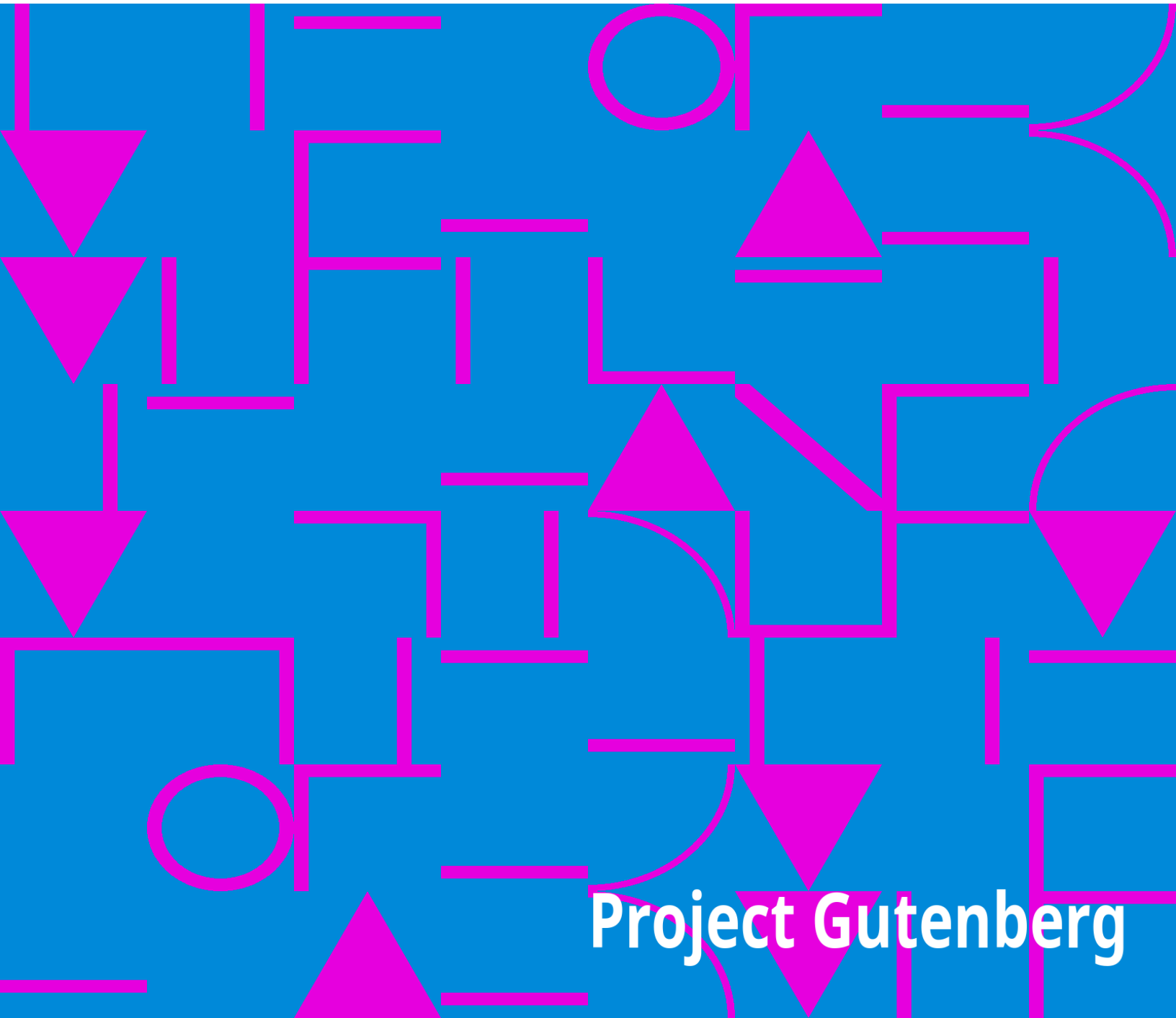
The Works of Aristotle the Famous Philosopher



The Works of Aristotle the Famous Philosopher

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THE WORKS OF ARISTOTLE THE FAMOUS PHILOSOPHER

Containing his Complete Masterpiece and Family Physician; his Experienced Midwife, his Book of Problems and his Remarks on Physiognomy

COMPLETE EDITION, WITH ENGRAVINGS

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PART I—BOOK I

THE MASTERPIECE

On marriage and at what age young men and virgins are capable of it: and why so much desire it. Also, how long men and women are capable of it.

There are very few, except some professional debauchees, who will not readily agree that "Marriage is honourable to all," being ordained by Heaven in Paradise; and without which no man or woman can be in a capacity, honestly, to yield obedience to the first law of the creation, "Increase and Multiply." And since it is natural in young people to desire the embraces, proper to the marriage bed, it behoves parents to look after their children, and when they find them inclinable to marriage, not violently to restrain their inclinations (which, instead of allaying them, makes them but the more impetuous) but rather provide such suitable matches for them, as may make their lives comfortable; lest the crossing of those inclinations should precipitate them to commit those follies that may bring an indelible stain upon their families. The inclination of maids to marriage may be known by many symptoms; for when they arrive at puberty, which is about the fourteenth or fifteenth year of their age, then their natural purgations begin to flow; and the blood, which is no longer to augment their bodies, abounding, stirs up their minds to venery. External causes may also incline them to it; for their spirits being brisk and inflamed, when they arrive at that age, if they eat hard salt things and spices, the body becomes more and more heated, whereby the desire to veneral embraces is very great, and sometimes almost insuperable. And the use of this so much desired enjoyment being denied to virgins, many times is followed by dismal consequences; such as the green weesel colonet, short-breathing, trembling of the heart, etc. But when they are married and their veneral desires satisfied by the enjoyment of their husbands, these distempers vanish, and they become more gay and lively than before. Also, their eager staring at men, and affecting their company, shows that nature pushes them upon coition; and their parents neglecting to provide them with husbands, they

break through modesty and satisfy themselves in unlawful embraces. It is the same with brisk widows, who cannot be satisfied without that benevolence to which they were accustomed when they had their husbands.

At the age of 14, the menses, in virgins, begin to flow; then they are capable of conceiving, and continue generally until 44, when they cease bearing, unless their bodies are strong and healthful, which sometimes enables them to bear at 65. But many times the menses proceed from some violence done to nature, or some morbific matter, which often proves fatal. And, hence, men who are desirous of issue ought to marry a woman within the age aforesaid, or blame themselves if they meet with disappointment; though, if an old man, if not worn out with diseases and incontinency, marry a brisk, lively maiden, there is hope of him having children to 70 or 80 years.

Hippocrates says, that a youth of 15, or between that and 17, having much vital strength, is capable of begetting children; and also that the force of the procreating matter increases till 45, 50, and 55, and then begins to flag; the seed, by degrees, becoming unfruitful, the natural spirits being extinguished, and the humours dried up. Thus, in general, but as to individuals, it often falls out otherwise. Nay, it is reported by a credible author, that in Swedland, a man was married at 100 years of age to a girl of 30 years, and had many children by her; but his countenance was so fresh, that those who knew him not, imagined him not to exceed 50. And in Campania, where the air is clear and temperate, men of 80 marry young virgins, and have children by them; which shows that age in them does not hinder procreation, unless they be exhausted in their youths and their yards be shrivelled up.

If any would know why a woman is sooner barren than a man, they may be assured that the natural heat, which is the cause of generation, is more predominant in the man than in the woman; for since a woman is more moist than a man, as her monthly purgations demonstrate, as also the softness of her body; it is also apparent that he does not much exceed her in natural heat, which is the chief thing that concocts the humours in proper aliment, which the woman wanting grows fat; whereas a man, through his native heat, melts his fat by degrees and his humours are dissolved; and by the benefit thereof are converted into seed. And this may also be added, that women, generally, are not so strong as men, nor so wise or prudent; nor

have so much reason and ingenuity in ordering affairs; which shows that thereby the faculties are hindered in operations.

CHAPTER II

How to beget a male or female child; and of the Embryo and perfect Birth; and the fittest time for the copula.

When a young couple are married, they naturally desire children; and therefore adopt the means that nature has appointed to that end. But notwithstanding their endeavours they must know that the success of all depends on the blessing of the Gods: not only so, but the sex, whether male or female, is from their disposal also, though it cannot be denied, that secondary causes have influence therein, especially two. First, the general humour, which is brought by the arteria praeparantes to the testes, in form of blood, and there elaborated into seed, by the seminifical faculty residing in them. Secondly, the desire of coition, which fires the imagination with unusual fancies, and by the sight of brisk, charming beauty, may soon inflame the appetite. But if nature be enfeebled, some meats must be eaten as will conduce to afford such aliment as makes the seed abound, and restores the exhaustion of nature that the faculties may freely operate, and remove impediments obstructing the procreating of children. Then, since diet alters the evil state of the body to a better, those subject to barrenness must eat such meats as are juicy and nourish well, making the body lively and full of sap; of which faculty are all hot moist meats. For, according to Galen, seed is made of pure concocted and windy superfluity of blood, whence we may conclude, that there is a power in many things, to accumulate seed, and also to augment it; and other things of force to cause desire, as hen eggs, pheasants, woodcocks, gnat-snappers, blackbirds, thrushes, young pigeons, sparrows, partridges, capons, almonds, pine nuts, raisins, currants, strong wines taken sparingly, especially those made of the grapes of Italy. But erection is chiefly caused by scuraum, eringoes, cresses, crysmon, parsnips, artichokes, turnips, asparagus, candied ginger, acorns bruised to powder and drank in muscadel, scallion, sea shell fish, etc. But these must have time to perform their operation, and must be used for a

considerable time, or you will reap but little benefit from them. The act of coition being over, let the woman repose herself on her right side, with her head lying low, and her body declining, that by sleeping in that posture, the cani, on the right side of the matrix, may prove the place of conception; for therein is the greatest generative heat, which is the chief procuring cause of male children, and rarely fails the expectations of those that experience it, especially if they do but keep warm, without much motion, leaning to the right, and drinking a little spirit of saffron and juice of hissop in a glass of Malaga or Alicant, when they lie down and arise, for a week.

For a female child, let the woman lie on her left side, strongly fancying a female in the time of procreation, drinking the decoction of female mercury four days from the first day of purgation; the male mercury having the like operation in case of a male; for this concoction purges the right and left side of the womb, opens the receptacles, and makes way for the seminary of generation. The best time to beget a female is, when the moon is in the wane, in Libra or Aquaries. Advicenne says, that when the menses are spent and the womb cleansed, which is commonly in five or seven days at most, if a man lie with his wife from the first day she is purged to the fifth, she will conceive a male; but from the fifth to the eighth a female; and from the eighth to the twelfth a male again: but after that perhaps neither distinctly, but both in an hermaphrodite. In a word, they that would be happy in the fruits of their labour, must observe to use copulation in due distance of time, not too often nor too seldom, for both are alike hurtful; and to use it immoderately weakens and wastes the spirits and spoils the seed. And this much for the first particular.

The second is to let the reader know how the child is formed in the womb, what accidents it is liable to there, and how nourished and brought forth. There are various opinions concerning this matter; therefore, I shall show what the learned say about it.

Man consists of an egg, which is impregnated in the testicles of the woman, by the more subtle parts of the man's seed; but the forming faculty and virtue in the seed is a divine gift, it being abundantly imbued with vital spirit, which gives sap and form to the embryo, so that all parts and bulk of the body, which is made up in a few months and gradually formed into the likely figure of a man, do consist in, and are adumbrated thereby (most

sublimely expressed, Psalm cxxxix.: "I will praise Thee, O Lord, for I am fearfully and wonderfully made.")

Physicians have remarked four different times at which a man is framed and perfected in the womb; the first after coition, being perfectly formed in the week if no flux happens, which sometimes falls out through the slipperiness of the head of the matrix, that slips over like a rosebud that opens suddenly. The second time of forming is assigned when nature makes manifest mutation in the conception, so that all the substance seems congealed, flesh and blood, and happens twelve or fourteen days after copulation. And though this fleshy mass abounds with inflamed blood, yet it remains undistinguishable, without form, and may be called an embryo, and compared to seed sown in the ground, which, through heat and moisture, grows by degrees to a perfect form in plant or grain. The third time assigned to make up this fabric is when the principal parts show themselves plain; as the heart, whence proceed the arteries, the brain, from which the nerves, like small threads, run through the whole body; and the liver, which divides the chyle from the blood, brought to it by the vena porta. The two first are fountains of life, that nourish every part of the body, in framing which the faculty of the womb is bruised, from the conception of the eighth day of the first month. The fourth, and last, about the thirtieth day, the outward parts are seen nicely wrought, distinguished by joints, from which time it is no longer an embryo, but a perfect child.

Most males are perfect by the thirtieth day, but females seldom before the forty-second or forty-fifth day, because the heat of the womb is greater in producing the male than the female. And, for the same reason, a woman going with a male child quickens in three months, but going with a female, rarely under four, at which time its hair and nails come forth, and the child begins to stir, kick and move in the womb, and then the woman is troubled with a loathing for meat and a greedy longing for things contrary to nutriment, as coals, rubbish, chalk, etc., which desire often occasions abortion and miscarriage. Some women have been so extravagant as to long for hob nails, leather, horse-flesh, man's flesh, and other unnatural as well as unwholesome food, for want of which thing they have either miscarried or the child has continued dead in the womb for many days, to the imminent hazard of their lives. But I shall now proceed to show by what means the child is maintained in the womb, and what posture it there remains in.

The learned Hippocrates affirms that the child, as he is placed in the womb, has his hands on his knees, and his head bent to his feet, so that he lies round together, his hands upon his knees and his face between them, so that each eye touches each thumb, and his nose betwixt his knees. And of the same opinion in this matter was Bartholinus. Columbus is of opinion that the figure of the child in the womb is round, the right arm bowed, the fingers under the ear, and about the neck, the head bowed so that the chin touches the breast, the left arm bowed above both breast and face and propped up by the bending of the right elbow; the legs are lifted upwards, the right so much that the thigh touches the belly, the knee the navel, the heel touches the left buttock, and the foot is turned back and covers the secrets; the left thigh touches the belly, and the leg lifted up to the breast.

CHAPTER III

The reason why children are like their parents; and that the Mother's imagination contributes thereto; and whether the man or the woman is the cause of the male or female child.

In the case of similitude, nothing is more powerful than the imagination of the mother; for if she fix her eyes upon any object it will so impress her mind, that it oftentimes so happens that the child has a representation thereof on some part of the body. And, if in act of copulation, the woman earnestly look on the man, and fix her mind on him, the child will resemble its father. Nay, if a woman, even in unlawful copulation, fix her mind upon her husband, the child will resemble him though he did not beget it. The same effect has imagination in occasioning warts, stains, mole-spots, and dartes; though indeed they sometimes happen through frights, or extravagant longing. Many women, in being with child, on seeing a hare cross the road in front of them, will, through the force of imagination, bring forth a child with a hairy lip. Some children are born with flat noses and wry mouths, great blubber lips and ill-shaped bodies; which must be ascribed to the imagination of the mother, who has cast her eyes and mind upon some ill-shaped creature. Therefore it behoves all women with child, if possible, to avoid such sights, or at least, not to regard them. But though the mother's imagination may contribute much to the features of the child, yet, in manners, wit, and propension of the mind, experience tells us, that children are commonly of the condition with their parents, and possessed of similar tempers. But the vigour or disability of persons in the act of copulation many times cause it to be otherwise; for children begotten through the heat and strength of desire, must needs partake more of the nature and inclination of their parents, than those begotten at a time when desires are weaker; and, therefore, the children begotten by men in their old age are generally weaker than, those begotten by them in their youth. As to

the share which each of the parents has in begetting the child, we will give the opinions of the ancients about it.

Though it is apparent that the man's seed is the chief efficient being of the action, motion, and generation: yet that the woman affords seed and effectually contributes in that point to the procreation of the child, is evinced by strong reasons. In the first place, seminary vessels had been given her in vain, and genital testicles inverted, if the woman wanted seminal excrescence, for nature does nothing in vain; and therefore we must grant, they were made for the use of seed and procreation, and placed in their proper parts; both the testicles and the receptacles of seed, whose nature is to operate and afford virtue to the seed. And to prove this, there needs no stronger argument, say they, than that if a woman do not use copulation to eject her seed, she often falls into strange diseases, as appears by young men and virgins. A second reason they urge is, that although the society of a lawful bed consists not altogether in these things, yet it is apparent the female sex are never better pleased, nor appear more blythe and jocund, than when they are satisfied this way; which is an inducement to believe they have more pleasure and titulation therein than men. For since nature causes much delight to accompany ejection, by the breaking forth of the swelling spirits and the swiftness of the nerves; in which case the operation on the woman's part is double, she having an enjoyment both by reception and ejection, by which she is more delighted in.

Hence it is, they say, that the child more frequently resembles the mother than the father, because the mother contributes more towards it. And they think it may be further instanced, from the endeared affection they bear them; for that, besides their contributing seminal matters, they feed and nourish the child with the purest fountain of blood, until its birth. Which opinion Galen affirms, by allowing children to participate most of the mother; and ascribes the difference of sex to the different operations of the menstrual blood; but this reason of the likeness he refers to the power of the seed; for, as the plants receive more nourishment from fruitful ground, than from the industry of the husbandman, so the infant receives more abundance from the mother than the father. For the seed of both is cherished in the womb, and then grows to perfection, being nourished with blood. And for this reason it is, they say, that children, for the most part, love their mothers best, because they receive the most of their substance from their

mother; for about nine months she nourishes her child in the womb with the purest blood; then her love towards it newly born, and its likeness, do clearly show that the woman affords seed, and contributes more towards making the child than the man.

But in this all the ancients were very erroneous; for the testicles, so called in women, afford not only seed, but are two eggs, like those of fowls and other creatures; neither have they any office like those of men, but are indeed the ovaria, wherein the eggs are nourished by the sanguinary vessels disposed throughout them; and from thence one or more as they are fecundated by the man's seed is separated and conveyed into the womb by the ovaducts. The truth of this is plain, for if you boil them the liquor will be of the same colour, taste and consistency, with the taste of birds' eggs. If any object that they have no shells, that signifies nothing: for the eggs of fowls while they are on the ovary, nay, after they are fastened into the uterus, have no shell. And though when they are laid, they have one, yet that is no more than a defence with which nature has provided them against any outward injury, while they are hatched without the body; whereas those of women being hatched within the body, need no other fence than the womb, by which they are sufficiently secured. And this is enough, I hope, for the clearing of this point.

