

HELKIAH CROOKE (1576-1648), PHYSICIAN AND MEDICAL WRITER. Having taken his MD from Cambridge, Helkiah Crooke, son of a Suffolk minister, practiced medicine initially in the country before arriving in London in 1610. Although a compassionate doctor, particularly sensitive to the sufferings of the mentally ill, he had a contentious relationship with his colleagues, and in 1611 they rejected his application to join their society, the College of Physicians. Two years after his successful appointment to the College, he published the ground-breaking *Microcosmographia: A Description of the Body of Man* (1615), a volume meant to function as an anthology of the most up-to-date anatomical and physiological information for the benefit of surgeons and their patients. Written in English and containing many illustrative plates, the work offered the largely uneducated surgeon as well as the general reader access to knowledge about the body hitherto largely restricted to the university-educated physician, accounting for the storm of controversy that the volume generated. Of greatest interest to the common reader and of greatest concern to physicians and moralists would have been the knowledge of sexual physiology, anatomy, and reproduction that the volume presents with unblushing clarity. The College of Physicians lobbied, albeit unsuccessfully, to have the book recalled and suppressed. Although Crooke did more than any other seventeenth-century English writer to further the general public's knowledge about the body, and although he contributed significantly to hospital reform and to the improvement of medical education, he died finally in 1648 impoverished and largely forgotten.

Crooke's discussion of sex and sexuality in *Microcosmographia* is firmly embedded in Christian assumptions that sexual activity and its resultant pleasure could only occur legitimately and virtuously within marriage and for the sole purposes of insemination, conception, and reproduction. Thus, in Crooke's view, and in the view of his professional contemporaries, all non-procreative sexual desires and acts (whether generally heterosexual, 'homosexual' or autoerotic) are sinful and disordered, human perversions against God and nature. Moreover, although Crooke questions the whole notion of genital homology (i.e., that woman's reproductive organs are simply inverted versions of man's), and although he asserts that women's bodies are not (as Aristotle writes) a mistake of nature, he still believes that the man has the primary role in reproduction, with semen constituting the active principle and the womb and its 'matter' that which is passively acted upon. Crooke does, however, support the view that an individual is born with the predilection to be either more or less masculine, more or less feminine, implying that 'masculine' women are as natural as 'feminine' men, and that these predilections are biologically based, traceable (among other causes) to the balance of masculine and feminine seed in the womb.

#### EDITIONS:

There is no modern edition of Crooke's *Microcosmographia*, but the following works are very helpful for those seeking to explore Renaissance sexuality and medicine:

Borris, Kenneth. 'Medicine.' *Same-Sex Desire in the English Renaissance: A Sourcebook of Texts, 1470-1650*. New York: Routledge, 2004. esp. 115-122.

Kassell, Lauren. "Medical Understandings of the Body, c. 1500-1700." *The Routledge History of Sex and the Body, 1500 to the Present*. Ed. Sarah Toulahan and Kate Fisher. New York: Routledge, 2013. 57-74.

Paster, Gail Kern. *The Body Embarrassed: Drama and the Disciplines of Shame in Early Modern England*. Ithaca: Cornell UP, 1993.

Siraisi, Nancy G. *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice*. Chicago: U of Chicago P, 1990.

From MICROCOSMOGRAPHIA: A DESCRIPTION OF THE BODY OF MAN (1615)<sup>1</sup>

BOOK 4: OF THE NATURAL PARTS BELONGING TO GENERATION, AS WELL IN MEN AS IN WOMEN

CHAPTER 1: OF THE NECESSITY OF THE PARTS OF GENERATION

[...]

But if the body be animated and have life, beside[s] those already named it hath also other causes of dissolution bred with it, which no art, no industry of man can avoid, no not so much as repress: so all things which have any kind of life, especially living and moving creatures, are destined to corruption [...] by nature and necessity. [...]

Wherefore Nature, whom Hippocrates<sup>2</sup> calleth [...] *recta facientem*,<sup>3</sup> and the ordinary power of God, being a diligent and careful provider for herself,<sup>4</sup> hath given to everything a certain appetite of eternity, which because she could not perform in the *individuum* or particular creature, because of the mortality of their nature, she endeavoured to accomplish by propagation of forms and the species or kinds of things [...]

[...] the generation of perfect creatures is accomplished when the male soweth his seed and the female receiveth and conceiveth it. For this purpose Nature hath framed in both sexes parts and places fit for generation, beside<sup>5</sup> an instinct of lust or desire, not inordinate—such as by sin is superinduced<sup>6</sup> in man—but natural, residing in the exquisite sense of the obscene parts.<sup>7</sup> For were it not that the God of nature hath placed herein so incredible a sting or rage of pleasure, as whereby we are transported for a time, as it were, out of ourselves, what man is there almost who hath any sense of his own divine nature that would defile himself in such impurities? What

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<sup>1</sup> *Microcosmographia* According to the preface of Book 4, the human body “is the epitome of the world, containing therein whatsoever is in the large universe,” and “seed (i.e., semen) is the epitome of the body, having in it the power and immediate possibility of all the parts.” It was a commonplace to describe the human body as a “little world” (the literal meaning of ‘microcosmographia’), and this figure can be found everywhere in Renaissance literature, from Thomas Browne’s meditations to John Donne’s poetry.

