are also similar to those mentioned by Paul of Aegina:

Ibn al-Jazzār

Wa-al-dalil 'alā al-qurūh sayyalān al-mādda wa-al-waj' wa-al-ḍarabān fī al-raḥim ma'a al-ladh' al-shadīd fa-in kāna fī al-jurh ta'akkul kāna lawn al-mādda aswad wa-rā'ihatuḥā muntina ma'a al-waj' wa-al-ishti'āl.

Symptoms of these ulcers are the discharge of [purulent] matter, pain, a throbbing pain in the uterus with a severe burning. If the wound is cankering the colour of the [purulent] matter is black and has a stinking smell; it goes with pain and inflammation.

The treatment recommended for these ulcers consists of simple and compound drugs, decoctions, suppositories, a special diet, and sitz baths. Ibn al-Jazzār concludes this chapter with two suppositories recommended by Dioscorides; one consisting of fenugreek meal mixed with fat of a goose, good for hardness and obstruction of the uterus,<sup>64</sup> and the other of sap of figs kneaded with egg yolk, good for ulcers and amenorrhoea.<sup>69</sup>

Paul of Aegina

Ἐλκοῦται πολλὰκις ἢ ὑστέρᾳ διὰ δυστοκίαν ἢ ἐμβρυουλκίαν ἢ φθοράν ἢ ὑπὸ φαρμάκων δριμέων ἢ ὑπὸ ρεύματος ἢ ἐξ ἀποστημάτων συρραγέντων.<sup>64</sup>

The uterus is often ulcerated from difficult labour, extraction of the foetus, or forced abortion, or injury of the same occasioned by acrid medicines, or by a defluxion, or from abscesses which have burst.<sup>65</sup>

Paul of Aegina

Ἰγρὸν γὰρ ἀποκρίνεται διάφορον, φλεγμαίνοντος μὲν τοῦ ἔλκουσ ὀλίγον, αἱματώδες ἢ τρυγώδες, σὺν περιωδυνίᾳ, ρυπαροῦ δὲ ὄντος πλείον καὶ ἰχωρώδες, σὺν ἐλάσσονι πόνῳ νεμομένου δὲ δυσώδες, μέλαν, σὺν ἀλγήμασιν ἰσχυροτέροις καὶ τοῖς ἄλλοις τῆς φλεγμονῆς σημείοις.<sup>66</sup>

... for the fluid which is discharged varies in its qualities. When the ulcer is inflamed, the discharge is small, bloody, or feculent, with great pain, but when the ulcer is foul, the discharge is in greater quantity, and ichorous, with less pain. When the ulcer is spreading, the discharge is fetid, black, attended with great pains, and other symptoms of inflammation...<sup>67</sup>

<sup>64</sup> Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 3, 66, 1, ll. 24–6 (p. 282).

<sup>65</sup> Adams, op. cit., note 60 above, bk. 3, ch. 66.

<sup>66</sup> Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 3, 66, 1, ll. 27–31 (p. 282); cf. Pseudo-Galen, *Definitiones medicae*, Kühn, op. cit., note 22 above, vol. 19, p. 428, CCXCIX.

<sup>67</sup> Adams, op. cit., note 60 above, bk. 3, 66.

<sup>68</sup> Dioscorides, Wellmann, op. cit., note 62 above, bk. 2, ch. 102; Berendes, op. cit., note 62 above, bk. 2, ch. 124.

<sup>69</sup> Dioscorides, Wellmann, op. cit., note 62 above, bk. 1, ch. 128; Berendes, op. cit., note 62 above, bk. 1, ch. 183.

The central subject of the following chapter (14) is the prolapse of the uterus and its treatment. This affection occurs, according to the author, when the ligaments of the uterus are relaxed because of an excess of moisture, a continuous sitting on cold things, bathing in cold water, or difficult labour.