As for the third thing proposed, as whence grow the kind, and whether the man or the woman is the cause of the male or female infant—the primary cause we must ascribe to God as is most justly His due, who is the Ruler and Disposer of all things; yet He suffers many things to proceed according to the rules of nature by their inbred motion, according to usual and natural courses, without variation; though indeed by favour from on high, Sarah conceived Isaac; Hannah, Samuel; and Elizabeth, John the Baptist; but these were all extraordinary things, brought to pass by a Divine power, above the course of nature. Nor have such instances been wanting in later days; therefore, I shall wave them, and proceed to speak of things natural.

The ancient physicians and philosophers say that since these two principles out of which the body of man is made, and which renders the child like the parents, and by one or other of the sex, viz., seed common to both sexes and menstrual blood, proper to the woman only; the similitude, say they, must needs consist in the force of virtue of the male or female, so that it proves

like the one or the other, according to the quantity afforded by either, but that the difference of sex is not referred to the seed, but to the menstrual blood, which is proper to the woman, is apparent; for, were that force altogether retained in the seed, the male seed being of the hottest quality, male children would abound and few of the female be propagated; wherefore, the sex is attributed to the temperament or to the active qualities, which consists in heat and cold and the nature of the matter under them—that is, the flowing of the menstruous blood. But now, the seed, say they, affords both force to procreate and to form the child, as well as matter for its generation; and in the menstruous blood there is both matter and force, for as the seed most helps the maternal principle, so also does the menstrual blood the potential seed, which is, says Galen, blood well concocted by the vessels which contain it. So that the blood is not only the matter of generating the child, but also seed, it being impossible that menstrual blood has both principles.

The ancients also say that the seed is the stronger efficient, the matter of it being very little in quantity, but the potential quality of it is very strong; wherefore, if these principles of generation, according to which the sex is made were only, say they, in the menstrual blood, then would the children be all mostly females; as were the efficient force in the seed they would be all males; but since both have operation in menstrual blood, matter predominates in quantity and in the seed force and virtue. And, therefore, Galen thinks that the child receives its sex rather from the mother than the father, for though his seed contributes a little to the natural principle, yet it is more weakly. But for likeliness it is referred rather to the father than to the mother. Yet the woman's seed receiving strength from the menstrual blood for the space of nine months, overpowers the man's in that particular, for the menstrual blood rather cherishes the one than the other; from which it is plain the woman affords both matter to make and force and virtue to perfect the conception; though the female's be fit nutriment for the male's by reason of the thinness of it, being more adapted to make up conception thereby. For as of soft wax or moist clay, the artificer can frame what he intends, so, say they, the man's seed mixing with the woman's and also with the menstrual blood, helps to make the form and perfect part of man.

But, with all imaginary deference to the wisdom of our fathers, give me leave to say that their ignorance of the anatomy of man's body have led

them into the paths of error and ran them into great mistakes. For their hypothesis of the formation of the embryo from commixture of blood being wholly false, their opinion in this case must of necessity be likewise. I shall therefore conclude this chapter by observing that although a strong imagination of the mother may often determine the sex, yet the main agent in this case is the plastic or formative principle, according to those rules and laws given us by the great Creator, who makes and fashions it, and therein determines the sex, according to the council of his will.

CHAPTER IV

That Man's Soul is not propagated by their parents, but is infused by its Creator, and can neither die nor corrupt. At what time it is infused. Of its immortality and certainty of its resurrection.

Man's soul is of so divine a nature and excellency that man himself cannot comprehend it, being the infused breath of the Almighty, of an immortal nature, and not to be comprehended but by Him that gave it. For Moses, relating the history of man, tells us that "God breathed into his nostrils the breath of life, and he became a living soul." Now, as for all other creatures, at His word they were made and had life, but the creature that God had set over His works was His peculiar workmanship, formed by Him out of the dust of the earth, and He condescended to breathe into his nostrils the breath of life, which seems to denote both care and, if we may so term it, labour, used about man more than about all other living creatures, he only partaking and participating of the blessed divine nature, bearing God's image in innocence and purity, whilst he stood firm; and when, by his fall, that lively image was defaced, yet such was the love of the Creator towards him that he found out a way to restore him, the only begotten son of the Eternal Father coming into the world to destroy the works of the devil, and to raise up man from that low condition to which sin and his fall had reduced him, to a state above that of the angels.

If, therefore, man would understand the excellency of his soul, let him turn his eyes inwardly and look unto himself and search diligently his own mind, and there he shall see many admirable gifts and excellent ornaments, that must needs fill him with wonder and amazement; as reason, understanding, freedom of will, memory, etc., that clearly show the soul to be descended from a heavenly original, and that therefore it is of infinite duration and not subject to annihilation.

Yet for its many operations and offices while in the body it goes under several denominations: for when it enlivens the body it is called the soul; when it gives knowledge, the judgment of the mind; and when it recalls things past, the memory; when it discourses and discerns, reason; when it contemplates, the spirit; when it is the sensitive part, the senses. And these are the principal offices whereby the soul declares its powers and performs its actions. For being seated in the highest parts of the body it diffuses its force into every member. It is not propagated from the parents, nor mixed with gross matter, but the infused breath of God, immediately proceeding from Him; not passing from one to another as was the opinion of Pythagoras, who held a belief in transmigration of the soul; but that the soul is given to every infant by infusion, is the most received and orthodox opinion. And the learned do likewise agree that this is done when the infant is perfected in the womb, which happens about the twenty- fourth day after conception; especially for males, who are generally born at the end of nine months; but in females, who are not so soon formed and perfected, through defect of heat, until the fiftieth day. And though this day in either case cannot be truly set down, yet Hippocrates has given his opinion, that it is so when the child is formed and begins to move, when born in due season. In his book of the nature of infants, he says, if it be a male and be perfect on the thirtieth day, and move on the seventieth, he will be born in the seventh month; but if he be perfectly formed on the thirty-fifth day, he will move on the seventieth and will be born in the eighth month. Again, if he be perfectly formed on the forty-fifth day, he will move on the ninetieth and be born in the ninth month. Now from these paring of days and months, it plainly appears that the day of forming being doubled, makes up the day of moving, and the day, three times reckoned, makes up the day of birth. As thus, when thirty-five perfects the form, if you double it, makes seventy the day of motion; and three times seventy amounts to two hundred and ten days; while allowing thirty days to a month makes seven months, and so you must consider the rest. But as to a female the case is different; for it is longer perfecting in the womb, the mother ever going longer with a girl than with a boy, which makes the account differ; for a female formed in thirty days does not move until the seventieth day, and is born in the seventh month; when she is formed on the fortieth day, she does not move till the eightieth and is born in the eighth month; but, if she be perfectly formed on the forty-fifth day she moves on the ninetieth, and the child is

born in the ninth month; but if she that is formed on the sixtieth day, moves on the one hundred and tenth day, she will be born in the tenth month. I treat the more largely of love that the reader may know that the reasonable soul is not propagated by the parents, but is infused by the Almighty, when the child has its perfect form, and is exactly distinguished in its lineaments.

Now, as the life of every other creature, as Moses shows, is in the blood, so the life of man consists in the soul, which although subject to passion, by reason of the gross composures of the body, in which it has a temporary confinement, yet it is immortal and cannot in itself corrupt or suffer change, it being a spark of the Divine Mind. And that every man has a peculiar soul plainly appears by the vast difference between the will, judgment, opinions, manners, and affections in men. This David observes when he says: "God hath fashioned the hearts and minds of men, and has given to every one his own being and a soul of its own nature." Hence Solomon rejoiced that God had given him a soul, and a body agreeable to it. It has been disputed among the learned in what part of the body the soul resides; some are of opinion its residence is in the middle of the heart, and from thence communicates itself to every part, which Solomon (Prov. iv. 23) seems to confirm when he says: "Keep thy heart with all diligence, for out of it are the issues of life." But many curious physicians, searching the works of nature in man's anatomy, do affirm that its chief seat is in the brain, from whence proceed the senses, the faculties, and actions, diffusing the operations of the soul through all parts of the body, whereby it is enlivened with heat and force to the heart, by the arteries, corodities, or sleepy arteries, which part upon the throat; which, if they happen to be broken or cut, they cause barrenness, and if stopped an apoplexy; for there must necessarily be ways through which the spirits, animal and vital, may have intercourse and convey native heat from the soul. For though the soul has its chief seat in one place, it operates in every part, exercising every member which are the soul's instruments, by which she discovers her power. But if it happen that any of the original parts are out of tune, its whole work is confused, as appears in idiots and mad men; though, in some of them, the soul, by a vigorous exertion of its power, recovers its innate strength and they become right after a long despondency in mind, but in others it is not recovered again in this life. For, as fire under ashes, or the sun obscured from our sight by thick clouds, afford not their native lustre,

so the soul, overwhelmed in moist or morbid matter, is darkened and reason thereby overclouded; and though reason shines less in children than it does in such as are arrived at maturity, yet no man must imagine that the soul of an infant grows up with the child, for then would it again decay; but it suits itself to nature's weakness, and the imbecility of the body wherein it is placed, that it may operate the better. And as the body is more capable of recovering its influence, so the soul does more and more exert its faculties, having force and endowment at the time it enters the form of a child in the womb; for its substance can receive nothing less. And thus much to prove that the soul does not come from the parents, but is infused by God. I shall next prove its immortality and demonstrate the certainty of our resurrection.

OF THE IMMORTALITY OF THE SOUL

That the soul of man is a Divine ray, infused by the Sovereign Creator, I have already proved, and now come to show that whatever immediately proceeds from Him, and participates of His nature, must be as immortal as its original; for, though all other creatures are endowed with life and motion, they yet lack a reasonable soul, and from thence it is concluded that their life is in their blood, and that being corruptible they perish and are no more; but man being endowed with a reasonable soul and stamped with a Divine image, is of a different nature, and though his body is corruptible, yet his soul being of an immortal nature cannot perish; but at the dissolution of the body returns to God who gave it, either to receive reward or punishment. Now, that the body can sin of itself is impossible, because wanting the soul, which is the principle of life, it cannot act nor proceed to anything either good or evil; for could it do so, it might even sin in the grave. But it is plain that after death there is a cessation; for as death leaves us so judgment will find us.

Now, reason having evidently demonstrated the soul's immortality, the Holy Scriptures do abundantly give testimony of the truth of the resurrection, as the reader may see by perusing the 14th and 19th chapters of Job and 5th of John. I shall, therefore, leave the further discussion of this matter to divines, whose province it is, and return to treat of the works of nature.

CHAPTER V

Of Monsters and Monstrous Births; and the several reasons thereof, according to the opinions of the Ancients. Also, whether the Monsters are endowed with reasonable Souls; and whether the Devils can engender; is here briefly discussed.

By the ancients, monsters are ascribed to depraved conceptions, and are designated as being excursions of nature, which are vicious in one of these four ways: either in figure, magnitude, situation, or number.

In figure, when a man bears the character of a beast, as did the beast in Saxony. In magnitude, when one part does not equalise with another; as when one part is too big or too little for the other parts of the body. But this is so common among us that I need not produce a testimony.

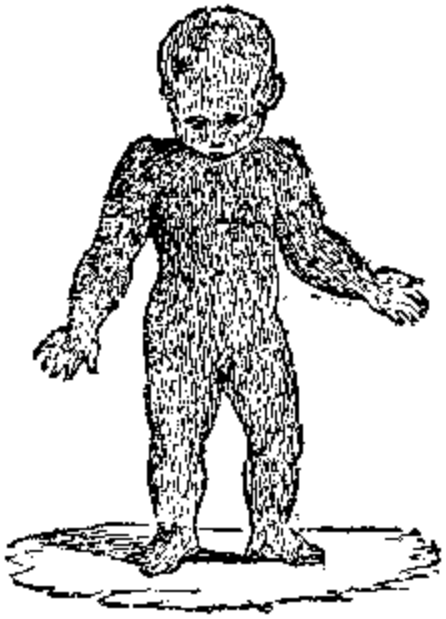
There was a Monster at Ravenna in Italy of this kind, in the year 1512.

I now proceed to explain the cause of their generation, which is either divine or natural. The divine cause proceeds from God's permissive will,

suffering parents to bring forth abominations for their filthy and corrupt affections, which are let loose unto wickedness like brute beasts which have no understanding. Wherefore it was enacted among the ancient Romans that those who were in any way deformed, should not be admitted into religious houses. And St. Jerome was grieved in his time to see the lame and the deformed offering up spiritual sacrifices to God in religious houses. And Keckerman, by way of inference, excludes all that are ill-shapen from this presbyterian function in the church. And that which is of more force than all, God himself commanded Moses not to receive such to offer sacrifice among his people; and he also renders the reason Leviticus, xxii. 28, "Lest he pollute my sanctuaries." Because of the outward deformity, the body is often a sign of the pollution of the heart, as a curse laid on the child for the incontinency of its parents. Yet it is not always so. Let us therefore duly examine and search out the natural cause of their generation, which (according to the ancients who have dived into the secrets of nature) is either in the mother or in the agent, in the seed, or in the womb.

The matter may be in default two ways—by defect or by excess: by defect, when the child has only one arm; by excess, when it has four hands or two heads. Some monsters are begotten by a woman's unnatural lying with beasts; as in the year 1603, there was a monster begotten by a woman's generating with a dog; which from the navel upwards had the perfect resemblance of its mother: but from its navel downwards it resembled a dog.

The agent or womb may be in fault three ways; firstly, the formative faculty, which may be too strong or too weak, by which is procured a depraved figure; secondly, to the instrument or place of conception, the evil confirmation or the disposition whereof will cause a monstrous birth; thirdly, in the imaginative power at the time of conception; which is of such a force that it stamps the character of the thing imagined on the child. Thus the children of an adulteress may be like her husband, though begotten by another man, which is caused through the force of imagination that the woman has of her own husband at the act of coition. And I have heard of a woman, who, at the time of conception, beholding the picture of a blackamoor, conceived and brought forth an Ethiopian. I will not trouble you with more human testimonies, but conclude with a stronger warrant. We read (Gen. xxx. 31) how Jacob having agreed with Laban to have all the spotted sheep for keeping his flock to augment his wages, took hazel rods and peeled white streaks on them, and laid them before the sheep when they came to drink, which coupling together there, whilst they beheld the rods, conceived and brought forth young.



"Where children thus are born with hairy coats
Heaven's wrath unto the kingdom it denotes"

Another monster representing a hairy child. It was all covered with hair like a beast. That which made it more frightful was, that its navel was in the place where its nose should stand, and its eyes placed where the mouth should have been, and its mouth placed in the chin. It was of the male kind, and was born in France, in the year 1597, at a town called Arles in Provence, and lived a few days, frightening all that beheld it. It was looked upon as a forerunner of desolations which soon after happened to that kingdom, in which men to each other were more like brutes than human creatures.

There was a monster born at Nazara in the year 1530. It had four arms and four legs.

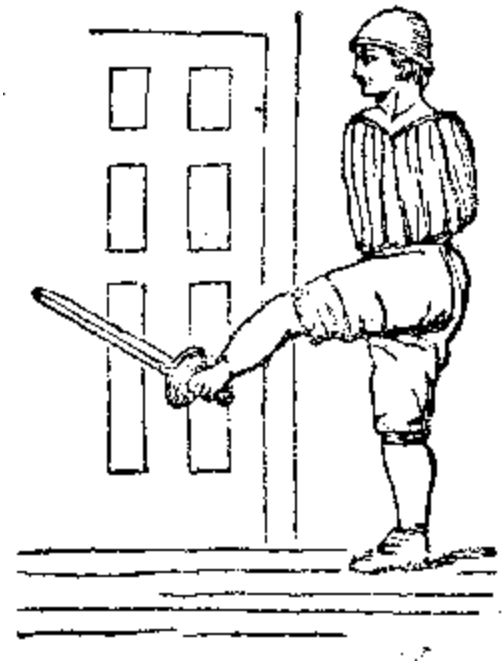
The imagination also works on the child, after conception, of which we have a pregnant instance.

A worthy gentlewoman in Suffolk, who being with child and passing by a butcher who was killing his meat, a drop of blood sprung on her face, whereupon she said her child would have a blemish on its face, and at the birth it was found marked with a red spot.

Likewise in the reign of Henry III, there was a woman delivered of a child having two heads and four arms, and the bodies were joined at the back; the

heads were so placed that they looked contrary ways; each had two distinct arms and hands. They would both laugh, both speak, and both cry, and be hungry together; sometimes the one would speak and the other keep silence, and sometimes both speak together. They lived several years, but one outlived the other three years, carrying the dead one (for there was no parting them) till the survivor fainted with the burden, and more with the stench of the dead carcase.

It is certain that monstrous births often happen by means of undue copulation; for some there are, who, having been long absent from one another, and having an eager desire for enjoyment, consider not as they ought, to do as their circumstances demand. And if it happen that they come together when the woman's menses are flowing, and notwithstanding, proceed to the act of copulation, which is both unclean and unnatural, the issue of such copulation does often prove monstrous, as a just punishment for doing what nature forbids. And, therefore, though men should be ever so eager for it, yet women, knowing their own condition, should at such times positively refuse their company. And though such copulations do not always produce monstrous birth, yet the children, thus begotten, are generally heavy, dull, and sluggish, besides defective in their understandings, lacking the vivacity and loveliness with which children begotten in proper season are endowed.



In Flanders, between Antwerp and Mechlin, in a village called Uthaton, a child was born which had two heads, four arms, seeming like two girls joined together, having two of their arms lifted up between and above their heads, the thighs being placed as it were across one another, according to the figure on p. 39. How long they lived I had no account of.

By the figure on p. 40 you may see that though some of the members are wanting, yet they are supplied by other members.