<sup>2</sup> *Hippocrates* the ancient Greek physician, author of many influential works that profoundly influenced classical, medieval and early modern medicine and physiology.

<sup>3</sup> *recta facientem* Latin, ‘one who acts rightly.’

<sup>4</sup> *herself* i.e., Nature.

<sup>5</sup> *beside* concomitantly with.

<sup>6</sup> *superinduced* introduced or induced in addition [here, in addition to the desire produced by Nature].

<sup>7</sup> *obscene parts* genitals.

woman would admit the embracements of a man, remembering her nine months' burden, her painful and dangerous deliverance,<sup>8</sup> her care, disquiet and anxiety in the nursing and education of the infant? But all these things are forgotten, and we overtaken with an ecstasy, which Hippocrates calleth a little epilepsy or falling sickness, and the Holy Scripture veileth under the name of a senselessness in Lot, who neither perceived when his daughters lay down, nor when they rose up. [...]<sup>9</sup>

[...]

#### CHAPTER 9: OF THE PROPORTION OF THESE PARTS BOTH IN MEN AND WOMEN

It was the opinion of Galen in his fourteenth book *De usu partium*,<sup>10</sup> and the eleventh chapter, that women had all those parts belonging to generation which men have, although in these<sup>11</sup> they appear outward at the *perineum* or *interfaeminium*,<sup>12</sup> in those<sup>13</sup> they are for want of heat retained within. For seeing a woman is begotten of a man, and perfect also in mankind (for Nature's imperfections are not so ordinary<sup>14</sup>), it is reasonable that the substance, yea, and the shape of the parts in both sexes should be alike, as coming from one and the same set, as it were, of causes.<sup>15</sup> [...] Herein Nature hath excellently acquitted herself, that the abatement of natural heat, which in men is the only natural and necessary cause of their dissolution, should so admirably become in women the original of generation, whereby we should attain a kind of eternity even of our bodies against the destined corruption of the matter, arising from an importunate discord of contraries. For so it pleased the Divine Wisdom to create for the eternal soul (the most excellent of all forms), if not an eternal habitation here, yet so absolute and admirable a structure as might so long be perpetuated below, till it come to be eternized above after an ineffable manner of recreation.<sup>16</sup> [...]

<sup>8</sup> *deliverance* i.e., delivery of her child.

<sup>9</sup> After Lot flees the destruction of Sodom, he retreats into the wilderness with his two daughters. Seeing that they will never be wed and will thus be unable to fulfill their duty of helping propagate their family line, they get their father drunk and each in turn has sex with him. Lot is said not to realize that it is his daughters with whom he is having intercourse (Gen. 19.30-38).

<sup>10</sup> *Latin*, 'On the Use (or Function) of the Parts.' Claudius Galen was a Greco-Roman physician of the 2<sup>nd</sup> c. CE. His works were foundational for Renaissance medicine and anatomy, although his assertions came under increasing scrutiny throughout the sixteenth and seventeenth centuries.

<sup>11</sup> *these* i.e., men.

<sup>12</sup> *perineum* or *interfaeminium* the region of the body between the anus and scrotum.

<sup>13</sup> *those* i.e., women.

<sup>14</sup> *ordinary* methodical, regular, orderly.

<sup>15</sup> Crooke refers here to a conceptualization of human anatomy which has come to be called 'genital homology': women's reproductive parts were identical to those of men, except that the male body's natural heat caused these organs to be thrust forth from the body, while the female body's lack of heat caused them to be retained within. Sometimes called the 'one-sex model,' this complex of ideas suggested that there was one basic physical form, but the degree of heat within a said body determined whether it would become male or female. For this reason, the female genitals are described in terminology that we would now reserve exclusively for the male: testicles, seed, etc. see Chapter 11, below. For the first full account of the one-sex body, see T. Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, MA, 1990).

<sup>16</sup> *till it come ... recreation* a reference to the Christian belief in the resurrection of the body, when the believer's physical body would be transformed into a glorified and immutable thing (re-created).

So then, in the first conception or soon after, whether it be in man or woman the same members are generated, but the fruit proveth male or female because of the temper of the seed and the parts of generation, either by heat thrust out, or for want or weakness of the heat retained within. Wherefore a woman is so much less perfect than a man by how much her heat is less and weaker than his; yet, as I said, is this imperfection turned unto perfection, because without the woman, mankind could not have been perfected by the perfecter sex. The great Master Workman<sup>17</sup> therefore of set purpose made the one half of mankind imperfect for the instauration<sup>18</sup> of the whole kind, making the woman as a receptacle of the seed of which a new man was to be created.

[...]

#### CHAPTER 11: OF THE TESTICLES<sup>19</sup>

The testicles, which because of the inbred coldness of women are included within the lower venter<sup>20</sup> [...] that they might be kept warm and be made fruitful, do lie one on either side at the sides of the matrix<sup>21</sup> [...] above the bottom in women without child, but in those that be, they are about the place where the haunch-bones are joined to the great or holy-bone, that are contained in loose membranes, arising from the *peritoneum*<sup>22</sup> which cover also the middle part of the testicles.