As treatment, Ibn al-Jazzār first of all recommends a special sleeping position of the body, namely, on the back, while the knees are kept together, but the thighs apart. Similar advice is offered by Paul of Aegina.<sup>70</sup> Then he prescribes other means, such as linen bandages, ointments, sitz baths, and sneezing. Quoting Dioscorides, he states that fumigation with the dung of a cow improves the condition of the prolapsed uterus.<sup>71</sup> This treatment by means of foul odours goes back to the Hippocratic treatise *On women's diseases*, where the author recommends foetid odours to be administered from below and pleasant ones from above.<sup>72</sup> As in the case of hysterical suffocation, it presupposes the existence of an open passage between the uterus and nose, and recommends the same remedy, but in reverse. For now the foetid odours should not be applied to the nose, but to the genitals, so that the uterus would flee the foul smells below and return to its place. As well as this treatment Ibn al-Jazzār recommends different kinds of oils to be smeared on the orifice of the uterus, and a variety of compound drugs to be applied there also. Ibn al-Jazzār concludes this chapter by stating that the patient should have the same treatment as that given in the case of the relaxation and protrusion of the rectum, which he discussed in the twentieth chapter of the fourth book of the *Zād al-musāfir*.

In the next chapter (15) the author discusses the regimen which is good for pregnant women. He starts his discussion by quoting Galen's simile, comparing the connection between the foetus and the uterus with that between the fruit and the tree. At the beginning and end this connection is very weak and easily broken off, while in the middle period it is strongest.<sup>73</sup> Ibn Sīnā (980–1037) starts his discussion of the preservation of the foetus and the prevention of miscarriage with the same simile.<sup>74</sup>

Since this connection is so fragile at the beginning and end of the pregnancy, Ibn al-Jazzār discusses these topics first of all. He formulates some general rules for the beginning of pregnancy, to prevent the pregnant woman from getting upset during that phase. One should, for instance, not mention in her presence different kinds of food which are not available at that time of the year, and if she wants something which is available, one should hasten to bring it to her.<sup>75</sup> Ointments and poultices should be applied in order to strengthen the connection of the foetus with the uterus. For the end of the pregnancy he recommends bathing, ointments, relaxing food. He concludes this section with different remedies for cases involving swollen feet.

Ibn al-Jazzār then discusses the treatment of pregnant women in general when they crave for bad kinds of food, like clay and charcoal.<sup>76</sup> This phenomenon, called κίωσα in ancient

<sup>70</sup> Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 3, 72, 2, ll. 9–12 (p. 290).

<sup>71</sup> Dioscorides, Wellmann, op. cit., note 62 above, bk. 2, ch. 80; Berendes, op. cit., note 62 above, bk. 2, ch. 98.

<sup>72</sup> Hippocrates, *On women's diseases* II, Littré, op. cit., note 39 above, vol. 8, ch. 131, pp. 279–281; Green, op. cit., note 11 above, pp. 21–2.

<sup>73</sup> Galen, *Hippocratis aphorismi et Galeni in eos commentarii*, Kühn, op. cit., note 22 above, vol. 17B, bk. 4, pp. 652–3.

<sup>74</sup> K. *al-Qānūn fi al-ṭibb*, 5 books in 3 vols, reprinted Beirut, n.p., n.d., bk. 3, *Fann* 21, *Maqāla* 3, p. 573.

<sup>75</sup> A similar warning recurs in Pseudo-Albertus Magnus' *De secretis mulierum*, cf. Lemay, op. cit., note 21 above, p. 141.

<sup>76</sup> Cf. ch. 9 where this craving is one of the symptoms of a woman suffering from amenorrhoea.

sources, is discussed extensively by Soranus and by Paul of Aegina in their discussions of the regime for pregnant women.<sup>77</sup> Galen states that it is caused by an affection of the stomach, located at its opening.<sup>78</sup> The author advises a woman overtaken by this craving to train her body, and to take solid bread combined with different kinds of fruit. When she craves for clay and charcoal, she should eat roasted chickpeas and beans, while fragrant poultices should be applied to her stomach.

In the last section of this chapter Ibn al-Jazzār discusses the treatment of a pregnant woman when humours are stirred up in her body, and winds in the stomach or uterus. The occurrence of winds should be treated immediately lest they cause a miscarriage. Recommended remedies are a compound powder and electuary. The chapter concludes with a prescription of a compound remedy, derived from Galen, good for difficult childbirth, for the sting of a tarantula and for poisonous scorpions.<sup>79</sup>

The subject of the next chapter (16) is difficult childbirth. The causes enumerated by Ibn al-Jazzār are very similar to those mentioned in Pseudo-Galen's *Definitiones medicae*:

Ibn al-Jazzār

Illā annahu rubbamā 'araḍa li-al-nisā' 'uṣr al-wilāda wa-yakūnu dhālika min asbāb kathīra wa-rubbamā 'araḍa min qibal aḥzān waradat 'alā al-mar'a wa-rubbamā kāna dhālika min qibal dīq majrā al-raḥim wa-rubbamā kāna dhālika idhā māta al-janīn fa-lā yataḥarraku wa-lā yu'īnu fī waqt khurūjihi wa-rubbamā kāna dhālika idhā ḥamilat al-mar'a wa-hiya ṣaghīra wa-rubbamā kāna dhālika min qibal faṣl al-shitā' . . . wa-rubbamā kāna dhālika min qibal faṣl al-ṣayf . . .