It remains now that I make some inquiry whether those that are born monsters have reasonable souls, and are capable of resurrection. And here both divines and physicians are of opinion that those who, according to the order of generations deduced from our first parents, proceed by mutual means from either sex, though their outward shape be deformed and monstrous, have notwithstanding a reasonable soul, and consequently their bodies are capable of resurrection, as other men's and women's are; but those monsters that are not begotten by men, but are the product of women's unnatural lusts in copulating with other creatures shall perish as the brute beasts by whom they were begotten, not having a reasonable soul nor any breath of the Almighty infused into them; and such can never be capable of resurrection. And the same is also true of imperfect and abortive births.

Some are of opinion that monsters may be engendered by some infernal spirit. Of this mind was Adigus Fariur, speaking of a deformed monster born at Craconia; and Hieronimus Cardamnus wrote of a maid that was got with child by the devil, she thinking it had been a fair young man. The like also is recorded by Vicentius, of the prophet Merlin, that he was begotten by an evil spirit. But what a repugnance it would be both to religion and nature, if the devils could beget men; when we are taught to believe that not any was ever begotten without human seed, except the Son of God. The devil then being a spirit and having no corporeal substance, has therefore no seed of generation; to say that he can use the act of generation effectually is to affirm that he can make something out of nothing, and consequently to affirm the devil to be God, for creation belongs to God only. Again, if the devil could assume to himself a human body and enliven the faculties of it, and cause it to generate, as some affirm he can, yet this body must bear the image of the devil. And it borders on blasphemy to think that God should so far give leave to the devil as out of God's image to raise his own diabolical offspring. In the school of Nature we are taught the contrary, viz., that like begets like; therefore, of a devil cannot man be born. Yet, it is not denied, but the devils, transforming themselves into human shapes, may abuse both men and women, and, with wicked people, use carnal copulation; but that any unnatural conjunction can bring forth a human creature is contrary to nature and all religion.

CHAPTER VI

Of the happy state of matrimony, as it is appointed by God, the true felicity that rebounds thereby to either sex; and to what end it is ordained.

Without doubt the uniting of hearts in holy wedlock is of all conditions the happiest; for then a man has a second self to whom he can reveal his thoughts, as well as a sweet companion in his labours, toils, trials, and difficulties. He has one in whose breast, as in a safe cabinet, he can confide his inmost secrets, especially where reciprocal love and inviolable faith is centred; for there no care, fear, jealousy, mistrust or hatred can ever interpose. For base is the man that hateth his own flesh! And truly a wife, if rightly considered, as Adam well observed, is or

> "I take not that to be my dowry, which
> The vulgar sort do wealth and honour call;
> That all my wishes terminate in this:——
> I'll obey my husband and be chaste withall;
> To have God's fear, and beauty in my mind,
> To do those good who are virtuously inclined."

ought to be esteemed of every honest man as "Bone of his bone and flesh of his flesh," etc. Nor was it the least care of the Almighty to ordain so near a union, and that for two causes; the first, for the increase of posterity; the second, to restrain man's wandering desires and affections; nay, that they might be yet happier, when God has joined them together, he "blessed them," as in Gen. ii. An ancient writer, contemplating this happy state, says, in the economy of Xenophon, "that the marriage bed is not only the most pleasant, but also profitable course of life, that may be entered on for the preservation and increase of posterity. Wherefore, since marriage is the most safe, and delightful situation of man he does in no ways provide amiss for his own tranquillity who enters into it, especially when he comes to

maturity of years."

There are many abuses in marriage contrary to what is ordained, the which in the ensuing chapter I shall expose to view. But to proceed: Seeing our blessed Saviour and His holy apostles detested unlawful lusts, and pronounced those to be excluded the kingdom of heaven that polluted themselves with adultery and whoring, I cannot conceive what face people have to colour their impieties, who hating matrimony, make it their study how they may live licentiously: for, in so doing, they take in themselves torment, enmity, disquietude, rather than certain pleasure, not to mention the hazard of their immortal soul; and certain it is that mercenary love (or as the wise man called it harlot-smiles) cannot be true and sincere and therefore not pleasant, but rather a net laid to betray such as trust in them with all mischief, as Solomon observes of the young man void of understanding, who turned aside to the harlot's house, "as a bird to the snare of the fowler, or as an ox to the slaughter, till a dart was struck through his liver." Nor in this case can they have children, those endearing pledges of conjugal affection; or if they have, they will rather redound to their shame than comfort, bearing the odious brand of bastards. Harlots, likewise are like swallows, flying in the summer season of prosperity; but the black stormy weather of adversity coming, they take wing and fly into other regions—that is, seek other lovers; but a virtuous, chaste wife, fixing her entire love upon her husband, and submitting to him as her head and king, by whose directions she ought to steer in all lawful courses, will, like a faithful companion, share patiently with him in all adversities, run with cheerfulness through all difficulties and dangers, though ever so hazardous, to preserve and assist him, in poverty, sickness, or whatsoever misfortunes befall him, acting according to her duty in all things; but a proud, imperious harlot will do no more than she lists, in the sunshine of prosperity; and like a horse-leech, ever craving, and never satisfied; still seeming displeased, if all her extravagant cravings be not answered; not regarding the ruin and misery she brings on him by those means, though she seems to doat upon him, used to confirming her hypocrisy with crocodile tears, vows and swoonings, when her cully has to depart awhile, or seems but to deny immediate desires; yet this lasts no longer than she can gratify her appetite, and prey upon his fortune.

Now, on the contrary, a loving, chaste and even-tempered wife, seeks what she may to prevent such dangers, and in every condition does all she can to make him easy. And, in a word, as there is no content in the embraces of a harlot, so there is no greater joy in the reciprocal affection and endearing embraces of a loving, obedient, and chaste wife. Nor is that the principal end for which matrimony was ordained, but that the man might follow the law of his creation by increasing his kind and replenishing the earth; for this was the injunction laid upon him in Paradise, before his fall. To conclude, a virtuous wife is a crown and ornament to her husband, and her price is above all rubies: but the ways of a harlot are deceitful.

CHAPTER VII

Of Errors in Marriages; Why they are, and the Injuries caused by them.

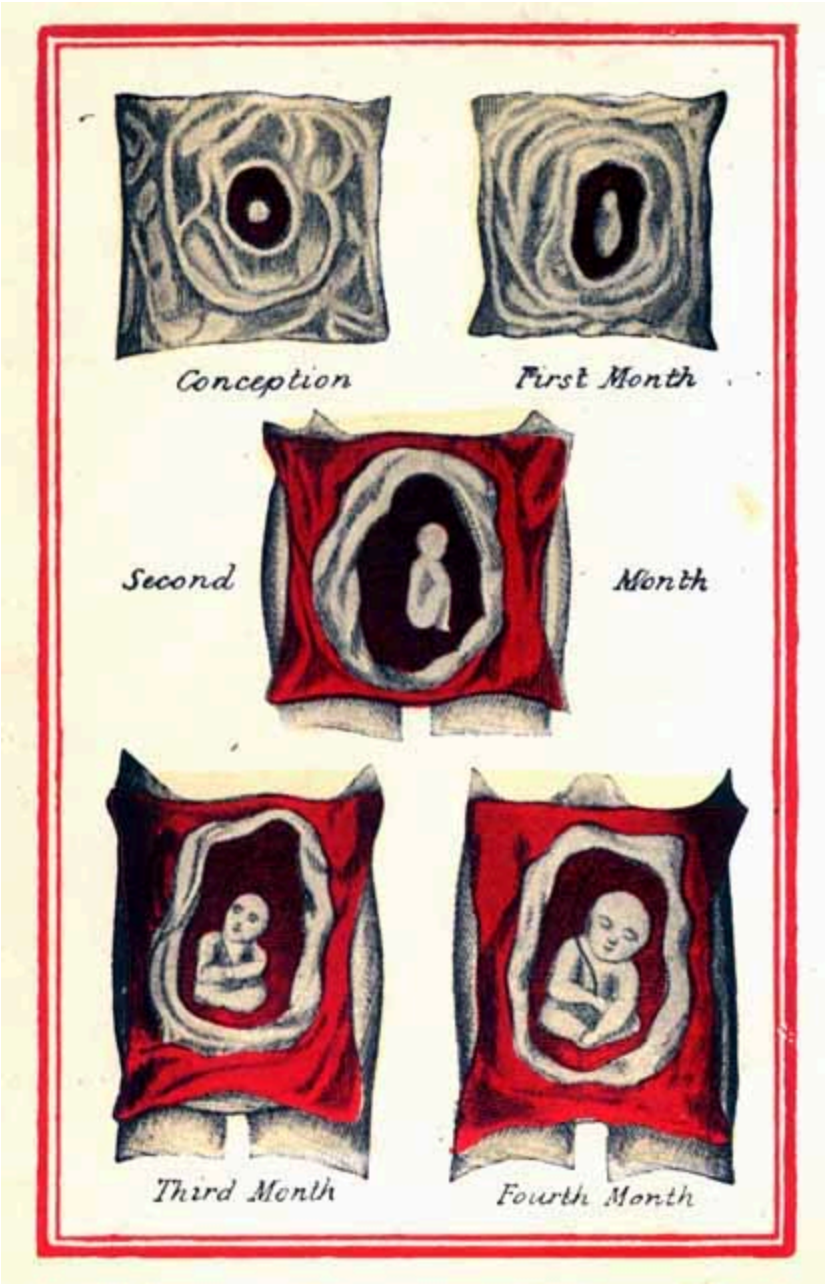
By errors in marriage, I mean the unfitness of the persons marrying to enter into this state, and that both with respect to age and the constitution of their bodies; and, therefore, those who design to enter into that condition ought to observe their ability and not run themselves into inconveniences; for those that marry too young may be said to marry unseasonably, not considering their inability, nor examining the forces of nature; for some, before they are ripe for the consummation of so weighty a matter, who either rashly, of their own accord, or by the instigation of procurers or marriage-brokers, or else forced thereto by their parents who covet a large dower take upon them this yoke to their prejudice; by which some, before the expiration of a year, have been so enfeebled, that all their vital moisture has been exhausted; which had not been restored again without great trouble and the use of medicines. Therefore, my advice is: that it is not convenient to suffer children, or such as are not of age, to marry, or get children.

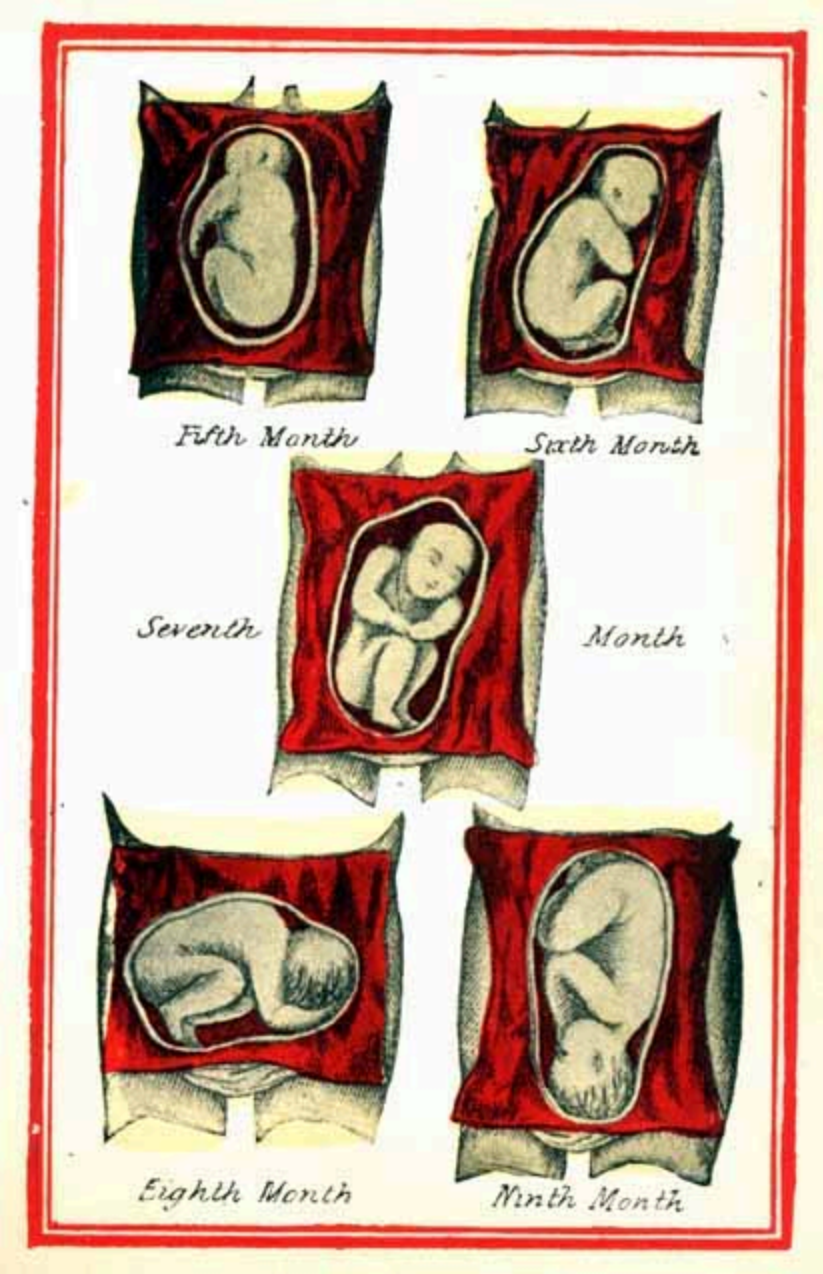
He that proposes to marry, and wishes to enjoy happiness in that state, should choose a wife descended from honest and temperate parents, she being chaste, well bred, and of good manners. For if a woman has good qualities, she has portion enough. That of Alcmena, in Plautus, is much to the purpose, where he brings in a young woman speaking thus:—

"I take not that to be my dowry, which
The vulgar sort do wealth and honour call;
That all my wishes terminate in this:——
I'll obey my husband and be chaste withall;
To have God's fear, and beauty in my mind,
To do those good who are virtuously inclined."

And I think she was in the right, for such a wife is more precious than rubies.

It is certainly the duty of parents to bring up their children in the ways of virtue, and to have regard to their honour and reputation; and especially to virgins, when grown to be marriageable. For, as has been noted, if through the too great severity of parents, they may be crossed in their love, many of them throw themselves into the unchaste arms of the first alluring tempter that comes in the way, being, through the softness and flexibility of their nature, and the strong desire they have after what nature strongly incites them to, easily induced to believe men's false vows of promised marriage, to cover their shame: and then too late, their parents repent of their severity which has brought an indelible stain upon their families.


Conception
First Month
Second Month
Third Month
Fourth Month



Another error in marriage is, the inequality of years in the parties married; such as for a young man, who, to advance his fortune, marries a woman old enough to be his grandmother: between whom, for the most part, strife, jealousies, and dissatisfaction are all the blessings which crown the genial bed, is being impossible for such to have any children. The like may be said, though with a little excuse, when an old doting widower marries a virgin in the prime of her youth and her vigour, who, while he vainly tries to please her, is thereby wedded to his grave. For, as in green youth, it is unfit and unseasonable to think of marriage, so to marry in old age is just the

same; for they that enter upon it too soon are soon exhausted, and fall into consumptions and divers other diseases; and those who procrastinate and marry unseemingly, fall into the like troubles; on the other side having only this honour, if old men, they become young cuckolds, especially if their wives have not been trained up in the paths of virtue, and lie too much open to the importunity and temptation of lewd and debauched men. And thus much for the errors of rash and inconsiderate marriages.

CHAPTER VIII

The Opinion of the Learned concerning Children conceived and born within Seven Months; with Arguments upon the Subject to prevent Suspicion of Incontinency, and bitter Contest on that Account. To which are added Rules to Know the Disposition of Man's Body by the Genital Parts.

Many bitter quarrels happen between men and their wives upon the man's supposition that the child comes too soon, and by consequence, that he could not be the father; whereas, it is the want of understanding the secrets of nature which brings the man into that error; and which, had he known, might have cured him of his suspicion and jealousy.

To remove which, I shall endeavour to prove, that it is possible, and has been frequently known, that children have been born at seven months. Paul, the Counsel, has this passage in the 19th Book of Pleadings, viz.: "It is now a received truth, that a perfect child may be born in the seventh month, by the authority of the learned Hippocrates; and therefore, we must believe that a child born at the end of the seventh month in lawful matrimony may be lawfully begotten."

Galen is of opinion that there is no certain time set for the bearing of children; and that from Pliny's authority, who makes mention of a woman that went thirteen months with child; but as to what concerns the seventh month, a learned author says, "I know several married people in Holland that had twins born in the seventh month, who lived to old age, having lusty bodies and lively minds. Wherefore their opinion is absurd, who assert that a child at seven months cannot be perfect and long lived; and that it cannot in all parts be perfect until the ninth month." Thereupon the author proceeds to tell a passage from his own knowledge, viz.: " Of late there happened a great disturbance among us, which ended not without bloodshed; and was occasioned by a virgin, whose chastity had been violated, descending from

a noble family of unspotted fame. Several charged the fact upon the Judge, who was president of a city in Flanders, who firmly denied it, saying he was ready to take his oath that he never had any carnal copulation with her, and that he would not father that, which was none of his; and farther argued, that he verily believed it was a child born in seven months, himself being many miles distant from the mother of it when it was conceived. Upon which the judges decreed that the child should be viewed by able physicians and experienced women, and that they should make their report. They having made diligent inquiry, all of them with one mind, concluded the child, without discussing who was the father, was born within the space of seven months, and that it was carried in the mother's womb but twenty-seven weeks and some odd days; but if she should have gone full nine months, the child's parts and limbs would have been more firm and strong, and the structure of the body more compact; for the skin was very loose, and the breast bone that defends the heart, and the gristles that lay over the stomach, lay higher than naturally they should be, not plain, but crooked and sharp, rigid or pointed, like those of a young chicken hatched in the beginning of spring. And being a female, it wanted nails upon the joints of the fingers; upon which, from the masculous cartilaginous matter of the skin, nails that are very smooth do come, and by degrees harden; she had, instead of nails, a thin skin or film. As for her toes, there were no signs of nails upon them, wanting the heat which was expanded to the fingers from the nearness of the heart. All this was considered, and above all, one gentlewoman of quality that assisted, affirming that she had been the mother of nineteen children, and that divers of them had been born and lived at seven months, though within the seventh month. For in such cases, the revolution of the month ought to be observed, which perfects itself in four bare weeks, or somewhat less than twenty-eight days; in which space of the revolution, the blood being agitated by the force of the moon, the courses of women flow from them; which being spent, and the matrix cleansed from the menstruous blood which happens on the fourth day, then, if a man on the seventh day lie with his wife, the copulation is most natural, and then the conception is best: and the child thus begotten may be born in the seventh month and prove very healthful. So that on this report, the supposed father was pronounced innocent; the proof that he was 100 miles distant all that month in which the child was begotten; as for the mother she

strongly denied that she knew the father, being forced in the dark; and so, through fear and surprise, was left in ignorance."