They differ from men's testicles in situation, for they lie upon the muscles of the loins within the abdomen; in figure because they are not so thick or round, but before and behind broad and flatted [...] Long they are [...] sinuous or hollow [...] they abound with a waterish humour<sup>23</sup> like the thickest whey<sup>24</sup> [...] They differ also in magnitude for they are much less in substance, because they are moister and softer [...] Neither is their substance so compact, because they were to engender a more imperfect seed. In temperament they are colder, whence women's seed is more moist, thin, and waterish. [...] The seed of a man is the active principle of the body, that of women but the passive, or at least far less active than the other. But if the seed of both sexes had been thick, gluey and compact, they could not have been so perfectly mingled. [...]

The use of the testicles,<sup>25</sup> as say Columbus,<sup>26</sup> Archangelus,<sup>27</sup> Laurentius,<sup>28</sup> and Bauhin,<sup>29</sup>

<sup>17</sup> *Master Workman* God.

<sup>18</sup> *instauration* restoration, renewal.

<sup>19</sup> *Testicles* Here, Crooke is dealing specifically with what early modern physicians and anatomists understood as the *female* testicles.

<sup>20</sup> *venter* here, the abdomen.

<sup>21</sup> *matrix* womb or uterus.

<sup>22</sup> *peritoneum* the membrane that lines the walls of the abdominal cavity, covering most of the abdominal viscera.

<sup>23</sup> *humour* one of the principal fluids in the early modern body.

<sup>24</sup> *whey* the watery part of milk left over in the making of cheese.

<sup>25</sup> *testicles* again, here Crooke is speaking specifically of the female testicles. The marginal comment here says "The use of a woman's testicles."

<sup>26</sup> Realdo Columbo (Realdus *Columbus*) [d. 1559], Italian anatomist and physician, one of the first Europeans to describe pulmonary circulation. No relation to the famous explorer, Columbus claimed to have discovered the clitoris, a claim that Crooke dismisses below. Cf. Bartholin, 'Bartholinus Anatomy,' *Online Companion*, n2.

<sup>27</sup> *Archangelus* perhaps Archangelo Piccolomini (1526-1605), Italian anatomist, author of *Anatomicae Praelectiones (Anatomical Lectures)* [1586].

<sup>28</sup> Andreas *Laurentius* [Andre du Laurens] (1558-1609), French anatomist and physician, whose *Historia Anatomica*

is by their inbred power to make the seed fruitful. Fallopius<sup>30</sup> is not of this mind; Platerus<sup>31</sup> halteth betwixt both; but we know assuredly that those women whose testicles are ill-disposed are barren and unfruitful. For women as well as men do yield seed,<sup>32</sup> but cold, though Aristotle deny it in his first book *De Gener[atione] Animal[ium]* and the twentieth chapter, who would have that humour which is avoided<sup>33</sup> by the neck of the matrix<sup>34</sup> not to be a seminary or seedy humour,<sup>35</sup> but a proper humour of the place,<sup>36</sup> to wit, an excrement<sup>37</sup> of the womb, which also should be found in some but not in others, as especially brown or swart-coloured<sup>38</sup> and mannish women. But Hippocrates in his first book *De Diaeta* and in his book *De Natura Pueri*,<sup>39</sup> and Galen in his fourteenth book of *The Use of Parts* and the eleventh chapter, have taught that to perfect generation there is required a concurrence and mixture of the seeds of both sexes, and a place wherein the form of the parts being only in power present, the seed might be brought into act: such is the womb, of which we shall hear by and by.<sup>40</sup>

#### CHAPTER 16: OF THE LAP OR PRIVITIES<sup>41</sup>

[...]

The *nymphae*<sup>42</sup>—so called by Galen [...], of the Latins *alae* (the ‘wings’), of others ‘skinny caruncles’,<sup>43</sup>—are two productions on either side. [...] These being joined do make a fleshy eminence, and covering the clitoris with a foreskin ascend with a manifest rising line to the top of the great cleft. [...]

They are very like in colour and shape to that part of a cock’s comb which hangs under

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(1600) details the controversies between the followers of Galen and those of Aristotle, the two main bodies of opinion that shaped Renaissance medical science.

<sup>29</sup> Caspar Bauhin (1560-1624), Swiss physician and anatomist, author of *On the Fabric of the Human Body* (1590) and *The Anatomical Theatre* (1605).

<sup>30</sup> Fallopius Gabriele Falloppio (1523-1563), the Italian physician and anatomist after whom the fallopian tubes are named.

<sup>31</sup> Platerus perhaps, Thomas Platter (1574-1628), Swiss physician and traveler. His son Felix Platter published a medical treatise in 1625 with his father’s annotations and additions.

<sup>32</sup> Before the advent of the ovum theory of conception, it was believed that both men and women produced semen (*seed*), and that both ejaculated this seed at the moment of sexual orgasm. Woman’s seed was generally believed to be thinner and colder than male seed. There was (as Crooke) indicates an active and on-going debate about what each partner contributed to conception.