Sometimes, however, a woman has a difficult childbirth, for which there can be many causes. Sometimes it happens because of worries affecting a woman, and sometimes because of the narrowness of the passage of the uterus. Sometimes it is caused by fatness of the woman, and sometimes when the foetus has died and does not move, and therefore does not help in the delivery. Sometimes it happens because the woman is [too] young when she gets pregnant, and sometimes because of the winter season . . . Sometimes it happens because of the summer season . . .

<sup>77</sup> Soranus, Temkin, op. cit., note 24 above, pp. 49–54; Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 1, 1 (p. 8).

<sup>78</sup> Galen, *De locis affectis* v, 6, Kühn, op. cit., note 22 above, vol. 8, p. 343; Siegel, op. cit., note 22 above, p. 154.

<sup>79</sup> Galen, *De antidotis*, Kühn, op. cit., note 22 above, vol. 14, pp. 276–7.

<sup>80</sup> Pseudo-Galen, *Definitiones medicae*, Kühn, op. cit., note 22 above, vol. 19, CDLVII, pp. 455–6, my translation; cf. Paul of Aegina, Heiberg, op. cit., note 20 above, bk. 3, 76 (pp. 295–6).

Pseudo-Galen

Αὐτὸ δυστοκίαι κατὰ τρεῖς γίνονται τρόπους, κατὰ τὴν κύουσαν, κατὰ τὸ κρούμενον, κατὰ τὰ ἔξωθεν· κατὰ τὴν κύουσαν διχῶς, ψυχικῶς μὲν ζηλοτυπίας ἐσχημένην ἢ λύπαις ἢ ἄλλῳ τινὶ πάθει· σωματικῶς δὲ ἢ στένοπορον οὔσαν ἢ καταπίμελον ἢ πρῶτως κύουσαν ἢ ἄτροφον ἔχουσαν τὴν μήτραν, παρὰ δὲ τὸ κρούμενον ἢ τοι ὅταν ἐπαποθάνῃ ἢ δίδυμον ἢ τερατώδες, παρὰ δὲ τὸ ἔξωθεν χειμῶνος ἐπιταμένου ἢ καύματος σφοδροῦ.<sup>80</sup>

Difficult childbirths can be caused in three different ways, by the pregnant woman, by the foetus, by an external factor. It is caused by the pregnant woman in two ways: psychological, when she is overcome by envy, grief or another emotion; physical, when she has a narrow passage, is very fat, is pregnant for the first time, or when her uterus is without food. It is caused by the foetus, when it is dead, or misshapen with two heads. It is caused by an external factor, when there is an extreme winter or summer.

Ibn al-Jazzār then remarks that the following measures are advisable for a woman suffering from a difficult childbirth: (1) bathing in water containing fenugreek, seeds of marsh mallow, linseed, and peeled barley; (2) rubbing of thighs and abdomen with moistening and dissolving oils, such as oil of sesame; (3) massage of sides and waist; (4) taking of different drugs, such as oxymel, or pounded mint with wine; (5) sneezing by means of soapwort; (6) a bodily position, slightly lower than normal. Besides these, he recommends using magic, namely, to hang a dry stone or cyclamen on the thigh of the woman suffering from difficult childbirth. Al-Ṭabarī remarks in his *Firdaws al-ḥikma* that if one hangs Cretensian storax on her thigh, she will not feel any pain.<sup>81</sup>

In the following chapter (17) Ibn al-Jazzār gives a list of contraceptives and/or abortifacients, which he has derived, as he remarks explicitly, from the works of the ancient physicians. One of the sources certainly consulted by him was Dioscorides, since he not only quotes him, but also describes the contraceptive and abortifacient properties of the drugs mentioned in similar terms.