As for coition, it ought not to be used unless the parties be in health, lest it turn to the disadvantage of the children so begotten, creating in them, through the abundance of ill humours, divers languishing diseases. Wherefore, health is no better discerned than by the genitals of the man; for which reasons midwives, and other skilful women, were formerly wont to see the testicles of children, thereby to conjecture their temperature and state of body; and young men may know thereby the signs and symptoms of death; for if the cases of the testicles be loose and feeble, which are the proofs of life, are fallen, but if the secret parts are wrinkled and raised up, it is a sign that all is well, but that the event may exactly answer the prediction, it is necessary to consider what part of the body the disease possesseth; for if it chance to be the upper part that is afflicted, as the head or stomach, then it will not so then appear by the members, which are unconnected with such grievances; but the lower part of the body exactly sympathising with them, their liveliness, on the contrary, makes it apparent; for nature's force, and the spirits that have their intercourse, first manifest themselves therein; which occasions midwives to feel the genitals of children, to know in what part the gulf is residing, and whether life or death be portended thereby, the symptoms being strongly communicated to the vessels, that have their intercourse with the principal seat of life.

CHAPTER IX

Of the Green-Sickness in Virgins, with its causes, signs and cures; together with the chief occasions of Barrenness in Women, and the Means to remove the Cause, and render them fruitful.

The green-sickness is so common a complaint amongst virgins, especially those of a phlegmatic complexion, that it is easily discerned, showing itself by discolouring the face, making it look green, pale, and of a dusty colour, proceeding from raw and indigested humours; nor doth it only appear to the eye, but sensibly affects the person with difficulty of breathing, pains in the head, palpitation of the heart, with unusual beatings and small throbbings of the arteries in the temples, back and neck, which often cast them into fevers when the humour is over vicious; also loathing of meat and the distention of the hypochondriac part, by reason of the inordinate effluxion of the menstruous blood of the greater vessels; and from the abundance of humours, the whole body is often troubled with swellings, or at least the thighs, legs and ankles, all above the heels; there is also a weariness of the body without any reason for it.

The Galenical physicians affirm, that this distemper proceeds from the womb; occasioned by the gross, vicious and rude humours arising from several inward causes; but there are also outward causes which have a share in the production of it; as taking cold in the feet, drinking of water, intemperance of diet, eating things contrary to nature, viz., raw or burnt flesh, ashes, coals, old shoes, chalk, wax, nutshells, mortar, lime, oatmeal, tobacco pipes, etc., which occasion both a suppression of the menses and obstructions through the whole body; therefore, the first thing necessary to vindicate the cause, is matrimonial conjunction, and such copulation as may prove satisfactory to her that is afflicted, for then the menses will begin to flow according to their natural and due course, and the humours being dispersed, will soon waste themselves; and then no more matter being

admitted to increase them, they will vanish and a good temperament of body will return; but in case this best remedy cannot be had soon enough, then let blood in the ankles, and if she be about sixteen, you may likewise do it in the arm, but let her be bled sparingly, especially if the blood be good. If the disease be of any continuance, then it is to be eradicated by purging, preparation of the humour being first considered, which may be done by the virgin's drinking the decoction of guaiacum, with dittany of erete; but the best purge in this case ought to be made of aloes, agaric, senna, rhubarb; and for strengthening the bowels and removing obstructions, chaly-beate medicines are chiefly to be used. The diet must be moderate, and sharp things by all means avoided.

And now, since barrenness daily creates discontent, and that discontent breeds indifference between man and wife, or, by immediate grief, frequently casts the woman into one or another distemper, I shall in the next place treat thereof.

OF BARRENNESS.

Formerly, before women came to the marriage-bed, they were first searched by the mid-wife, and those only which she allowed of as fruitful were admitted. I hope, therefore, it will not be amiss to show you how they may prove themselves and turn barren ground into fruitful soil. Barrenness is a deprivation of the life and power which ought to be in the seed to procreate and propagate; for which end men and women were made. Causes of barrenness may be over much cold or heat, drying up the seed and corrupting it, which extinguishes the life of the seed, making it waterish and unfit for generation. It may be caused also, by the not flowing or over-flowing of the courses by swellings, ulcers, and inflammation of the womb, by an excrescence of flesh growing about the mouth of the matrix, by the mouth of the matrix being turned up to the back or side by the fatness of the body, whereby the mouth of the matrix is closed up, being pressed with the omentum or caul, and the matter of the seed is turned to fat; if she be a lean and dry body, and though she do conceive, yet the fruit of her body will wither before it come to perfection, for want of nourishment. One main cause of barrenness is attributed to want of a convenient moderating quality,

which the woman ought to have with the man; as, if he be hot, she must be cold; if he be dry, she must be moist; as, if they be both dry or both moist of constitution, they cannot propagate; and yet, simply considering of themselves, they are not barren, for she who was before as the barren fig-tree being joined to an apt constitution becomes as the fruitful vine. And that a man and woman, being every way of like constitution, cannot create, I will bring nature itself for a testimony, who hath made man of a better constitution than woman, that the quality of the one, may moderate the quality of the other.

SIGNS OF BARRENNESS.

If barrenness proceeds from overmuch heat, if she is a dry body, subject to anger, has black hair, quick pulse, and her purgations flow but little, and that with pain, she loves to play in the courts of Venus. But if it comes by cold, then the signs are contrary to the above mentioned. If through the evil quality of the womb, make a suffumigation of red styrax, myrrh, cassia-wood, nutmeg, and cinnamon; and let her receive the fumes into her womb, covering her very close; and if the odour so received passes through the body to the mouth and nostrils, she is fruitful. But if she feels not the fumes in her mouth and nostrils, it argues barrenness one of these ways—that the spirit of the seed is either extinguished through cold, or dissipated through heat. If any woman be suspected to be unfruitful, cast natural brimstone, such as is digged out of mines, into her urine, and if worms breed therein, she is not barren.

PROGNOSTICS.

Barrenness makes women look young, because they are free from those pains and sorrows which other women are accustomed to. Yet they have not the full perfection of health which other women enjoy, because they are not rightly purged of the menstruous blood and superfluous seed, which are the principal cause of most uterine diseases.

First, the cause must be removed, the womb strengthened, and the spirits of the seed enlivened. If the womb be over hot, take syrup of succory, with rhubarb, syrup of violets, roses, cassia, purslain. Take of endive, water-lilies, borage flowers, of each a handful; rhubarb, mirobalans, of each three drachms; make a decoction with water, and to the straining of the syrup add electuary violets one ounce, syrup of cassia half an ounce, manna three drachms; make a potion. Take of syrup of mugwort one ounce, syrup of maiden-hair two ounces, pulv-elect triasand one drachm; make a julep. Take prus. salt, elect. ros. mesua, of each three drachms, rhubarb one scruple, and make a bolus; apply to the loins and privy parts fomentations of the juice of lettuce, violets, roses, malloes, vine leaves and nightshade; anoint the secret parts with the cooling unguent of Galen.

If the power of the seed be extinguished by cold, take every morning two spoonfuls of cinnamon water, with one scruple of mithridate. Take syrup of calamint, mugwort and betony, of each one ounce; waters of pennyroyal, feverfew, hyssop and sage, of each two ounces; make a julep. Take oil of aniseed two scruples and a half; diacimini, diacliathidiamosei and diaglaongoe, of each one drachm, sugar four ounces, with water of cinnamon, and make lozenges; take of them a drachm and a half twice a day, two hours before meals; fasten cupping glasses to the hips and belly. Take of styrax and calamint one ounce, mastick, cinnamon, nutmeg, lign, aloes, and frankincense, of each half ounce; musk, ten grains, ambergris, half a scruple; make a confection with rosewater, divide it into four equal parts; one part make a pomatum oderation to smell at if she be not hysterical; of the second, make a mass of pills, and let her take three every other night: of the third make a pessary, dip it in oil of spikenard, and put it up; of the fourth, make a suffumigation for the womb.

If the faculties of the womb be weakened, and the life of the seed suffocated by over much humidity flowing to those parts: take of betony, marjoram, mugwort, pennyroyal and balm, of each a handful; roots of alum and fennel, of each two drachms; aniseed and cummin, of each one drachm, with sugar and water a sufficient quantity; make a syrup, and take three ounces every morning.

Purge with the following things; take of the diagnidium, two grains, spicierum of castor, a scruple, pill foedit two scruples, with syrup of

mugwort, make six pills. Take apeo, diagem. diamoser, diamb. of each one drachm; cinnamon, one drachm and a half; cloves, mace and nutmeg, of each half a drachm; sugar six ounces, with water of feverfew; make lozenges, to be taken every morning. Take of decoction of sarsaparilla and virga aurea, not forgetting sage, which Agrippa, wondering at its operation, has honoured with the name of *sacra herba*, a holy herb. It is recorded by Dodonoeus in the *History of Plants*, lib. ii. cap. 77, that after a great mortality among the Egyptians, the surviving women, that they might multiply quickly, were commanded to drink the juice of sage, and to anoint the genitals with oil of aniseed and spikenard. Take mace, nutmeg, cinnamon, styrax and amber, of each one drachm; cloves, laudanum, of each half a drachm; turpentine, a sufficient quantity; trochisks, to smooth the womb. Take roots of valerian and elecampane, of each one pound; galanga, two ounces; origan lavender, marjoram, betony, mugwort, bay leaves, calamint, of each a handful; make an infusion with water, in which let her sit, after she hath her courses.

If barrenness proceed from dryness, consuming the matter of the seed; take every day almond milk, and goat's milk extracted with honey, but often of the root satyrion, candied, and electuary of diasyren. Take three wethers' heads, boil them until all the flesh comes from the bones, then take melilot, violets, camomiles, mercury, orchia with their roots, of each a handful; fenugreek, linseed, valerian roots, of each one pound; let all these be decocted in the aforesaid broth, and let the woman sit in the decoction up to the navel.

If barrenness be caused by any proper effect of the womb, the cure is set down in the second book. Sometimes the womb proves barren where there is no impediment on either side, except only in the manner of the act; as when in the emission of the seed, the man is quick and the woman is slow, whereby there is not an emission of both seeds at the same instant as the rules of conception require. Before the acts of coition, foment the privy parts with the decoction of betony, sage, hyssop and calamint and anoint the mouth and neck of the womb with musk and civet.

The cause of barrenness being removed, let the womb be strengthened as follows; Take of bay berries, mastic, nutmeg, frankincense, nuts, laudanum,

giapanum, of each one drachm, styracis liquid, two scruples, cloves half a scruple, ambergris two grains, then make a pessary with oil of spikenard.

Take of red roses, lapididis hoematis, white frankincense, of each half an ounce. Dragon's blood, fine bole, mastic, of each two drachms; nutmeg, cloves, of each one drachm; spikenard, half a scruple, with oil of wormwood; make a plaster for the lower part of the belly, then let her eat candied eringo root, and make an injection only of the roots of satyrion.

The aptest time for conception is instantly after the menses have ceased, because then the womb is thirsty and dry, apt both to draw the seed and return it, by the roughness of the inward surface, and besides, in some, the mouth of the womb is turned into the back or side, and is not placed right until the last day of the courses.

Excess in all things is to be avoided. Lay aside all passions of the mind, shun study and care, as things that are enemies to conception, for if a woman conceive under such circumstances, however wise the parents may be, the children, at best, will be but foolish; because the mental faculties of the parents, viz., the understanding and the rest (from whence the child derives its reason) are, as it were, confused through the multiplicity of cares and thought; of which we have examples in learned men, who, after great study and care, having connection with their wives, often beget very foolish children. A hot and moist air is most suitable, as appears by the women in Egypt, who often bring forth three or four children at one time.

CHAPTER X

Virginity, what it is, in what it consists, and how vitiated; together with the Opinions of the Learned about the Change of Sex in the Womb, during the Operation of Nature in forming the Body.

There are many ignorant people that boast of their skill in the knowledge of virginity, and some virgins have undergone harsh censures through their ignorant conclusions; I therefore thought it highly necessary to clear up this point, that the towering imaginations of conceited ignorance might be brought down, and the fair sex (whose virtues are so illustriously bright that they excite our wonder and command our imitation), may be freed from the calumnies and detractions of ignorance and envy; and so their honour may continue as unspotted, as they have kept their persons uncontaminated and free from defilement.

Virginity, in a strict sense, signifies the prime, the chief, the best of anything; and this makes men so desirous of marrying virgins, imagining some secret pleasure is to be enjoyed in their embraces, more than in those of widows, or of such as have been lain with before, though not many years ago, a very great personage thought differently, and to use his own expression:—"The getting a maidenhead was such a piece of drudgery, that it was fitter for a coal heaver than a prince." [1] But this was only his opinion, for I am sure that other men think differently.

The curious inquirers into the secrets of Nature, have observed, that in young maidens in the *sinus pudoris*, or in what is called the neck of the womb, is that wonderful production usually called the *hymen*, but in French *bouton de rose*, or rosebud, because it resembles the expanded bud of a rose or a gilly flower. From this the word *defloro*, or, deflower, is derived, and hence taking away virginity is called deflowering a virgin, most being of the opinion that the virginity is altogether lost when this membrane is fractured and destroyed by violence; when it is found perfect and entire,

however, no penetration has been effected; and in the opinion of some learned physicians there is neither hymen nor expanded skin which contains blood in it, which some people think, flows from the ruptured membrane at the first time of sexual intercourse.

Now this *claustrum virginale*, or flower, is composed of four little buds like myrtle berries, which are full and plump in virgins, but hang loose and flag in women; and these are placed in the four angles of the *sinus pudoris*, joined together by little membranes and ligatures, like fibres, each of them situated in the testicles, or spaces between each bud, with which, in a manner, they are proportionately distended, and when once this membrane is lacerated, it denotes *Devirgination*. Thus many ignorant people, finding their wives defective in this respect on the first night, have immediately suspected their chastity, concluding that another man had been there before them, when indeed, such a rupture may happen in several ways accidentally, as well as by sexual intercourse, viz. by violent straining, coughing, or sneezing, the stoppage of the urine, etc., so that the entireness or the fracture of that which is commonly taken for a woman's virginity or maidenhead, is no absolute sign of immorality, though it is more frequently broken by copulation than by any other means. [2]

And now to say something of the change of the sexes in the womb. The genital parts of the sexes are so unlike each other in substance, composition, situation, figure, action and use that nothing is more unlike to each other than they are, and the more, all parts of the body (the breasts excepted, which in women swell, because Nature ordained them for suckling the infant) have an exact resemblance to each other, so much the more do the genital parts of one sex differ, when compared with the other, and if they be thus different in form, how much more are they so in their use.

The venereal feeling also proceeds from different causes; in men from the desire of emission, and in women from the desire of reception. All these things, then, considered I cannot but wonder, he adds, how any one can imagine that the female genital organs can be changed into the male organ, since the sexes can be distinguished only by those parts, nor can I well impute the reason for this vulgar error to anything but the mistake of inexpert midwives, who have been deceived by the faulty conformation of those parts, which in some males may have happened to have such small

protrusions that they could not be seen, as appears by the example of a child who was christened in Paris under the name of *Ivan*, as a girl, and who afterwards turned out to be a boy, and on the other hand, the excessive tension of the clytoris in newly-born female infants may have occasioned similar mistakes. Thus far Pliny in the negative, and notwithstanding what he has said, there are others, such as Galen, who assert the affirmative. "A man," he says, "is different from a woman, only by having his genitals outside his body, whereas a woman has them inside her." And this is certain, that if Nature having formed a male should convert him into a female, she has nothing else to do but to turn his genitals inward, and again to turn a woman into a man by a contrary operation. This, however, is to be understood of the child whilst it is in the womb and not yet perfectly formed, for Nature has often made a female child, and it has remained so for a month or two, in its mother's womb; but afterwards the heat greatly increasing in the genital organs, they have protruded and the child has become a male, but nevertheless retained some things which do not befit the masculine sex, such as female gestures and movements, a high voice, and a more effeminate temper than is usual with men; whilst, on the other hand, the genitals have become inverted through cold humours, but yet the person retained a masculine air, both in voice and gesture. Now, though both these opinions are supported by several reasons, yet I think the latter are nearer the truth, for there is not that vast difference between the genitals of the two sexes as Pliny asserts; for a woman has, in a way, the same *pudenda* as a man, though they do not appear outwardly, but are inverted for the convenience of generation; one being solid and the other porous, and that the principal reason for changing sexes is, and must be attributed to heat or cold, which operates according to its greater or lesser force.

FOOTNOTES:

[1]

Attributed to George IV (Translator).

[2]

A young man was once tried at Rutland Assizes for violating a virgin, and after close questioning, the girl swearing positively in the matter, and naming the time, place and manner of the action, it was resolved that she should be examined by a skilful surgeon and two midwives, who were to report on oath, which they did, and declared that the membranes were intact and unlacerated, and that, in their opinion, her body had not been penetrated. This had its due effect upon the jury, and they acquitted the prisoner, and the girl afterwards confessed that she swore it against him out of revenge, as he had promised to marry her, and had afterwards declined.

CHAPTER XI

Directions and Cautions for Midwives; and, first, what ought to be the qualifications of a midwife.

A midwife who wishes to acquit herself well in her employment, ought certainly not to enter upon it rashly or unadvisedly, but with all imaginable caution, remembering that she is responsible for any mischief which may happen through her ignorance or neglect. None, therefore, should undertake that duty merely because of their age or because they themselves have had many children, for, in such, generally, many things will be found wanting, which she should possess. She ought to be neither too old nor too young, neither very fat, nor so thin, as to be weak, but in a good habit of body; not subject to illness, fears, nor sudden frights; well-made and neat in her attire, her hands small and smooth, her nails kept well-trimmed and without any rings on her fingers whilst she is engaged in her work, nor anything upon her wrists that may obstruct her. And to these ought to be added activity, and a due amount of strength, with much caution and diligence, nor should she be given to drowsiness or impatience.