<sup>33</sup> *avoided* i.e., voided, expelled.

<sup>34</sup> *neck of matrix* perhaps the cervix, but here, more likely, the vagina.

<sup>35</sup> *seminary or seedy humour* i.e., a liquid that possesses the power in inseminate.

<sup>36</sup> *proper humour of the place* i.e., a liquid appropriate to this internal organ, the womb or uterus.

<sup>37</sup> *excrement* waste product.

<sup>38</sup> *swart-coloured* dark, swarthy; black.

<sup>39</sup> *Latin*, ‘On Diet’ and ‘On the Nature of Children’ (respectively).

<sup>40</sup> *by and by* very soon.

<sup>41</sup> In this section, Crooke deals with the external and internal genitalia (the vulva, the clitoris, the vagina, etc.)

<sup>42</sup> *nymphae* here, the labia or lips of the vulva.

<sup>43</sup> *caruncles* small fleshy excrescences, another word for the labia.

his throat. Their substance is partly fleshy, partly membranous, soft and funguous,<sup>44</sup> and they are invested with a thin coat. Sometimes, they grow to so great a length on one side, more rarely on both, and not so ordinarily in maidens as in women,<sup>45</sup> [...] what through the affluence of humours,<sup>46</sup> what through attrectation,<sup>47</sup> that for the trouble and shame (being in many countries a notable argument<sup>48</sup> of petulancy and immodesty) they need the surgeon's help to cut them off (although they bleed much and are hardly cicatrized<sup>49</sup>), especially among the Egyptians,<sup>50</sup> amongst whom this accident<sup>51</sup> (as Galen sayeth) is very familiar. Wherefore in maidens before they grow too long they cut them off, and before they marry.<sup>52</sup> These *nymphae*, beside the great pleasure women have by them in coition,<sup>53</sup> do also defend the womb from outward injuries, being of the use to the orifice of the neck which the foreskin is to the yard [...]

[...]

'Clitoris' in Greek [...] cometh of an obscene word signifying 'contractation',<sup>54</sup> but properly it is called the woman's yard.<sup>55</sup> It is a small production in the upper, forward [...] and middle fatty part of the share,<sup>56</sup> in the top of the greater cleft where the nymphs<sup>57</sup> do meet, and is answerable to the member of the man,<sup>58</sup> from which it differs in the length, the common passage,<sup>59</sup> and the want<sup>60</sup> of one pair of muscles; but agrees in situation, substance and composition. [...]

[...]

The head<sup>61</sup> is properly called *tentigo*<sup>62</sup> by Juvenal, which is covered with a fine skin made of the conjunction of the nymphae, as it were with a foreskin. It hath an entrance but no through

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<sup>44</sup> *funguous* spongy.

<sup>45</sup> *in maidens as in women* i.e., in virgins as in sexually experienced women (wives).

<sup>46</sup> *affluence of humours* i.e., the movement of these liquids towards [this particular part of the body].

<sup>47</sup> *attrectation* touching, feeling with the hands.

<sup>48</sup> *argument* proof, token, manifestation.

<sup>49</sup> *hardly cicatrized* i.e., with difficulty healed (by inducing a *cicatrice* or scar-tissue to form over a wound or incision).

<sup>50</sup> MARGINAL NOTE: The Egyptian women lascivious.

<sup>51</sup> *accident* occurrence.

<sup>52</sup> Crooke refers of course to aspects of female genital mutilation (female circumcision).

<sup>53</sup> *coition* i.e., coitus, sexual intercourse.

<sup>54</sup> *contractation* handling, touching, fingering. This word and 'attrectation' occur largely, but not exclusively, in medical texts.

<sup>55</sup> *yard* penis.

<sup>56</sup> *share* the pubic region.

<sup>57</sup> *nymphs* See n42 (nymphae).

<sup>58</sup> *answerable to the member of the man* i.e., homologous to the male penis.

<sup>59</sup> *common passage* duct or channel in the body; thus, the channel and slit used for urination, which in men corresponds with the channel and slit through which ejaculate passes.

<sup>60</sup> *want* lack.

<sup>61</sup> *head* the nub of the clitoris.

<sup>62</sup> *tentigo* Latin, 'clitoris', but also apparently used by the ancients to describe the erect penis (J. N. Adams, *The Latin Sexual Vocabulary*, pp. 103-104).

passage; there are vessels also running along the back of it as in a man's yard; and although for the most part it hath but a small production hidden under the nymphae and hard to be felt but with curiosity,<sup>63</sup> yet sometimes it groweth to such a length that it hangeth without the cleft like a man's member, especially when it is fretted with the touch of the clothes, and so strutteth and groweth to a rigidity as doth the yard of a man. And this part it is which those wicked women do abuse called *tribades* (often mentioned by many authors, and in some states worthily punished) to their mutual and unnatural lusts.<sup>64</sup>