Ibn al-Jazzār's aim in drawing up this list is, as he states, that women might know these drugs and beware of using them, since they corrupt the foetus. From this one might, at first sight, draw the conclusion that Ibn al-Jazzār is opposed to the use of these drugs. In another work, however, his *Ṭibb al-fuqarā'*, Ibn al-Jazzār's attitude towards their application might be called "neutral", when on the one hand he gives a list of fertility drugs, and on the other hand a list of mainly magical contraceptives, quoting amongst others al-Ṭabarī and "Aṭhūrḡas" (=Xenocrates of Aphrodisias, first century).<sup>82</sup> An example is: "Xenocrates said: If one removes the anklebone of a live weasel (*ka'b bni 'irs*) and hangs it on a woman she will not get pregnant as long as it hangs on her." This "neutral" attitude of Ibn al-Jazzār is in conformity with that of Islam, since the use of contraceptives and abortifacients as a way of birth control was permitted in Islamic society, and was sanctioned by Islamic law. The numerous discussions of contraception and abortion in different genres of Islamic literature, such as medical, legal, erotic and popular, are clear proof of this.<sup>83</sup> The question why Ibn al-Jazzār inserted his warning in the *Zād al-musāfir*, was perhaps that he wanted to urge women to use these drugs only when there was a medical indication for it, namely, in the case of a young pregnant woman who otherwise might die in childbirth, or of a woman with a disease or malfunction of the uterus. These cases are, according to Musallam, the two

<sup>81</sup> 'Alī ibn Sahl Rabban al-Ṭabarī, *Firdaws al-ḥikma*, ed. M. Z. Siddiqi, Berlin, Buch-u. Kunstverlag 'Sonne', 1928, p. 280, ll. 8–9.

<sup>82</sup> See MS Gotha 2034, fol. 20a; MS Army Medical Library 92/1, p. 54, reads: "Azhūrūfus"; this name is identical with Aṭhūrūsfus, often quoted in Arabic medical literature, and a corruption of Xenocrates of Aphrodisias, as suggested by Ullmann, *Natur- und Geheimpwissenschaften*, op. cit., note 1 above, pp. 10–11. These magical prescriptions are quite extraordinary in the light of the fact that none of the other Arab authors listed by B. F. Musallam in his survey of contraceptives and abortifacients mentions a magical one other than two special uses of cyclamen (see his *Sex and society in Islam*, Cambridge University Press, 1983, pp. 77–88; see also Monica Green, 'Constantinus Africanus and the conflict between religion and science', in *The human embryo. Aristotle and the Arabic and European traditions*, ed. G. R. Dunstan, University of Exeter Press, 1990, pp. 47–69, pp. 56, 66, n. 38. For an extensive discussion of these magical prescriptions see my forthcoming article, 'Ibn al-Jazzār's *Ṭibb al-fuqarā' wa-al-masākīn*, a 10th century medicinal guide for the treatment of the common people'.

<sup>83</sup> For an extensive treatment of this subject in Islam see Musallam, op. cit., note 82 above, esp. ch. 4: 'Arabic medicine and birth control', see also John M. Riddle, *Contraception and abortion from the ancient world to the Renaissance*, Cambridge, Mass., and London, Harvard University Press, 1992, pp. 127–34.

principal reasons advanced by Arab physicians for birth control.<sup>84</sup> Ibn Sīnā, for instance remarks:

At times it may be necessary to induce abortion; that is, when the pregnant woman is young and small and it is feared that childbirth would cause her death, or when she suffers from a disease of the uterus or when a fleshy growth in the uterus makes it very difficult for the foetus to emerge. Also when the foetus dies in the womb of the woman.<sup>85</sup>

The first contraceptive mentioned is tar, which, according to Ibn al-Jazzār, Dioscorides had already described as "one of the most effective drugs for the prevention of conception so that someone who takes it, will be barren forever."<sup>86</sup> This contraceptive is, according to Musallam, the only male contraceptive prescribed in Arabic medical literature.<sup>87</sup> In this chapter, however, Ibn al-Jazzār recommends as a male contraceptive juice of mint, while in his *Ṭibb al-fuqarā'* he recommends olive oil.<sup>88</sup> Some of the other drugs mentioned are savin, cyclamen, lupin, birthwort, cinnamon, and castoreum.

The way of application recommended for these drugs, usually takes the form of suppository or pessary, but sometimes fumigation with cardamom, galbanum, and sulphur is also mentioned, and juice of cyclamen is best applied under the navel. Alum should be put in the orifice of the uterus in order to prevent conception or to expel the foetus. The author concludes this chapter by remarking that the drugs which he has mentioned are not only effective in expelling a living foetus, but also a dead one.