She should be polite and affable in her manners, sober and chaste, not given to passion, liberal and compassionate towards the poor, and not greedy of gain when she attends the rich. She should have a cheerful and pleasant temper, so that she may be the more easily able to comfort her patients during labour. She must never be in a hurry, though her business may call her to some other case, lest she should thereby endanger the mother or the child.

She ought to be wary, prudent, and intelligent, but above all, she ought to be possessed by the fear of God, which will give her both "knowledge and discretion," as the wise man says.

CHAPTER XII

Further Directions to Midwives, teaching them what they ought to do, and what to avoid.

Since the duties of a midwife have such a great influence on the well-doing or the contrary of both women and children, in the first place, she must be diligent in gaining all such knowledge as may be useful to her in her practice, and never to think herself so perfect, but that it may be possible for her to add to her knowledge by study and experience. She should, however, never try any experiments unless she has tried them, or knows that they can do no harm; practising them neither upon rich nor poor, but freely saying what she knows, and never prescribing any medicines which will procure abortion, even though requested; for this is wicked in the highest degree, and may be termed murder. If she be sent for to people whom she does not know, let her be very cautious before she goes, lest by attending an infectious woman, she runs the danger of injuring others, as sometimes happens. Neither must she make her dwelling a receiving-house for big-bellied women to discharge their load, lest it get her a bad name and she by such means loses her practice.

In attending on women, if the birth happens to be difficult, she must not seem to be anxious, but must cheer the woman up and do all she can to make her labour easy. She will find full directions for this, in the second part of this book.

She must never think of anything but doing well, seeing that everything that is required is in readiness, both for the woman and for receiving the child, and above all, let her keep the woman from becoming unruly when her pains come on, lest she endanger her own life, and the child's as well.

She must also take care not to be hurried over her business but wait God's time for the birth, and she must by no means allow herself to be upset by fear, even if things should not go well, lest that should make her incapable

of rendering that assistance which the woman in labour stands in need of, for where there is the most apparent danger, there the most care and prudence are required to set things right.

And now, because she can never be a skilful midwife who knows nothing but what is to be seen outwardly, I do not think it will be amiss but rather very necessary, modestly to describe the generative parts of women as they have been anatomised by learned men, and to show the use of such vessels as contribute to generation.

CHAPTER XIII

The External, and Internal Organs of Generation in Women.

If it were not for the public benefit, especially for that of the professors and practitioners of the art of midwifery, I would refrain from treating the secrets of Nature, because they may be turned to ridicule by lascivious and lewd people. But as it is absolutely necessary that they should be known for the public good, I will not omit them because some may make a wrong use of them. Those parts which can be seen at the lowest part of the stomach are the *fissure magna*, or the *great cleft*, with its *labia* or lips, the *Mons Veneris*, or Mountain of Venus, and the hair. These together are called the *pudenda*, or things to be ashamed of because when they are exposed they cause a woman *pudor*, or shame. The *fissure magna* reaches from the lower part of the *os pubis*, to within an inch of the *anus*, but it is less and closer in virgins than in those who have borne children, and has two lips, which grow thicker and fuller towards the pubis, and meeting on the middle of the *os pubis*, form that rising hill which is called the *Mons Veneris*, or the Hill of Venus.

Next come the *Nymphae* and the *Clitoris*, the former of which is a membrany and moist substance, spongy, soft and partly fleshy, of a red colour and in the shape of two wings, which are joined at an acute angle at their base, producing a fleshy substance there which covers the clitoris, and sometimes they extend so far, that an incision is required to make room for a man's instrument of generation.

The *Clitoris* is a substance in the upper part of the division where the two wings meet, and the seat of venereal pleasure, being like a man's *penis* in situation, substance, composition and power of erection, growing sometimes to the length of two inches out of the body, but that never happens except through extreme lustfulness or some extraordinary accident. This *clitoris* consists of two spongy and skinny bodies, containing a distinct original from the *os pubis*, its tip being covered with a tender skin, having a

hole or passage like a man's yard or *penis*, although not quite through, in which alone, and in its size it differs from it.

The next things are the fleshy knobs of the great neck of the womb, and these knobs are behind the wings and are four in number, resembling myrtle berries, and being placed quadrangularly one against the other, and here the orifice of the bladder is inserted, which opens into the fissures, to evacuate the urine, and one of these knobs is placed before it, and closes up the passage in order to secure it from cold, or any suchlike inconvenience.

The lips of the womb, which appear next, disclose its neck, if they are separated, and two things may be observed in them, which are the neck itself and the *hymen*, or more properly, the *claustrum virginale*, of which I have spoken before. By the neck of the womb we must understand the channel that lies between the above-mentioned knobs and the inner bone of the womb, which receives the penis like a sheath, and so that it may be more easily dilated by the pleasure of procreation, the substance is sinewy and a little spongy. There are several folds or pleats in this cavity, made by tunicles, which are wrinkled like a full blown rose. In virgins they appear plainly, but in women who are used to copulation they disappear, so that the inner side of the neck of the womb appears smooth, but in old women it is more hard and gristly. But though this channel is sometimes crooked and sinks down yet at the times of copulation, labour, or of the monthly flow, it is erected or distended, which overtension occasions the pain in childbirth.

The hymen, or *claustrum virginale*, is that which closes the neck of the womb, and is broken by the first act of copulation; its use being rather to check the undue menstrual flow in virgins, rather than to serve any other purpose, and usually when it is broken, either by copulation, or by any other means, a small quantity of blood flows from it, attended with some little pain. From this some observe that between the folds of the two tunicles, which constitute the neck of the womb there are many veins and arteries running along, and arising from, the vessels on both sides of the thighs, and so passing into the neck of the womb, being very large; and the reason for this is, that the neck of the bladder requires to be filled with great vigour, so as to be dilated, in order that it may lay hold of the penis better; for great heat is required in such motions, and that becomes more intense by the act

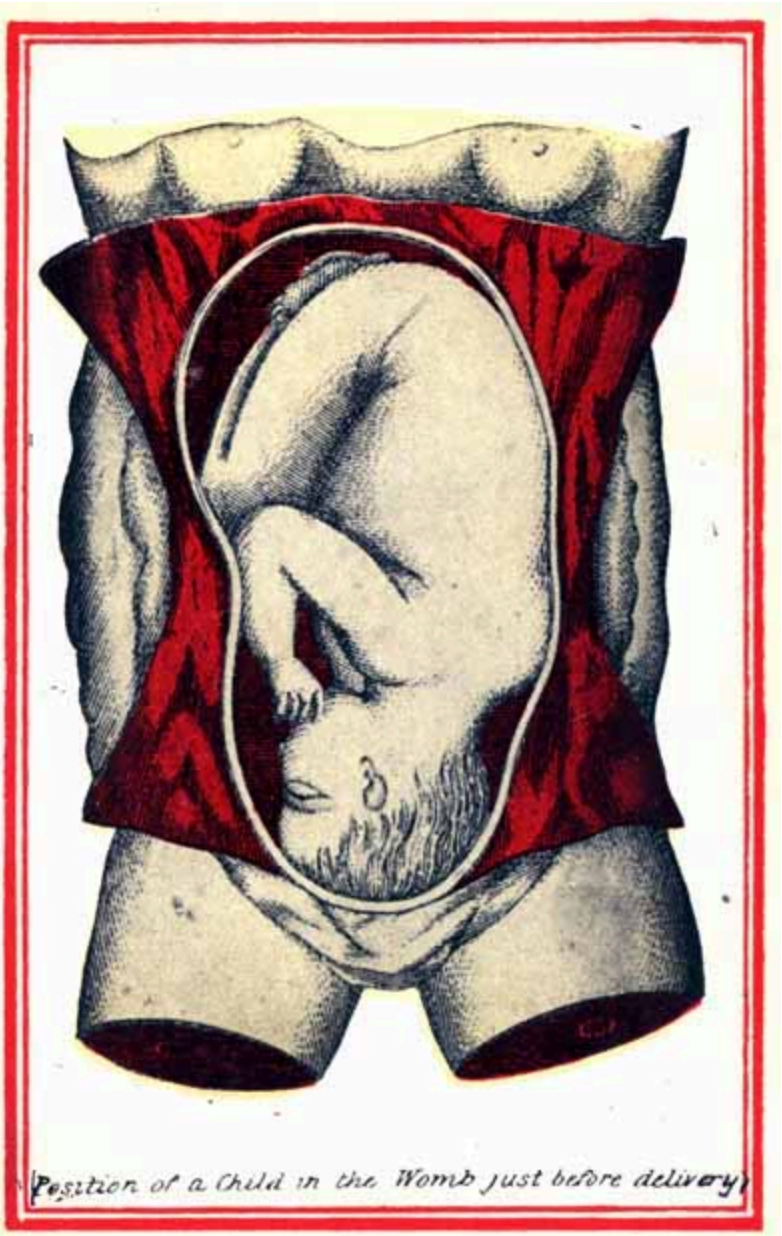
of friction, and consumes a considerable amount of moisture, for supplying which large vessels are absolutely necessary.

Another cause of the largeness of the vessels is, that menses make their way through them, which often occasions pregnant women to continue menstruating: for though the womb be shut up, yet the passages in the neck of the womb through which these vessels pass, are open. In this case, we may further observe, that as soon as the *pudenda* are penetrated, there appear two little pits or holes which contain a secretion, which is expelled during copulation, and gives the woman great pleasure.

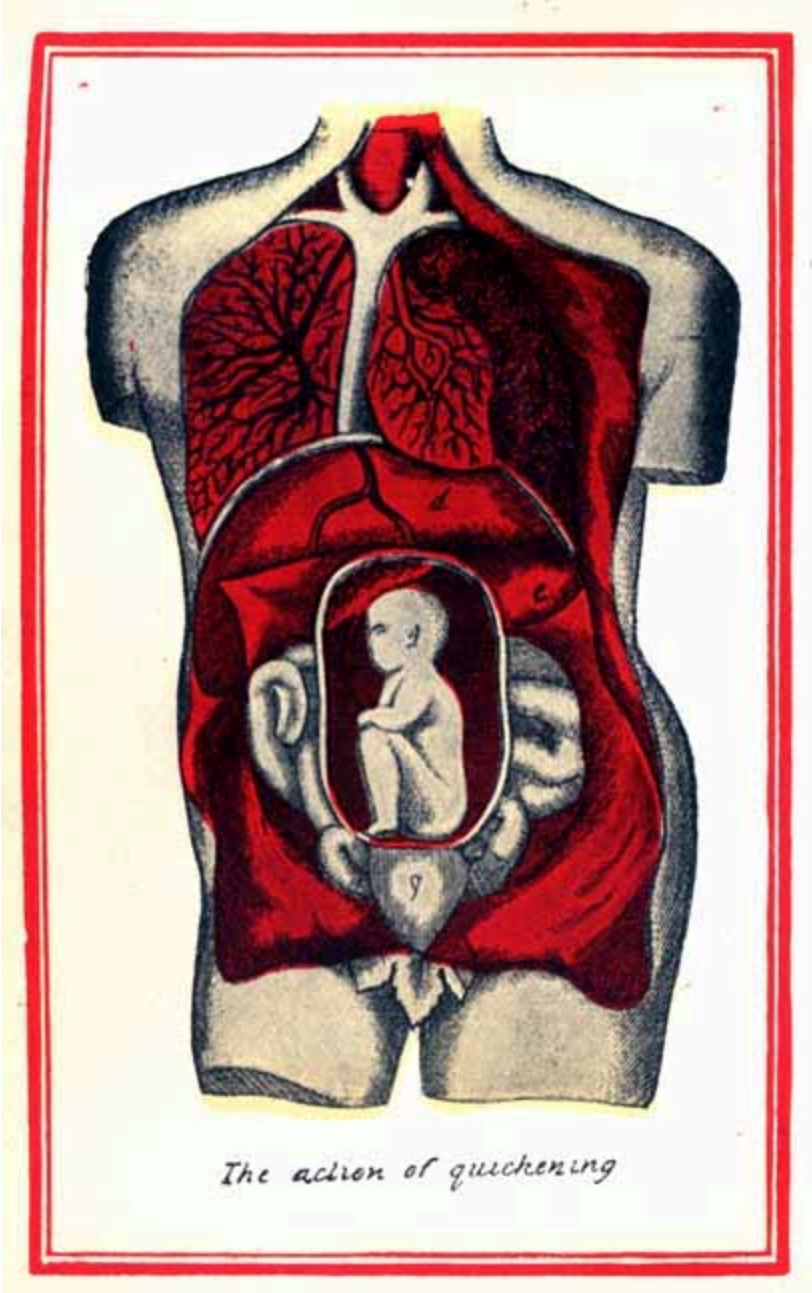
CHAPTER XIV

A description of the Fabric of the Womb, the preparing Vessels and Testicles in Women. Also of the Different and Ejaculatory Vessels.

The womb is joined to its neck in the lower part of the *Hypogastrium* where the hips are the widest and broadest, as they are greater and broader there than those of men, and it is placed between the bladder and the straight gut, which keeps it from swaying, and yet gives it freedom to stretch and dilate, and again to contract, as nature requires. Its shape is somewhat round and not unlike a gourd, growing smaller and more acute towards one end, being knit together by its own ligaments; its neck likewise is joined by its own substance and by certain membranes that fasten into the *os sacrum* and the share-bone. Its size varies much in different women, and the difference is especially great between those who have borne children and those who have had none. Its substance exceeds a thumb's breadth in thickness, and so far from decreasing conception, it rather increases; and in order to strengthen it it is interwoven with fibres which cross it from side to side, some of which are straight and some winding, and its proper vessels are veins, arteries and nerves. Amongst these there are two small veins which pass into the womb from the spermatic vessels, and two larger ones from the neck: the mouth of these veins pierces as far as the inward cavity.



Position of a Child in the Womb just before delivery



The womb has two arteries on both sides of the spermatic vessels and the hypogastric, which accompany the veins; and besides these, there are several little nerves in the form of a net, which extend throughout it, from the bottom of the *pudenda*; their chief function is sensibility and pleasure, as they move in sympathy between the head and the womb.

It may be further noted that the womb is occasionally moveable by means of the two ligaments that hang on either side of it, and often rises and falls.

The neck of the womb is extremely sensitive, so that if it be at any time out of order through over fatness, moisture or relaxation, it thereby becomes subject to barrenness. With pregnant women, a glutinous matter is often found at the entrance to the womb so as to facilitate the birth; for at the time of delivery, the mouth of the womb is opened as wide as the size of the child requires, and dilates equally from top to bottom.

The spermatic vessels in women, consist of two veins and two arteries, which differ from those of men only in size and the manner of their insertion; for the number of veins and arteries is the same as in men, the right vein issuing from the trunk of the hollow vein descending and besides them there are two arteries, which flow from the aorta.

These vessels are narrower and shorter in women than in men; but it must be noticed that they are more intertwined and contorted than in men, and shrink together by reason of their shortness that they may, by their looseness, be better stretched out when necessary: and these vessels in women are carried in an oblique direction through the lesser bowels and testicles but are divided into two branches half way. The larger goes to the stones and forms a winding body, and wonderfully inoculates the lesser branches where it disperses itself, and especially at the higher part of the bottom of the womb, for its nourishment, and that part of the courses may pass through the vessels; and seeing that women's testicles are situated near the womb, for that cause those vessels do not fall from the peritoneum, nor do they make so much passage as in men, as they do not extend to the share-bone.

The stones of woman, commonly called *testicles*, do not perform the same function as in men, for they are altogether different in position, size, temperature, substance, form and covering. They are situated in the hollow of the muscles of the loins, so that, by contracting greater heat, they may be more fruitful, their office being to contain the ova or eggs, one of which, being impregnated by the man's seed engenders the child. They are, however, different from those of the male in shape, because they are smaller and flatter at each end, and not so round or oval; the external superficies is also more unequal, and has the appearance of a number of knobs or kernels mixed together.

There is a difference, also, in the substance, as they are much softer and more pliable, and not nearly so compact. Their size and temperature are also different for they are much colder and smaller than in men, and their covering or enclosure is likewise quite different; for as men's are wrapped in several covers, because they are very pendulous and would be easily injured unless they were so protected by nature, so women's stones, being internal and thus less subject to being hurt, are covered by only one membrane, and are likewise half covered by the peritoneum.

The ejaculatory vessels are two small passages, one on either side, which do not differ in any respect from the spermatic veins in substance. They rise in one place from the bottom of the womb, and do not reach from their other extremity either to the stones or to any other part, but are shut up and impassable, and adhere to the womb as the colon does to the blind gut, and winding half way about; and though the testicles are not close to them and do not touch them, yet they are fastened to them by certain membranes which resemble the wing of a bat, through which certain veins and arteries passing from the end of the testicles may be said to have their passages going from the corners of the womb to the testicles, and these ligaments in women are the *cremasters* [3] in men, of which I shall speak more fully when I come to describe the male parts of generation.

FOOTNOTES:

[3]

Muscles by which the testicles are drawn up.

CHAPTER XV

A Description of the Use and Action of the several Generative Parts in Women.

The external parts, commonly called the *pudenda*, are designed to cover the great orifice and to receive the man's penis or yard in the act of sexual intercourse, and to give passage to the child and to the urine. The use of the wings and knobs, like myrtle berries, is for the security of the internal parts, closing the orifice and neck of the bladder and by their swelling up, to cause titillation and pleasure in those parts, and also to obstruct the involuntary passage of the urine.

The action of the clitoris in women is similar to that of the penis in men, viz., *erection*; and its lower end is the glans of the penis, and has the same name. And as the *glans* of man are the seat of the greatest pleasure in copulation, so is this in the woman.

The action and use of the neck on the womb is the same as that of the penis, viz., erection, brought about in different ways: first, in copulation it becomes erect and made straight for the passage of the penis into the womb; secondly, whilst the passage is filled with the vital blood, it becomes narrower for embracing the penis; and the uses of this erection are twofold: —first, because if the neck of the womb were not erected, the man's yard could find no proper passage to the womb, and, secondly, it hinders any damage or injury that might ensue through the violent striking of the *penis* during the act of copulation.