The use of this part is the same with the bridle of the yard;<sup>65</sup> for because the testicles of the woman are far distant from the yard of the man, the imagination is carried to the spermatical vessels<sup>66</sup> by the motions and attrition<sup>67</sup> of this clitoris, together with the lower ligatures of the womb, whose original toucheth, cleaveth, and is tied to the leading vessel of the seed, and so the profusion of their seed is stirred up for generation, for which business it was not necessary it should be large: wherefore although by this passage their seed is not ejaculated, yet by the attrition of it their imagination is wrought to call that out that lieth sleepily hidden in the body; and hence it is called *aestrum Veneris* and *dulcedo amoris*;<sup>68</sup> for in it, with the ligaments inserted into it, is the especial seat of delight in their venereal embracements,<sup>69</sup> as Columbus imagineth he first discovered.<sup>70</sup>

For Nature, who wisheth [...] that if it might be, her work might be immortal, and falling from that hope because of the contrariety of the matter, hath given to all creatures both the instruments of conception, and hath also infused into them [a] strange and violent kind of delight, that none of the kinds of the creatures should perish but remain ever after a sort immortal. And truly it was very necessary that there should be a kind of pleasant force or violence in the nature of mankind to transport him out of himself or beside himself, as it were, in the act of generation;

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<sup>63</sup> *curiosity* great care.

<sup>64</sup> MARGINAL NOTE: *Tribades odiosae feminae*. Leo Africanus, Caelius Aurelianus. [Editor's note: The Latin translates as: 'Those hateful women, the tribades.' A 'tribade' is a woman who has sex with another woman. For these descriptions of *tribades*, see the selections from Africanus' *Geographical History of Africa* (1526; trans. 1660) in the print anthology; see also Aurelianus' translation of Soranos' *On Chronic Diseases*, Book 4, chpt. 9 [not translated into English until the 20<sup>th</sup> c.].

<sup>65</sup> *the bridle of the yard* i.e., the frenulum of the penis; a frenulum is a fold of tissue that helps govern the movements of parts of the body such as the tongue, the penis, the clitoris, and the labia.

<sup>66</sup> *spermatical vessels* i.e., the place where the seed (semen) is prepared for use; the nearest modern equivalent would be the ovaries.

<sup>67</sup> *attrition* friction, rubbing of one thing against another.

<sup>68</sup> *Latin*, 'the fire of Venus' and 'the sweetness of love.' Crooke indicates (and he is perfectly correct) that the clitoris had long been known (i.e., since the time of the ancients) as the seat of the female orgasm.

<sup>69</sup> *their venereal embracements* i.e., women's sexual encounters.

<sup>70</sup> Crooke's treatise lacks any discussion of male same-sex intercourse, and it even refuses to elaborate on male autoerotic practices like masturbation. In fact, Crooke discusses the anatomical structures of and physiological processes associated with the male genitals in entirely heterosexual terms. At the end of the discussion of "Of the Yard or Virile Member" (Book 4, chpt. 8) he briefly alludes to the way semen may be provoked by "lustful disports or imaginations," (comparing in addition 'involuntary' ejaculation to vomiting!); and he finally acknowledges that his account will seem very sketchy to those who already have some information in this area: "but yet withal I hope I shall find pardon, because the reader may perceive (at least if he have any knowledge) that I have pretermitted [i.e., left out, omitted] many secrets of Nature, which I could and would here have somewhat insisted upon, if I had imagined that all into whose hands this work should come had been competent and fit auditors for such kind of philosophy."

to which otherwise being master of himself he would hardly have been drawn; which ecstasy (for it is called a little epilepsy or falling sickness) is caused by the touch of the seed upon the nervous and quick sensed parts as it passeth by them.

[...]

#### QUESTION 8: HOW THE PARTS OF GENERATION IN MEN AND WOMEN DO DIFFER

Concerning the parts of generation in women, it is a great and notable question whether they differ only in situation from those of men. For the ancients have thought that a woman might become a man, but not on the contrary side—a man become a woman. For they say that the parts of generation in women lie hid, because the strength of their natural heat is weaker than in men, in whom it thrusteth those parts outward. Women have spermatical vessels, as well preparing as leading vessels and testicles which boil the blood, and a kind of yard also, which they say is the neck of the womb if it be inverted. Finally, the bottom of the womb distinguished by the middle line is the very same with the cod or scrotum. This Galen often urgeth in divers of his works as before is said; so Aegineta, Avicenna, Rhazes,<sup>71</sup> and all of the Greek and Arabian families, with whom all anatomists do consent. For confirmation also hereof there are many stories current among ancient and modern writers of many women turned into men. [...] The hyena also, a cruel and subtle beast, doth every other year change her sex. Of whom Ovid in the XV [book] of his *Metamorphosis* sayeth: “The same hyena which we saw admit the male before, / To cover now her female mate, we can but wonder sore.”<sup>72</sup> Pontanus hath the same of Iphis in an elegant verse: “Iphis her vow benempt<sup>73</sup> a maid, / But turned boy her vow she paid.”<sup>74</sup> Of later times, Volteran, a cardinal,<sup>75</sup> sayeth that in the time of Pope Alexander VI he saw at Rome a virgin who, on the day of her marriage, had suddenly a virile member grown out of her body. We read also that there was at Auscis in Vasconia a man of above sixty years of age, grey, strong and hairy, who had been before a woman till the age of fifteen years, or till within fifteen years of threescore,<sup>76</sup> yet at length by accident of a fall, the ligaments (sayeth my author) being broken, her privities came outward and she changed her sex, before which change she had never had her courses.<sup>77</sup>