The central topic of the next chapter (18) is the extraction of the placenta from the uterus. The author starts his discussion straightaway by recommending different means of extracting it. These are:

(1) to sneeze by means of soapwort, while the mouth and nostrils are kept closed. This kind of treatment is already recommended in the Hippocratic Corpus, although Soranus stated that it was bad advice because it causes the danger of immediate haemorrhage or of later nervous sympathetic reactions.<sup>89</sup>

(2) to take a compound drug, such as water with ashes and marsh mallow, and to sick it up.

(3) to take saffron, prepare little balls of it and hang it on the patient. This magical preparation has most probably been derived from al-Ṭabarī's *Firdaws al-ḥikma*, where the same remedy is mentioned.<sup>90</sup>

(4) the application of certain pessaries.

<sup>84</sup> Musallam, op. cit., note 82 above, p. 69. Green, not paying attention to the *Ṭibb al-fuqarā'*, remarks that Ibn al-Jazzār "appeared to be uncomfortable with the ethics of abortion"; about his warning she states that "it seems naive at best"; op. cit., note 11 above, p. 225; see also Green, op. cit., note 82 above, pp. 50–1; for a similar warning raised by al-Majūsī see *ibid.*, p. 55.

<sup>85</sup> Ibn Sīnā, op. cit., note 74 above, bk. 3, *Fann* 21, *Maqāla* 3, p. 579; translation Musallam, op. cit., note 83 above, p. 69; see also Riddle, op. cit., note 83 above, p. 128.

<sup>86</sup> The tar Dioscorides is referring to is that derived from the cedar; cf. Dioscorides, Wellmann, op. cit., note 45 above, bk. 1, ch. 77; Berendes, bk. 1, ch. 105.

<sup>87</sup> Musallam, op. cit., note 83 above, p. 97.

<sup>88</sup> MS Gotha 2034, fol. 20a.

<sup>89</sup> Hippocrates, *Aphorisms* v, 49, Littré, op. cit., note 39 above, vol. 4, p. 550; Soranus, Temkin, op. cit., note 24 above, p. 198.

<sup>90</sup> Al-Ṭabarī, op. cit., note 81 above, p. 280.



(5) to apply certain fumigations, for instance, with the eye of a salt-water fish or with the hoof of a horse, or with the excrements of a cat, or with harmel, or mustard. These fumigations figure in al-Ṭabarī's *Firdaws al-ḥikma* as well.<sup>91</sup> Soranus, however, condemned fumigations because they increase inflammation by their pungency and cause congestion in the head.<sup>92</sup>

In book six, chapters 9–18 of the *Zād al-musāfir*, Ibn al-Jazzār did not contribute many new elements to the existing discussion of women's diseases. Like most of his Arabic colleagues, he contented himself with faithfully copying the ancient sources, even when these are contradictory. The main reason for this stagnation in this particular area is, as we have seen, that Arabic physicians in general did not treat affections of the female genitals themselves, but left them to the midwives without theoretical medical training. It was only in the field of pharmacology that they made an original contribution by prescribing many new compound remedies. A notable exception to this rule is al-Zahrāwī (tenth century), who made two new designs for vaginal specula and invented different procedures for extracting dead foetuses.<sup>93</sup> Despite the lack of originality of Ibn al-Jazzār's encyclopedia in this particular area, it is of fundamental importance since it was a major conduit for the transmission of selected ancient gynaecological material (above all Galen and Paul of Aegina) to the Latin west.

<sup>91</sup> Al-Ṭabarī, op. cit., note 81 above, p. 280.

<sup>92</sup> Soranus, Temkin, op. cit., note 24 above, p. 198.

<sup>93</sup> Al-Zahrāwī's progress in this aspect is undoubtedly the result of his practical experience with this instrument, of which he stipulated explicitly that the physician should use it "so as to allow the midwife to do what she desires" (see *Abulcasis on surgery and instruments, a definitive edition of the Arabic text with English translation and commentary* by M. S. Spink and G. L. Lewis, London, Wellcome Institute of the History of Medicine, 1973, p. 488; Weisser, op. cit., note 14 above, p. 58). This passage refutes Blumenfeld-Kosinski's statement that "Abulcasis assigns the use of the speculum to the midwife", op. cit., note 58 above, p. 95.