The use of the veins that pass through the neck of the womb, is to replenish it with blood and vigour, that so, as the moisture is consumed by the heat engendered by sexual intercourse, it may be renewed by those vessels; but their chief business is to convey nutriment to the womb.

The womb has many properties belonging to it: first, the retention of the impregnated egg, and this is conception, properly so called; secondly, to cherish and nourish it, until Nature has fully formed the child, and brought it to perfection, and then it operates strongly in expelling the child, when the time of its remaining has expired, becoming dilated in an extraordinary manner and so perfectly removed from the senses that they cannot injuriously affect it, retaining within itself a power and strength to eject the foetus, unless it be rendered deficient by any accident; and in such a case remedies must be applied by skilful hands to strengthen it, and enable it to perform its functions; directions for which will be given in the second book.

The use of the preparing vessels is this; the arteries convey the blood to the testicles; some part of it is absorbed in nourishing them, and in the production of these little bladders (which resemble eggs in every particular), through which the *vasa preparantia* run, and which are absorbed in them; and the function of the veins is to bring back whatever blood remains from the above mentioned use. The vessels of this kind are much shorter in women than in men, because they are nearer to the testicles; this defect is, however, made good by the many intricate windings to which those vessels are subject; for they divide themselves into two branches of different size in the middle and the larger one passes to the testicles.

The stones in women are very useful, for where they are defective, the work of generation is at an end. For though those bladders which are on the outer surface contain no seed, as the followers of Galen and Hippocrates wrongly believed, yet they contain several eggs, generally twenty in each testicle; one of which being impregnated by the animated part of the man's seed in the act of copulation, descends through the oviducts into the womb, and thus in due course of time becomes a living child.

CHAPTER XVI

Of the Organs of Generation in Man.

Having given a description of the organs of generation in women, with the anatomy of the fabric of the womb, I shall now, in order to finish the first part of this treatise, describe the organs of generation in men, and how they are fitted for the use for which Nature intended them.

The instrument of generation in men (commonly called the yard, in Latin, *penis*, from *pendo*, to hang, because it hangs outside the belly), is an organic part which consists of skin, tendons, veins, arteries, sinews and great ligaments; and is long and round, and on the upper side flattish, seated under the *os pubis*, and ordained by Nature partly for the evacuation of urine, and partly for conveying the seed into the womb; for which purpose it is full of small pores, through which the seed passes into it, through the *vesicula seminalis,* [4] and discharges the urine when they make water; besides the common parts, viz., the two nervous bodies, the septum, the urethra, the glans, four muscles and the vessels. The nervous bodies (so called) are surrounded with a thick white, penetrable membrane, but their inner substance is spongy, and consists chiefly of veins, arteries, and nervous fibres, interwoven like a net. And when the nerves are filled with animal vigour and the arteries with hot, eager blood, the penis becomes distended and erect; also the neck of the *vesicula urinalis*, [5] but when the influx of blood ceases, and when it is absorbed by the veins, the penis becomes limp and flabby. Below those nervous bodies is the urethra, and whenever they swell, it swells also. The penis has four muscles; two shorter ones springing from the *Cox endix* and which serve for erection, and on that account they are called *erectores*; two larger, coming from *sphincters ani*, which serve to dilate the urethra so as to discharge the semen, and these are called dilatantes, or wideners. At the end of the penis is the *glans,* covered with a very thin membrane, by means of which, and of its nervous substance, it becomes most extremely sensitive, and is the principal seat of

pleasure in copulation. The outer covering of the *glans* is called the *preputium* (foreskin), which the Jews cut off in circumcision, and it is fastened by the lower part of it to the *glans*. The penis is also provided with veins, arteries and nerves.

The *testiculi*, stones or testicles (so called because they testify one to be a man), turn the blood, which is brought to them by the spermatic arteries into seed. They have two sorts of covering, common and proper; there are two of the common, which enfold both the testes. The outer common coat, consists of the *cuticula*, or true skin, and is called the scrotum, and hangs from the abdomen like a purse; the inner is the *membrana carnosa*. There are also two proper coats—the outer called *cliotrodes*, or virginales; the inner *albugidia;* in the outer the cremaster is inserted. The *epididemes*, or *prostatae* are fixed to the upper part of the testes, and from them spring the *vasa deferentia*, or *ejaculatoria*, which deposit the seed into the *vesicule seminales* when they come near the neck of the bladder. There are two of these *vesiculae*, each like a bunch of grapes, which emit the seed into the urethra in the act of copulation. Near them are the *prostatae*, about the size of a walnut, and joined to the neck of the bladder. Medical writers do not agree about the use of them, but most are of the opinion that they produce an oily and sloppy discharge to besmear the urethra so as to defend it against the pungency of the seed and urine. But the vessels which convey the blood to the testes, from which the seed is made, are the *arteriae spermaticae* and there are two of them also. There are likewise two veins, which carry off the remaining blood, and which are called *venae spermaticae*.

FOOTNOTES:

[4]

Seminal vesicle.

[5]

Urinary vesicle.

CHAPTER XVII

A word of Advice to both Sexes, consisting of several Directions with regard to Copulation.

As Nature has a mutual desire for copulation in every creature, for the increase and propagation of its kind, and more especially in man, the lord of creation and the masterpiece of Nature, in order that such a noble piece of divine workmanship should not perish, something ought to be said concerning it, it being the foundation of everything that we have hitherto been treating of, since without copulation there can be no generation. Seeing, therefore, so much depends upon it, I have thought it necessary, before concluding the first book, to give such directions to both sexes, for the performance of that act, as may appear efficacious to the end for which nature designed it, but it will be done with such caution as not to offend the chastest ear, nor to put the fair sex to the blush when they read it.

In the first place, then, when a married couple from the desire of having children are about to make use of those means that Nature has provided for that purpose, it is well to stimulate the body with generous restoratives, that it may be active and vigorous. And the imagination should be charmed with sweet music, and if all care and thoughts of business be drowned in a glass of rosy wine, so that their spirit may be raised to the highest pitch of ardour, it would be as well, for troubles, cares or sadness are enemies to the pleasures of Venus. And if the woman should conceive when sexual intercourse takes place at such times of disturbance, it would have a bad effect upon the child. But though generous restoratives may be employed for invigorating nature, yet all excess should be carefully avoided, for it will check the briskness of the spirits and make them dull and languid, and as it also interferes with digestion, it must necessarily be an enemy *to* copulation; for it is food taken moderately and that is well digested, which enables a man to perform the dictates of Nature with vigour and activity, and it is also necessary, that in their mutual embraces they meet each other

with equal ardour, for, if not, the woman either will not conceive, or else the child may be weak bodily, or mentally defective. I, therefore, advise them to excite their desires mutually before they begin their conjugal intercourse, and when they have done what nature requires, a man must be careful not to withdraw himself from his wife's arms too soon, lest some sudden cold should strike into the womb and occasion miscarriage, and so deprive them of the fruits of their labour.

And when the man has withdrawn himself after a suitable time, the woman should quietly go to rest, with all calmness and composure of mind, free from all anxious and disturbing thoughts, or any other mental worry. And she must, as far as possible, avoid turning over from the side on which she was first lying, and also keep from coughing and sneezing, because as it violently shakes the body, it is a great enemy to conception.

A
PRIVATE LOOKING-GLASS
FOR THE
FEMALE SEX

PART II

CHAPTER I

Treating of the several Maladies incident to the womb, with proper remedies for the cure of each.

The womb is placed in the *hypogastrium*, or lower part of the body, in the cavity called the *pelvis*, having the straight gut on one side to protect it against the hardness of the backbone, and the bladder on the other side to protect it against blows. Its form or shape is like a virile member, with this exception, that the man's is outside, and the woman's inside.

It is divided into the neck and body. The neck consists of a hard fleshy substance, much like cartilage, and at the end of it there is a membrane placed transversely, which is called the hymen. Near the neck there is a prominent pinnacle, which is called the door of the womb, because it preserves the *matrix* from cold and dust. The Greeks called it *clitoris*, and the Latins *praeputium muliebre*, because the Roman women abused these parts to satisfy their mutual unlawful lusts, as St. Paul says, Romans 1. 26.

The body of the womb is where the child is conceived, and this is not altogether round, but dilates itself into two angles; the outward part is full of sinews, which are the cause of its movements, but inside it is fleshy. It is wrongly said, that in the cavity of the womb there are seven divided cells or receptacles for the male seed, but anatomists know that there are only two, and also that those two are not divided by a partition, but only by a line or suture running through the middle of it.

At the bottom of the cavity there are little holes called *cotyledones*, which are the ends of certain veins or arteries, and serve breeding women to convey nourishment to the child, which is received by the umbilical and other veins, to carry the courses to the *matrix*.

As to menstruation, it is defined as a monthly flow of bad and useless blood, and of the super-abundance of it, for it is an excrement in quality, though it is pure and incorrupt, like the blood in the veins. And that the menstruous blood is pure in itself, and of the same quality as that in the veins, is proved in two ways.—First, from the final object of the blood, which is the propagation and preservation of mankind, that man might be conceived; and that, being begotten, he might be comforted and preserved

both in and out of the womb, and all allow that it is true that a child in the matrix is nourished by the blood. And it is true that when it is out of it, it is nourished by the same; for the milk is nothing but the menstruous blood made white in the breast. Secondly, it is proved to be true by the way it is produced, as it is the superfluity of the last aliment of the fleshy parts.

The natural end of man and woman's being is to propagate. Now, in the act of conception one must be an active agent and the other passive, for if both were similarly constituted, they could not propagate. Man, therefore, is hot and dry, whilst woman is cold and moist: he is the agent, and she the passive or weaker vessel, that she may be subject to the office of the man. It is necessary that woman should be of a cold constitution, because a redundancy of Nature for the infant that depends on her is required of her; for otherwise there would be no surplus of nourishment for the child, but no more than the mother requires, and the infant would weaken the mother, and like as in the viper, the birth of the infant would be the death of the parent.

The monthly purgations continue from the fifteenth to the forty-sixth or fiftieth year; but a suppression often occurs, which is either natural or morbid: the courses are suppressed naturally during pregnancy, and whilst the woman is suckling. The morbid suppression remains to be spoken of.

CHAPTER II

Of the Retention of the Courses.

The suppression of the menstrual periods, is an interruption of that accustomed evacuation of blood, which comes from the matrix every month, and the part affected is the womb.

CAUSE.

The cause of this suppression is either external or internal. The external cause may be heat or dryness of air, want of sleep, too much work, violent exercise, etc., whereby the substance is so consumed, and the body so exhausted that nothing is left over to be got rid of, as is recorded of the Amazons who, being active and constantly in motion, had their courses very little, if at all. Or it may be brought about by cold which is very frequent, as it vitiates and thickens the blood, and binds up the passages, so that it cannot flow out.

The internal cause is either instrumental or material; in the womb or in the blood. In the womb, it may be in various ways; by humours, and abscesses and ulcers, by the narrowness of the veins and passages, or by the adipose membrane in fat bodies, pressing on the neck of the matrix, but then they must have hernia, zirthilis, for in men the membrane does not reach so low; by too much cold or heat, the one vitiating the action, and the other consuming the matter through the wrong formation of the uterine parts; by the neck of the womb being turned aside, and sometimes, though rarely, by a membrane or excrescence of the flesh growing at the mouth or neck of the womb. The blood may be in fault in two ways, in quantity and in quality; in quantity, when it is so consumed that no surplus is left over, as in viragoes or virile women, who, through their heat and natural strength, consume it all in their last nourishment; as Hippocrates writes of Prethusa, for when her

husband praised her overmuch, her courses were suppressed, her voice changed and she got a beard with a manly face. But I think, rather that these must be *Gynophagi,* or woman-eaters, rather than women-breeders, because they consume one of the principles of generation, which gives a being to the world, viz., the menstruous blood. The blood may likewise be lost, and the courses checked by nosebleeding, by bleeding piles, by dysentery, commonly called the bloody flux, by many other discharges, and by chronic diseases. Secondly, the matter may be vitiated in quality, and if it be sanguineous, sluggish, bilious or melancholy, and any of these will cause an obstruction in the veins.

SIGNS.

Signs which manifest the disease are pains in the head, neck, back and loins; weariness of the whole body (but especially of the hips and legs, because the womb is near those parts); palpitation of the heart. The following are particular signs:—If the suppression arises from a cold, the woman becomes heavy, sluggish, pale and has a slow pulse; Venus' combats are neglected, the urine is thick, the blood becomes watery and great in quantity, and the bowels become constipated. If it arises from heat, the signs are just the opposite. If the retention be natural and arises from conception, this may be known by drinking hydromel, i.e., water and honey, after supper, before going to bed, by the effect which it has; for if after taking it, she feels a heating pain about the navel and the lower parts of the abdomen, it is a sign that she has conceived, and that the suppression is natural.

PROGNOSTICS.

The whole body is affected by any disorder of the womb, and especially the heart, the liver and the brain, and there is a singular sympathy between the womb and those three organs. Firstly, the womb communicates with the heart by the mediation of those arteries which come from the aorta. Hence, when menstruation is suppressed, fainting, swooning, a very low pulse, and shortness of breath will ensue. Secondly, it communicates with the liver by

the veins derived from the hollow vein. Obstructions, jaundice, dropsy, induration of the spleen will follow. Thirdly, it communicates with the brain by the nerves and membranes of the back; hence arise epilepsy, madness, fits of melancholy, pains in the back of the head, unaccountable fears and inability to speak. I may, therefore, well agree with Hippocrates that if menstruation be suppressed, many dangerous diseases will follow.

CURE.

In the cure of this, and of all the other following cases, I shall observe the following order:—The cures will be taken from surgical, pharmaceutical and diuretical means. The suppression has a plethoric effect, and must be removed by the evacuation; therefore we begin with bleeding. In the middle of the menstrual period, open the liver vein, and two days before, open the saphena in both feet; if the repletion is not very great apply cupping glasses to the legs and thighs, although there may be no hope of removing the suppression. As in some women, the cotyledones are so closed up that nothing but copulation will open them, yet it will be well to relieve the woman as much as possible by opening the hemoroid veins by applying a leech. After bleeding let the place be prepared and made flexible with syrup of stychas, calamint, betony, hyssop, mugwort, horehound, fumitary, maidenhair. Bathe the parts with camomiles, pennyroyal, savias, bay-leaves, juniper-berries, rue, marjoram, feverfew. Take a handful each of nep, maidenhair, succory and betony leaves and make a decoction, and take three ounces of it, syrup of maidenhair, mugwort and succory, half an ounce of each. After she comes out of her bath, let her drink it off. Purge with *Pill agaric, fleybany, corb, feriae*. In this case, Galen recommends *pilulae of caberica coloquintida*; for, as they are good for purging the bad humours, so also they open the passages of the womb, and strengthen it by their aromatic qualities.

If the stomach be over-loaded, let her take an emetic, yet such a one as may work both ways, lest if it only works upwards, it should check the humours too much. Take two drachms of trochisks of agaric, infuse this in two ounces of oxymel in which dissolve one scruple and a half of *electuary dissarum*, and half an ounce of *benedic laxit*. Take this as a purge.

After the humour has been got rid of, proceed to more suitable and stronger remedies. Take a drachm and a half of trochisk of myrrh; ten grains of musk with the juice of smallage; make twelve pills and take six every morning, or after supper, on going to bed. Take half an ounce of cinnamon, two drachms each of smirutium, or rogos, valerin aristolochia; two scruples each of astrumone root and saffron; two drachms of spec. diambia; four scruples of trochisk of myrrh; two scruples tartari vitriolari; make half into a powder; make lozenges with mugwort water and sugar, and take one drachm of them every morning; or mix a drachm of the powder with one drachm of sugar, and take it in white wine. Take two drachms each of prepared steel and spec. hair; one scruple each of borax and spec. of myrrh, with savine juice; make it up into eighty-eight lozenges and take three every other day before dinner. Take one scruple of castor, half a drachm of wild carrot seed with syrup of mugwort, and make four pills, take them in the morning fasting, for three days following, before the usual time of purging. Take five drachms each of agaric, aristolochia, and juice of horehound; six drachma each of rhubarb, spikenard, aniseed, guidanum, asafoetida, mallow-root, gentian, of the three peppers and of liquorice: make an electuary with honey, and take three drachms for a dose. For phlegmatic constitutions nothing can be better than the decoction of guaiacum wood with a little disclaim, taken fasting in the morning, for twelve days consecutively, without producing sweating.

Treat the lower parts of the body to suffumigating, pessaries, ointments and injections; for fumigating use cinnamon, nutmeg, the berries of the bay tree, mugwort, galbanum, molanthium, amber, etc. Make pessaries of figs and the bruised leaves of dog's mercury, rolled up in lint, and if a stronger one is required, make one of myrrh, opopanax, ammoniac, galbanum, sagepanum, mithridate, agaric, coloquintida, tec. Make injections of a decoction of origane mugwort, dog's mercury, betony, and eggs; inject into the womb with a female syringe. Take half an ounce each of oil of almonds, lilies, capers, camomiles; two drachms each of laudanum and oil of myrrh; make a salve with wax, with which anoint the place; make injections of fenugreek, camomiles, melilot, dill, marjoram, pennyroyal, feverfew, juniper berries and calamint; but if the suppression arises from a lack of matter, then the courses ought not to be brought on until the spirits be raised and the amount of blood increased; or if it arises from affections of the

womb itself, as dropsy or inflammation, then particular care must be used; but I will not lay stress on this here, but will mention the remedies in their order.

If the retention comes from repletion or fullness, if the air be hot and dry, take moderate exercise before meals, and very light diet and drinks, and with your food take garden savory—thyme and origane, if it arises from emptiness and defect of matter: if the weather be moist and moderately hot, avoid exercise and late hours; let your food be nourishing and easy of digestion, such as raw eggs, lamb, chickens, almonds, milk and the like.

CHAPTER III

Of Excessive Menstruation.