<sup>71</sup> *Aegineta* Paul of Aegina (fl. 640 CE), a Greek, a Galenist, and the author of many medical treatises, of which only his encyclopaedic *Seven Books of Medicine* survives. *Avicenna* Ibn Sina (d. 1037 CE), influential Persian physician and philosopher, who combined Aristotelian and Galenic ideas in his *Canon of Medicine* *Rhazes* Razi (d. 925 CE), born in Persia, and arguably the greatest of the ancient Arab-Islamic physicians, he wrote over 200 books; his medical text translated as *Liber medicinalis ad almansorem* was enormously influential in the West.

<sup>72</sup> See Ovid, *Metamorphoses*, Book 15. This idea about the hyena was quite common, and can also be found in Pliny's *Natural History*. *sore* extremely.

<sup>73</sup> *benempt* i.e., benamed: solemnly declared.

<sup>74</sup> Probably Jovianus Pontanus (Giovanni Gioviano Pontano [1426-1503]), Italian poet and humanist. Iphis' story was retold by Pontanus from its original rendition in Ovid's *Metamorphoses*, Book 9. Iphis, a girl, is disguised as a boy at birth by her mother, since Iphis's father has threatened to kill the newborn unless it is a boy. The deception is successful until the day of Iphis's arranged marriage; the mother prays to the goddess Telethusa (Isis) and Iphis is transformed into a man, marries his beloved and lives happily with her.

<sup>75</sup> *Volteran* Raffaello Volterrano (Maffei) [1451-1522], Italian historian and humanist.

<sup>76</sup> *threescore* 60.

<sup>77</sup> *courses* menstrual cycle.



Pontanus witnesseth that a fisherman's wench<sup>78</sup> of Caieta of fourteen years old became suddenly a young springal.<sup>79</sup> The same happened to Emilia the wife of Antony Spensa, a citizen of Ebula, when she had been twelve years a married woman.

In the time of Ferdinand, the first king of Naples, Carlotta and Francisca, the daughters of Ludovic Quarna of Salernum, when they were fifteen years old changed their sex. Amatus Lusitanus<sup>80</sup> testifieth in his *Centuries* that he saw the same at Conibrica, a famous town of Portugal. There standeth upon record in the eighth section of the sixth book of Hippocrates his *Epidemics*, an elegant history of one Phaetusa, who when her husband was banished was so overgrown with sorrow that before her time her courses utterly stopped<sup>81</sup> and her body became manlike and hairy all over, and she had a beard and her voice grew stronger. The same also he recordeth to have happened to Namisia, the wife of Gorgippus in Thaso.

Wherefore say they, if a woman may become a man and her parts of generation which before lay hid within may come forth and hang as men's do, then do women differ from men only in the site or position of their parts of generation.

Notwithstanding all this, against this opinion there are two mighty arguments: one is taken from [experience] in dissection, another from reason, which two are the philosophers' bloodhounds, by which they tracked the causes of things.

For first of all (sayeth Laurentius) these parts in men and women differ in number. The small bladders which first Herophilus<sup>82</sup> found, and called *varicosos adstites*, that is, the *parastatae*,<sup>83</sup> women have not at all; nor the *prostatae*<sup>84</sup> which are placed at the root of the yard and neck of the bladder, in which seed is treasured up for the necessary uses of nature; although there be some that think that women have them but so small that they are insensible,<sup>85</sup> which is (sayeth he) to beg the question.

Again, methinks it is very absurd to say that the neck of the womb<sup>86</sup> inverted is like the member of a man; for the neck of the womb hath but one cavity, and that is long and large like a sheath to receive the virile member: but the member or yard of a man consisteth of two hollow nerves, a common passage for seed and urine, and four muscles. Neither is the cavity of a man's yard so large and ample as that of the neck of the womb. Add to this, that the neck of the bladder in women doth not equal in length the neck of the womb, but in men it equaleth the whole length of the member or yard. Howsoever, therefore, the neck of the womb shall be inverted, yet will it never make the virile member: for three hollow bodies cannot be made of one, but the yard consisteth of three hollow bodies [...] as we have before sufficiently showed.

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<sup>78</sup> *wench* a girl, usually of the rustic or working classes.

<sup>79</sup> *springal* young man, youth.

<sup>80</sup> Amatus Lusitanus (Juan Rodrigues de Castelo Branco, 1511-1568), Portuguese-Jewish physician, with acknowledged expertise in gynaecology and obstetrics. His *Centuries* (*Curationium Centuriae Septem* [1556]) is a 7 volume collection of his case studies and treatments.

<sup>81</sup> *before her time her courses utterly stopped* i.e., before the expected time of menopause, she stopped menstruating.

<sup>82</sup> Herophilus of Chalcedon (c. 330-260 BCE), the Greek physician, and the first to be credited with moving from animal to human dissection.

<sup>83</sup> *parastatae* the parastata or epididymis, through which sperm passes in ejaculation.

<sup>84</sup> *prostratae* i.e., the prostate.

<sup>85</sup> *insensible* i.e., not able to be detected by the senses.

<sup>86</sup> *neck of the womb* the vagina.

If any man instance in the *tentigo*<sup>87</sup> of the ancients, or Fallopius his clitoris, bearing the shape of a man's yard, as which hath two ligaments and four muscles, yet see how these two differ. The clitoris is a small body, not continued at all with the bladder, but placed in the height of the lap. The clitoris hath no passage for the emission of seed; but the virile member is long and hath a passage in the midst by which it poureth seed into the neck of the womb.

Neither is there (sayeth Laurentius) any similitude between the bottom of the womb inverted and the scrotum or cod of a man: For the cod is a rugous<sup>88</sup> and thin skin, the bottom of the womb is a very thick and tight membrane, all fleshy within and woven with manifold fibres.

Finally, the insertion of the spermatic vessels, the different figure of the man's and woman's testicles, their magnitude, substance, and structure or composition do strongly gainsay this opinion.

But what shall we say to those so many stories of women changed into men? Truly, I think sayeth he,<sup>89</sup> all of them monstrous and some not credible. But if such a thing shall happen, it may well be answered that such parties were hermaphrodites: that is, had the parts of both sexes, which because of the weakness of their heat in their nonage<sup>90</sup> lay hid, but broke out afterward as their heat grew unto strength. Or we may safely say that there are some women so hot by nature that their clitoris hangeth forth in the fashion of a man's member, which because it may be distended and again grow loose and flaccid, may deceive ignorant people. Again midwives may oft be deceived because of the faulty conformation of those parts, for sometimes the member and testicles are so small and sink so deep into the body that they cannot easily be discerned.

Pinaeus<sup>91</sup> writeth that at Paris, in the year 1577, in the street of St. Denis, a woman travailed<sup>92</sup> and brought forth a son, which because of the weakness of the infant was suddenly baptized for a daughter and was called Joanna. A few days after, in dressing the infant, the mother perceived it to be a man-child and so did the standers-by and they named it John.

As for the authority of Hippocrates, it followeth not that all those women whose voices turn strong or have beards and grow hairy do presently also change their parts of generation. Neither doth Hippocrates say so, but plainly the contrary, for he addeth, "When we had tried all means we could not bring down her courses, but she perished." Wherefore her parts of generation remained those of a woman, although her body grew mannish and hairy.

[...]

#### BOOK 5: WHEREIN THE HISTORY OF THE INFANT IS ACCURATELY DESCRIBED

[...]

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<sup>87</sup> *tentigo* See n62.

<sup>88</sup> *rugous* rugose: wrinkled, ridged.

<sup>89</sup> *I think sayeth he* i.e., 'I believe he (Laurentius) argues that' OR 'he (Laurentius) says, and I think so too.'

<sup>90</sup> *nonage* childhood or youth.

<sup>91</sup> *Pinaeus* Severin Pineau, 16<sup>th</sup> century French physician and anatomist; an expert in the areas of gynaecology and obstetrics, he also wrote a widely circulated treatise on the physical signs of virginity.

<sup>92</sup> *travailed* went into labour.

# A DILUCIDATION<sup>93</sup> OR EXPOSITION OF THE CONTROVERSIES CONCERNING THE HISTORY OF THE INFANT

## QUESTION 1: OF THE DIFFERENCE OF THE SEXES

Aristotle in his books of the history and generation of creatures<sup>94</sup> doth often inculcate<sup>95</sup> that the difference of sexes is most necessary unto perfect generation. [...] The male is originally the hotter, and therefore the first principle of the work, and besides affordeth the greatest part of the formative power or faculty. The female is the colder, and affordeth the place wherein the seed is conceived, and the matter whereby the conception is nourished and sustained, which matter is the crude and raw remainders of her own aliment.<sup>96</sup>

[...]

This difference of the sexes do[es] not make the essential<sup>97</sup> distinctions of the creature. The reasons are: First (because as Aristotle sayeth [...])<sup>98</sup> in all creatures there is not this distinction or diversity of sexes. Secondly, because essential differences do make a distinction of kinds: now we know that the male and the female a[re] both of one kind, and only differ in certain accidents.<sup>99</sup> But what these accidental differences are is not agreed upon as yet.

The Peripatetics<sup>100</sup> think that Nature ever intendeth the generation of a male, and that the female is procreated by accident out of a weaker seed which is not able to attain the perfection of the male. Wherefore Aristotle thinketh that the woman or female is nothing else but an error or aberration of Nature [...]; yea, he proceedeth further and sayeth that the female is a by-work or prevarication, yea, the first monster in Nature.