The learned say, that truth is manifested by comparing contraries, and so, as I have above spoken of the suppression of menstruation, it is now necessary that I should treat of excessive menstruation, which is no less dangerous than the former. This immoderate monthly flow is defined as a sanguineous discharge, as it consists merely of blood, wherein it differs from the false courses or whites, of which I shall speak further on. Secondly, it is said to proceed from the womb; for there are two ways in which the blood issues forth; one by the internal veins of the body of the womb (and this is properly called the monthly flow), the other is by those veins which terminate in the neck of the matrix, which Aetius calls haemorrhoids of the womb. In quantity, Hippocrates said, it should be about eighteen ounces, and they should last about three days: and when the faculties of the body are weakened by their flow, we may take it that the discharge is inordinate. In bodies which abound in gross humours, this immoderate flow sometimes unburdens nature of her load and ought not to be checked without a physician's advice.

CAUSE.

The cause is either internal or external. The internal cause is threefold; in the substance, the instrument or the power. The matter, which is the blood, may be vitiated in two ways; first, by the heat of the constitution, climate or season, heating the blood, whereby the passages are dilated, and the power weakened so that it cannot retain the blood. Secondly, by falls, blows, violent motions, rupture of the veins, etc. The external cause may be the heat of the air, heavy burdens, unnatural childbirth, etc.

SIGNS.

In this excessive flow the appetite is lessened, conception is checked and all the functions weakened; the feet swell, the colour of the face changes, and the whole body is weakened. If the flow comes from the rupture of a vein, the body is sometimes cold, the blood flows out in streams, suddenly, and causes great pain. If it arises from heat, and the orifice of the vein is dilated, there is little or no pain, but yet the blood flows faster than it does when caused by erosion, but not so fast as it does in a rupture. If caused by erosion, the woman feels a scalding of the passage, and it differs from the other two, in so much as it does not flow so quickly or so freely as they do. If it is caused by weakness of the womb, the woman feels a dislike for sexual intercourse. Lastly, if it proceeds from the defective quality of the blood let some of it drop into a cloth, and when it is dry, you may judge, of the quality by the colour. If it be passionate it will be yellow; if melancholy, it will be black, and if phlegmatic, it will be waterish and whitish.

PROGNOSTICS.

If convulsions are joined to the flow, it is dangerous, because that intimates that the noble parts are affected, convulsions caused by emptiness are deadly. If they continue long, they will be very difficult to cure, and it was one of the miracles which our Saviour Christ wrought, to cure a woman of this disease of twelve years standing.

To conclude, if the flow be excessive, many diseases will follow, which will be almost impossible to cure; the blood, being consumed together with the innate heat, either morbid, dropsical, or paralytical diseases will follow.

CURE.

The cure consists in three particulars. First, in expelling and carrying away the blood. Secondly, in connecting and removing the fluxibility of the matter. Thirdly, in incorporating the veins and faculties. For the first, to get

rid of the superfluous blood, open a vein in the arm, and draw off as much blood as the strength of the patient will allow; not all at one time, but at intervals, for by those means the spirits are less weakened, and the reaction so much the greater.

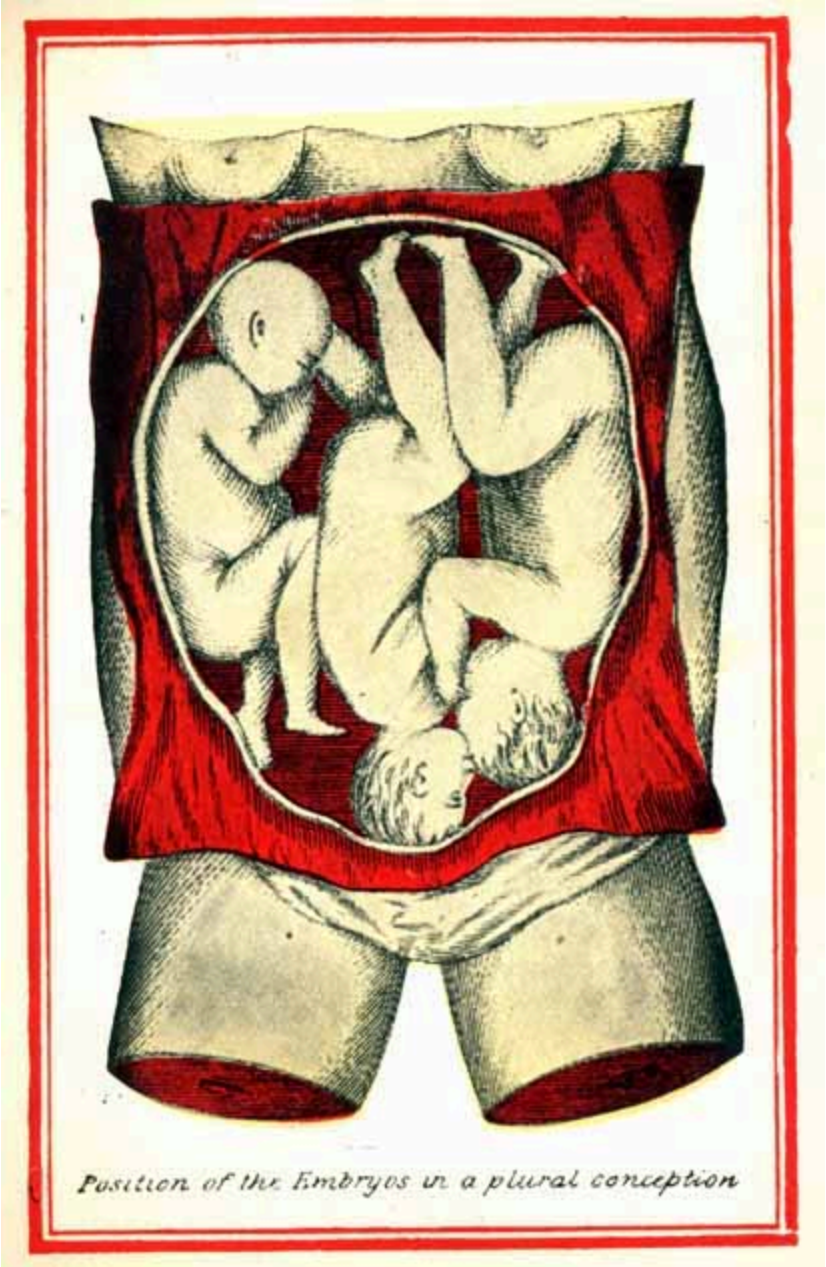
Apply cupping glasses to the breasts and also over the liver, and to correct the flexibility of the matter, purgative means, moderated by astringents, may be employed.

If it is caused by erosion, and salt phlegm, prepare with syrup of violets, wormwood, roses, citron peel, succory, etc. Then make the following purge:—mirabolans, half an ounce; trochisks of agaric, one drachm; make a decoction with the plantain-water, and add syrup of roses lax. three ounces, and make a draught.

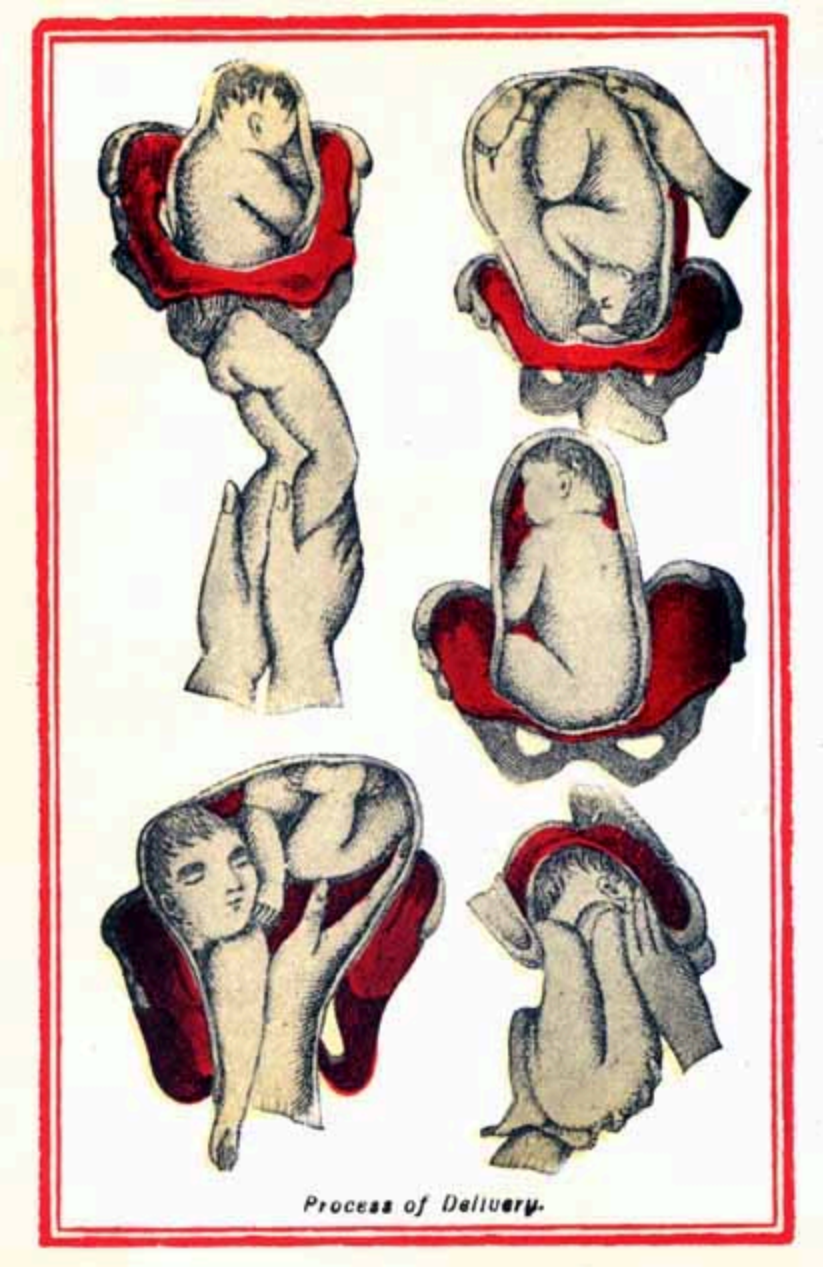
If caused by any mental excitement, prepare the body by syrup of roses, myrtles, sorrel and parsley, mixed with plantain-water, knot-grass and endive. Then purge with the following draught:—Take one drachm each of the void of mirabolans, and rhubarb, cinnamon fifteen grains; infuse for a night in endive water; add to the strained water half an ounce of pulp of tamarinds and of cassia, and make a draught. If the blood be waterish as it is in dropsical subjects and flows out easily on account of its thinness, it will be a good plan to draw off the water by purging with agaric, elaterium and coloquintida. Sweating is also useful in this case, as by it the noxious matter is carried off, and the motion of the blood to other parts. To produce sweating, employ cardus water, and mithridate, or a decoction of guaiacum and sarsaparilla. Gum guaiacum is also a great producer of perspiration, and sarsaparilla pills, taken every night before going to bed are also highly to be recommended. If the blood pours out, without any evil quality in itself, then strengthening means only should be employed, which is a thing to be done in cases of inordinate discharge.

Take one scruple of ol. ammoniac, one drachm of treacle, half an ounce of conserve of roses and make an electuary with syrup of myrtle, or if the discharge be of long standing take two drachms of matrix, one drachm of olilanum troch. de carbara, a scruple of balustium; make into a powder and form into pills with syrup of quinces, and take one before every meal. Take two scruples each of troch. dechambede, scoriaferri, coral and frankincense;

pound these to a fine powder, and make into lozenges with sugar and plantain water. Asses' dung is also approved of, whether taken inwardly with syrup of quinces or applied outwardly with steeled water. Galen by sending the juice of it into the womb by means of a syringe for four days consecutively, cured this immediate flow, which could not be checked in any other way. Let the patient take one scruple and a half of pilon in water before going to bed; make a fumigation for the womb of mastic, frankincense and burnt frogs, adding the hoof of a mule. Take an ounce each of the juice of knot-grass, comfoly and quinces; a drachm of camphor; dip a piece of silk or cotton into it and apply it to the place. Take half an ounce each of oil of mastic, myrtle, and quinces; a drachm each of fine bole and troch. decardas, and a sufficient quantity of dragon's blood, make an ointment and apply it before and behind. Take an ounce and a half each of plantain, shepherd's purse and red rose leaves; an ounce of dried mint, and three ounces of bean flour; boil all these in plantain water and make two plasters:—apply one before and one behind. If the blood flows from those veins which are terminated at the neck of the matrix, then it is not called an undue discharge of the *menses*, but haemorrhoids of the womb. The same remedy, however, will serve for both, only the instrumental cure will be a little different; for in uterine haemorrhoids, the ends of the veins hang over like teats, which must be removed by cutting, and then the veins closed with aloes, fine bole, burnt alum, myrrh, mastic, with comfoly-juice and knot grass, laid upon it like a plaster.



Position of the Embryos in a plural conception



Process of Delivery.

The air should be cold and dry, and all motion of the body should be prohibited. Her diet should consist of pheasants, partridges, grouse, rabbits, calves' feet, etc., and her drink should be mixed with the juice of pomegranates and quinces.

CHAPTER IV

Of the Weeping of the Womb.

The weeping of the womb is an unnatural flow of blood, coming from it in drops, like tears, and causing violent pains in it, and occurring at no fixed period or time. By some it is supposed to be produced by the excessive flow of the courses, as they flow copiously and freely; this is continued, though only little at a time, and accompanied by great pain and difficulty of passing it, and on this account it is compared to the strangury.

The cause is in the power, instrument or matter; in the power, on account of its being enfeebled so that it cannot expel the blood, and which, remaining there, makes that part of the womb grow hard, and distends the vessels, and from that, pains in the womb arise. In the instrument, from the narrowness of the passage. Lastly, it may be the matter of the blood which is at fault, and which may be in too great quantities; or the quality may be bad, so that it is thick and gross and cannot flow out as it ought to do, but only in drops. The signs will best be ascertained by the patient's own account, but there will be pains in the head, stomach and back, with inflammation, difficulty of breathing and excoriation of the matrix. If the patient's strength will permit it, first open a vein in the arm, rub the upper parts and let a cord be fastened tightly round the arm, so that the force of the blood may be carried backward; then apply such things as may relax the womb, and assuage the heat of the blood, as poultices made of bran, linseed, mallows, dog's mercury and artiplex. If the blood be viscous and thick, add mugwort, calamint, dictain and betony to it, and let the patient take about the size of a nutmeg of Venic treacle, and syrup of mugwort every morning; make an injection of aloes, dog's mercury, linseed, groundsel, mugwort, fenugreek, with sweet almond oil.

Sometimes it is caused by wind, and then bleeding must not be had recourse to, but instead take one ounce of syrup of feverfew; half an ounce each of honey, syrup of roses, syrup of stachus; an ounce each of calamint water,

mugwort, betony and hyssop, and make a julep. If the pain continues, use this purge:—Take a drachm of spec. Hitrae, half an ounce of diacatholicon, one ounce of syrup of roses and laxative, and make a draught with a decoction of mugwort and the four cordial flowers. If it proceeds from weakness, she must be strengthened, but if from grossness of blood, let the quality of it be altered, as I have shown in the preceding chapter. Lastly, if her bowels are confined, move them by an injection of a decoction of camomiles, betony, feverfew, mallows, linseed, juniper-berries, cumminseed, aniseed, melilot, and add to it half an ounce of diacatholicon; two drachms of hiera piera, an ounce each of honey and oil and a drachm and a half of sol. nitre. The patient must abstain from salt, acid and windy food.

CHAPTER V

The false Courses, or Whites.

From the womb, not only the menstruous blood proceeds, but many evacuations, which were summed up by the ancients under the title of *rhoos gunaikeios*, [6] which is the distillation of a variety of corrupt humours through the womb, which flow from the whole body or a part of it, varying both in courses and colour.

CAUSE.

The cause is either promiscuously in the whole body, by a cacochymia; or weakness of it, or in some of its parts, as in the liver, which by a weakness of the blood producing powers, cause a production of corrupt blood, which then is reddish. Sometimes, when the fall is sluggish in its action, and does not get rid of those superfluities engendered in the liver, the matter is yellowish. Sometimes it is in the spleen when it does not cleanse the blood of the dregs and rejected particles, and then the matter which flows forth is blackish. It may also come from a cold in the head, or from any other decayed or corrupted member, but if the discharge be white, the cause lies either in the stomach or loins. In the stomach, by some crude substance there, and vitiated by grief, melancholy or some other mental disturbance; for otherwise, if the matter were only crude phlegm and noways corrupt, being taken into the liver it might be converted into the blood; for phlegm in the ventricle is called nourishment half digested; but being corrupt, though sent into the liver it cannot be turned into nutriment, for the second decoction in the stomach cannot correct that which the first corrupted; and therefore the liver sends it to the womb, which can neither digest nor reject it, and so it is voided out with the same colour which it had in the ventricle. The cause may also be in the veins being overheated whereby the

spermatical matter flows out because of its thinness. The external causes may be moistness of the air, eating bad food, anger, grief, sloth, too much sleep, costiveness.

The signs are bodily disturbances, shortness of breathing, and foul breath, a distaste for food, swollen eyes and feet, and low spirits; discharges of different colours, as red, black, green, yellow and white from the womb. It differs from the flowing of the courses and from too abundant menstruation, in so far as it keeps no certain period, and is of many colours, all of which spring from blood.

If the flux be phlegmatic, it will last long and be hard to cure, but if sickness or diarrhoea supervene, it carries off the humour and cures the disease. If it is abundant it does not last so long, but it is more dangerous, for it will cause a cleft in the neck of the womb, and sometimes also an excoriation of the matrix; if melancholy, it must be dangerous and obstinate. The flux of the haemorrhoids, however, assists the cure.

If the matter which flows out be reddish, open a vein in the arm; if not, apply ligatures to the arms and shoulders. Galen boasts that he cured the wife of Brutus, who was suffering from this disease, by rubbing the upper part with honey.

If it is caused by the brain, take syrup of betony and marjoram. Give as a purgative *Pill. coch.* or *Agaric*; make nasalia of sage, or hyssop juice, betony, flagella, with one drop of oil of *Elect. Dianth. Rosat. Diambrae, diamosci dulus*, one drachm of each, and make lozenges to be taken every morning and evening. *Auri Alexandrina*, half a drachm at night on going to bed. If these things have no effect, try suffumigation and plasters, as they are prescribed above.