Galen [...], following Aristotle something too near, writeth that the formative power which is in the seed of man being but one doth always intend the generation of one, that is, the male; but if she err from her scope and cannot generate a male, then bringeth she forth the female, which is the first and most simple imperfection of a male, which therefore he calleth a creature lame, occasional and accessory, as if she were not of the main, but made by the by.<sup>101</sup> Now herein he putteth the difference betwixt her and the male, that in males the parts of generation are without the body, in females they lie within because of the weakness of the heat, which is not able to thrust them forth. And therefore he sayeth that the neck of the womb is nothing else but the virile member<sup>102</sup> turned inward, and the bottom of the womb nothing but the

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<sup>93</sup> *dilucidation* elucidation, explanation.

<sup>94</sup> i.e., in his treatises *De Generatione Animalium* and *De Historia Animalium*.

<sup>95</sup> *inculcate* teach insistently and repeatedly.

<sup>96</sup> *aliment* food, nutrition.

<sup>97</sup> *essential* intrinsic, inherent.

<sup>98</sup> See his *De Generatione Animalium*, 2.4 and *De Historia Animalium*, 4.17.

<sup>99</sup> *accidents* unessential properties or qualities.

<sup>100</sup> *Peripatetics* another word for those who follow Aristotle's philosophy.

<sup>101</sup> *not of the main ... by and by* i.e., not of the central part of the business, but made casually, incidentally, or in passing.

<sup>102</sup> *virile member* penis.

scrotum or cod inverted.<sup>103</sup>

But this opinion of Galen and Aristotle we cannot approve, for we think that Nature as well intendeth the generation of a female as of a male, and therefore it is unworthily said that she is an error or monster in nature. For the perfection of all natural things is to be esteemed and measured by the end: now it was necessary that woman should be so formed or else Nature must have missed of her scope, because she intended a perfect generation, which without a woman cannot be accomplished.

Those things which Galen urgeth concerning the similitude, or parts of generation differing only in site and position, many men do esteem very absurd.<sup>104</sup> Sure we are that they savour little of the truth of anatomy, as we have already proved in the book going before [...]. Wherefore we must not think that the female is an imperfect male differing only in the position of the genitals. Neither yet must we think that the sexes do differ in essential form and perfection, but in the structure and temperament of the parts of generation.

The woman hath a womb ordained by Nature as a field or seed-plot to receive, conceive and cherish the seed; the temper of her whole body is colder than that of a man, because she was to suggest and minister matter for the nourishment of the infant. And this way Aristotle [...] seemeth to incline, where he sayeth that the male and the female do differ as well in respect<sup>105</sup> as in sense: in respect, because the manner of their generation is diverse, for the female generateth in herself, the male not in himself but in the female; in sense, because the parts appear other and otherwise in the sexes. The parts of the female are the womb and the rest which by a general name are called *matrices*;<sup>106</sup> the parts of a man are the virile member and the testicles.<sup>107</sup>

[...]

#### QUESTION 20: WHENCE IT COMETH THAT CHILDREN ARE LIKE THEIR PARENTS

[...]

The similitude of the sex (that is, why a male or female is generated) hath for cause the temper of the seed, his mixture and victory, for if the seed of both parents be very hot, males are generated, if very cold females. If in the permixtion<sup>108</sup> of the seeds the male seed have the upper hand, a male is procreated, if the female seed a female. This first of all Hippocrates taught<sup>109</sup> [...] where he acknowledgeth in either sex a double seed, the one masculine, hotter and stronger, the other feminine, that is colder, out of the divers permixtion of which both males and females are generated. He therefore thus distinguisheth a threefold generation of males and females. If both the parents yield a masculine seed they breed male children of a noble and generous disposition,

<sup>103</sup> See Galen's *De Usu Partium* ('On the Use of the Parts'), 14.6-7.

<sup>104</sup> *many men do esteem very absurd* For the rejection of genital homology in early modern Europe, see I. Maclean. *The Renaissance Notion of Woman* (Cambridge, 1980), pp. 28-33.

<sup>105</sup> *in respect* i.e., in their relative property or quality.

<sup>106</sup> *matrices* Latin, plural of 'matrix,' the female parts of generation; specifically, the womb or uterus

<sup>107</sup> See Aristotle's *De Generatione Animalium*, 1.2.

<sup>108</sup> *permixtion* a thorough mixture or mingling; intermingling.

<sup>109</sup> See his *De Diaeta*, Book 1.

[...] nobly minded and strong of body. If from the man there issue masculine seed, from the woman feminine, and the masculine prevail, a male will be generated but less generous and strong than the former. If from the woman there issue masculine seed, from the man feminine, and the masculine overcome, a male will be generated, but womanish, soft, base,<sup>110</sup> and effeminate.

The very like may be said of the generation of females: for if from both the parents do issue feminine seed a female will be procreated most weak and womanish. [...] If from the woman proceed a feminine seed and from the man a masculine, and yet the feminine overcome, women are begotten bold and moderate. If from the man proceed feminine seed and from the woman masculine, and the woman's seed prevail, women are begotten [...] fierce and mannish. The temper therefore of the seed and the victory in the permixtion are the causes of the similitude of the sex, that is of males and females; which causes are also not a little assisted by the temper of the womb and the condition of the place, for, as I have often said, male children are born in the right side, females in the left.

[...]

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<sup>110</sup> *base* ignoble, incapable of lofty thought or action.