If it arises from crudities of the stomach or from a cold, disordered liver, take a decoction of *lignum sanctum* every morning, purge with *pill de agaric, de hermadact, de hiera, diacolinthis, foetid-agrigatio*; take two drachms of elect. aromet-roses, one scruple each of dried citron peel, nutmeg, long pepper; one drachm of draglanga; half a scruple each of *fantalum album,* ling, aloes; six ounces of sugar, with mint water: make lozenges of it, and take them before meals. If there be repletion besides the rigidity of the liver, purging by means of an emetic is to be recommended,

for which take three drachms of the electuary diasatu. Galen allows diuretical remedies, such as *aqua petrofolma*.

If the discharge be angry, treat it with syrup of roses, violets, endive and succory; give a purge of mirabolans, manna, rhubarb, and cassia. Take two drachms of rhubarb, one of aniseed, and one scruple and a half of cinnamon; infuse them into six ounces of syrup of prunes, and add one ounce of strained manna, and take it in the morning as required. Take one drachm each of the following drugs: *diatonlanton, diacorant, diarthod, abbaris, dyacydomei*, four ounces of sugar, and make into lozenges with plantain water. If the gall be sluggish, and does not stir the bowels, give warm injections of a decoction of the four mollifying herbs, with honey of roses and aloes.

If the flow be bilious, treat the patient with syrup of maiden-hair; epithynium, polypody, borage, buglos, fumitary, hart's tongue and syrups, bisantius, which must be made without vinegar, else it will assist the disease instead of nature, for melancholy is increased by the use of vinegar, and both Hippocrates, Silvius and Avenzoar reject it as injurious for the womb, and therefore not to be used internally in uterine diseases. *Pilulae sumariae, pilulae lud. delupina, lazuli diosena* and *confetio hamec* are purges of bile. Take two ounces of pounded prunes, one drachm of senna, a drachm and a half each of epithimium, polypody and fumitary, and an ounce of sour dates, and make a decoction with endive water; take four ounces of it and add three drachms of hamesech and three of manna. Or take a scruple each of *pil. indic. foetid, agarici, trochis ati*; one scruple of rhubarb pills, six grains of lapis lazuli, make into pills with epithimium, and take them once a week. Take three drachms of elect. loetificans. Galen three drachms, a drachm each of *diamargaritum, calimi, diamosci dulus*; a drachm of conserve of borage, violets and burglos; one drachm of candied citron peel, seven ounces of sugar, and make into lozenges with rose water.

Lastly let the womb be cleansed of all corrupt matter, and then be strengthened. In order to purify it, make injections of the decoction of betony, feverfew, spikenard, bismust, mercury and sage, and add two ounces each of sugar and sweet almond oil; pessaries may also be made of silk or cotton, softened in the juice of the above mentioned herbs.

You must prepare trochisks, thus, to strengthen the womb. Take one ounce each of mugwort, feverfew, myrrh, amber, mace, storax, ling aloes and red roses, and make lozenges or troches with mucilage of tragacanth; throw one of them on to hot coals and fumigate the womb with red wine, in which mastic, fine bole, malustia and red roots have been decocted; anoint the matrix with oil of quinces and myrtles, and apply a plaster to it, for the womb; and let the woman take *diamosdum dulco*, *aract*, and *slemoticum* every morning.

A drying diet is recommended as best, because in these cases the body abounds with phlegmatic and crude humours. On this account, Hippocrates advises the patient to go to bed supperless. Her food should consist of partridges, pheasant and grouse, roasted rather than boiled, too much sleep must be prohibited whilst moderate exercise is very advisable.

FOOTNOTES:

[6]

The female flowing.

CHAPTER VI

The Suffocation of the Mother.

This, which if simply considered, will be found to be merely the cause of an effect, is called in English, "the suffocation of the mother," not because the womb is strangled, but because by its retraction towards the midriff and stomach, which presses it up, so that the instrumental cause of respiration, the midriff, is suffocated, and acting with the brain, cause the animating faculty, the efficient cause of respiration, also to be interrupted, when the body growing cold, and the action weakened, the woman falls to the ground as if she were dead.

Some women remain longer in those hysterical attacks than others, and Rabbi Moses mentions some who lay in the fit for two days. Rufus writes of one who continued in it for three days and three nights, and revived at the end of the three days. And I will give you an example so that we may take warning by the example of other men. Paroetus mentions a Spanish woman who was suddenly seized with suffocation of the womb, and was thought to be dead. Her friends, for their own satisfaction, sent for a surgeon in order to have her opened, and as soon as he began to make an incision, she began to move, and come to herself again with great cries, to the horror and surprise of all those present.

In order that the living may be distinguished from the dead, old writers prescribe three experiments. The first is, to lay a feather on the mouth, and by its movements you may judge whether the patient be alive or dead; the second is, to place a glass of water on the breast, and if it moves, it betokens life; the third is, to hold a bright, clean, looking-glass to the mouth and nose, and if the glass be dimmed with a little moisture on it, it betokens life. These three experiments are good, but you must not depend upon them too much, for though the feather and the glass do not move, and the looking-glass continues bright and clear, yet it is not a necessary consequence that she is dead. For the movement of the lungs, by which breathing is

produced, may be checked, so that she cannot breathe, and yet internal heat may remain, which is not evident by the motion of the breast or lungs, but lies hidden in the heart and arteries.

Examples of this we find in flies and swallows, who seem dead to all outward appearances, breathless and inanimate, and yet they live by that heat which is stored up in the heart and inward arteries. At the approach of summer, however, the internal heat, being restored to the outer parts, they are then brought to life again, out of their sleeping trance.

Those women, therefore, who apparently die suddenly, and from no visible cause, should not be buried until the end of three days, lest the living be buried instead of the dead.

CURE.

The part affected is the womb, of which there are two motions—natural and symptomatic. The natural motion is, when the womb attracts the male seed, or expels the infant, and the symptomatical motion, of which we are speaking, is a convulsive drawing up of the womb.

The cause is usually in the retention of the seed, or in the suppression of the menses, which causes a repletion of the corrupt humours of the womb, from which a windy refrigeration arises, which produces a convulsion of the ligaments of the womb. And just as it may arise from humidity or repletion, so also, as it is a convulsion, it may be caused by dryness or emptiness. Lastly also, it may arise from abortion or from difficult childbirth.

SIGNS.

On the approach of suffocation of the womb the face becomes pale, there is a weakness of the legs, shortness of breathing, frigidity of the whole body, with a spasm in the throat, and then the woman falls down, bereft of sense and motion; the mouth of the womb is closed up, and feels hard when touched with the finger. When the paroxysm or the fit is over, she opens her

eyes, and as she feels an oppression of the stomach, she tries to vomit. And lest any one should be deceived into taking one disease for another, I will show how it may be distinguished from those diseases which most resemble it.

It differs from apoplexy, as it comes without the patient crying out; in hysterical fits also the sense of feeling is not altogether destroyed and lost, as it is in apoplexy; and it differs from epilepsy, as the eyes are not distorted, and there is spongy froth from the mouth. That convulsive motion also, which is frequently accompanied by symptoms of suffocation, is not universal, as it is in epilepsy, but there is some convulsion, but that without any violent agitation. In syncope both breathing and the pulse fail, the face grows pale, and the woman faints suddenly; but in hysterical attacks there are usually both breathing and pulse, though these are indistinct; the face is red and she has a forewarning of the approaching fit. It cannot, however, be denied that syncope may accompany this feeling of suffocation. Lastly, it can be distinguished from lethargy by the pulse, which is rapid in the former, but weak in the latter.

CURE.

In the cure of this affection, two things must be taken care of:—*In the first place*, nature must be stimulated to expel these hurtful humours which obscure the senses, so that the woman may be brought back from that sleepy fit. *Secondly*, during the intervals of the attack, proper remedies must be employed, in order to remove the cause.

To stimulate nature, apply cupping-glasses to the hips and navel: apply ligatures to the thighs, rub the extremities with salt, mustard and vinegar, and shout and make a great noise in her ears. Hold asafoetida to the nose, or sacopenium steeped in vinegar; make her sneeze by blowing castor-powder, white pepper and hellebore up her nose; hold burnt feathers, hair, leather, or anything else with a strong, stinking smell under her nose, for bad odours are unpleasant to nature, and the animal spirits so strive against them, that the natural heat is restored by their means. The brain is sometimes so oppressed, that it becomes necessary to burn the outer skin of the head with

hot oil, or with a hot iron, and strong injections and suppositories are useful. Take a handful each of sage, calamint, horehound, feverfew, marjoram, betony and hyssop; half an ounce of aniseed; two drachma each of coloquintida, white hellebore and salgem; boil these in two quarts of water till reduced to half; add two ounces of castor oil and two drachms of hiera piera and make an injection of it. Or take two ounces of boiled honey, half a scruple of spurge, four grains of coloquint, two grains of hellebore and drachm of salt; make a suppository. Hippocrates mentions a hysterical woman who could only be relieved of the paroxysms by pouring cold water on her: yet this is a strange cure, and should only be administered in the heat of summer, when the sun is in the tropic of Cancer.

If it be caused by the retention and corruption of the seed, let the mid-wife take oil of lilies, marjoram and bay leaves, and dissolve two grains of civet in them, and the same quantity of musk, and at the moment of the paroxysm let her dip her finger into the mixture and put it into the neck of the womb, and tickle and rub it with it.

When the fit is over, proceed to remove the cause. If it arises from suppression of the menses, look in Chapter XI, p. 102, for the cure. If it arises from the retention of the seed, a good husband will administer the cure, but those who cannot honourably obtain that remedy, must use such means as will dry up and diminish the seed, as diaciminum, diacalaminthes, etc. The seed of the agnus castus is highly valued as a draught, whether taken inwardly, applied outwardly or used as a suffumigation. It was held in high esteem by the Athenian women, for by its means they remained as pure vessels and preserved their chastity, by only strewing it on the bed on which they lay, and hence the name of *agnus castus*, which was given to it, as denoting its effects. Make an issue on the inside of each leg, four inches below the knee, and then make lozenges of two scruples of agric, half a scruple each of wild carrot seed and ligne aloes; three drachms of washed turpentine, and make a bolus with a conserve of flowers. Eight drachms of castor taken in white wine are very useful in this case, or you may make pills of it with dog's tooth, and take them on going to bed. Take an ounce of white briony root dried and cut up like carrots, put it into a little wine and place it on the fire, and drink when warm. Take one scruple each of myrrh, castor and asafoetida; four grains each of saffron and rue-seed, and make eight pills and take two every night on going to bed.

Galen, from his own experience, recommends powdered agaric, of which he frequently gave one scruple in white wine. Put a head of bruised garlic on the navel at bed time, and fasten it with a swathing band. Make a girdle for the waist of galbanum, and also a plaster for the stomach, and put civet and musk on one part of it, which must be applied to the navel. Take two drachms each of pulvis benedict, and of troches of agaric, a sufficient quantity of mithridate, and make two pessaries, and that will purge the matrix of wind and phlegm; foment the private parts with salad oil in which some feverfew and camomiles have been boiled. Take a handful of roseleaves and two scruples of cloves, sew them in a little cloth and boil them for ten minutes in malmsey; then apply them, as hot as they can be borne, to the mouth of the womb, but do not let the smell go up her nose. A dry diet must still be adhered to and the moderate use of Venus is advisable. Let her eat aniseed biscuits instead of bread, and roast meat instead of boiled.

CHAPTER VII

Of the Descending or Falling of the Womb.

The descent of the womb is caused by a relaxation of the ligatures, whereby the matrix is carried backward, and in some women it protrudes to the size of an egg, and there are two kinds of this, distinguished by a descending and a precipitation. The descending of the womb is, when it sinks down to the entrance of the private parts, and appears either very little or not at all, to the eye. Its precipitation is when it is turned inside out like a purse, and hangs out between the thighs, like a cupping glass.

CAUSE.

This is either external or internal. The external cause is difficult childbirth, violent pulling away, or inexperience in drawing away the child, violent coughing, sneezing, falls, blows, and carrying heavy burdens. The internal cause, is generally the flow of too much moisture into these parts, which hinders the operation of the womb, whereby the ligaments by which the womb is supported are relaxed. The particular cause, however, lies in the retention of the *semen*, or in the suppression of the monthly courses.

SIGNS.

The principal gut and the bladder are often so crushed, that the passage of both evacuations is hindered. If the urine flows out white and thick, and the midriff is interfered with, the loins suffer, the private parts are in pain, and the womb descends to them, or else comes clean out.

PROGNOSTICS.

If an old woman is thus affected, the cure is very difficult, because it weakens the womb, and therefore, though it may be put back into its proper place, yet it is apt to get displaced again, by a very slight amount of illness. And also with younger women, if this disease is inveterate, and if it is caused by putrefaction of the nerves, it is incurable.

CURE.

The womb, being placed by nature between the straight gut and the bladder, ought not to be put back again until the powers of both are excited. Now that nature is relieved of her burden, let the woman be laid on her back so that her legs may be higher than her head; let her feet be drawn up towards her private parts, and her knees spread open. Then apply oil of sweet almonds and lilies, or a decoction of mallows, beet, fenugreek and linseed, to the swelling; when the inflammation is reduced, let the midwife rub her hand with oil of mastic, and restore the womb to its proper place. When the matrix is up, the patient's position must be changed. Her legs must be put out quite straight and laid together, and apply six cupping glasses to her breast and navel. Boil feverfew, mugwort, red rose leaves and comfrey in red wine; make a suffumigation for the matrix, and apply sweet scents to her nose. When she comes out of her bath, give her an ounce of syrup of feverfew with a drachm of dog's tooth (*mithridate*). Take three drachms each of laudanum and mastic, and make a plaster for the navel of it, and then make pessaries of asafoetida, saffron, comfrey, and mastic, adding a little castor oil.—Parius in such cases makes his pessaries only of cork, shaped like a small egg; he covered them with wax and mastic dissolved together, and fastening them to a thread, he put them into the womb.

The immediate danger being now removed and the matrix returned to its natural place the remote cause must be got rid of. If she be of full habit of body open a vein, after preparing her with syrup of betony, calamint, hyssop and feverfew. Give a purge, and if the stomach be oppressed with any crude matter relieve it by emetics and by sudorifics of lignum sanctum and

sassafras taken twenty days consecutively, which dry up the superfluous moisture, and consequently suppress the cause of the disease.

The air should be hot and dry, and her diet hot and attenuating. Let her abstain from dancing, jumping, sneezing, as well as from all mental and bodily emotions, eat sparingly, not drink much, and be moderate in her sleep.

CHAPTER VIII

Of the Inflammation of the Womb.

The phlegmon, or inflammation of the matrix, is a humour which affects the whole womb, and is accompanied by unnatural heat, by obstruction and by an accumulation of corrupt blood.

CAUSE.

The cause of this affection is suppression of the courses, fullness of body, the immoderate use of sexual intercourse, frequent handling the genitals, difficult child-birth, violent motions of the body, falls, blows, to which may be added, the use of strong pessaries, whereby the womb is frequently inflamed, cupping glasses, also, fastened to the *pubis* and *hypogastrium*, draw the humours of the womb.

SIGNS.

The signs are pains in the lower parts of the body and head, humours, sickness, coldness in the knees, throbbing in the neck, palpitation of the heart. Often, also, there is shortness of breath because of the heart which is close to the midriff, and the breasts sympathising with the swollen and painful womb. Besides this, if the front of the matrix be inflamed, the privates suffer, and the urine is suppressed, or only flows with difficulty. If the hinder part be inflamed, the loins and back suffer, and the bowels are very costive; if the right side be inflamed, the right hip suffers, and the right leg is heavy and moves slowly, so that at times she seems almost lame. If, however, the left side of the womb be inflamed, then the left hip suffers and

the left leg is weaker than the right. If the neck of the womb is affected, by putting her finger in, the midwife feels that its mouth is contracted and closed up, and that it is hard round it.

CURE.

In the cure, first of all, let the humours which flow to the womb be expelled. To effect this, after the bowels have been loosened by cooling clysters bleeding will be necessary. Therefore, open a vein in the arm, if she is not with child; the day after strike the saphena in both feet, fasten ligatures and cupping glasses to the arm, and rub the upper part. Purge gently with cassia, rhubarb, senna and myrobalan. Take one drachm of senna, a scruple of aniseed, myrobalan, half an ounce, with a sufficient quantity of barley water. Make a decoction and dissolve syrup of succory in it, and two ounces of rhubarb; pound half an ounce of cassia with a few drops of oil of aniseed and make a draught. At the commencement of the disease, anoint the private parts and loins with oil of roses and quinces: make plasters of plantain, linseed, barley meal, melilot, fenugreek, white of eggs, and if the pain be intense, a little laudanum; foment the genitals with a decoction of poppy-heads, purslace, knot-grass and water-lilies. Make injections of goat's milk, rose water, clarified whey and honey of roses. When the disease is on a decline, use injections of sage, linseed, mugwort, pennyroyal, horehound, fenugreek, and anoint the lower parts of the stomach with oil of camomiles and violets.

Take four ounces each of lily and mallow roots, a handful of dog's mercury, a handful and a half each of mugwort, feverfew, camomile flowers and melilot, bruise the herbs and roots, and boil them in a sufficient quantity of milk; then add two ounces each of fresh butter, oil of camomiles and lilies, with a sufficient quantity of bran, make two plasters, and apply one before and the other behind.

If the tumour cannot be removed, but seems inclined to suppurate, take three drachms each of fenugreek, mallow roots, boiled figs, linseed, barley meal, dove's dung and turpentine; half a drachm of deer's suet, half a scruple of opium and make a plaster of wax.

Take bay leaves, sage, hyssop, camomiles, and mugwort, and make an infusion in water.

Take half a handful of wormwood and betony and half a pint each of white wine and milk, boil them until reduced to half; then take four ounces of this decoction and make an injection, but you must be careful that the humours are not brought down into the womb. Take three drachms each of roast figs, and bruised dog's mercury; three drachms each of turpentine and duck's grease, and two grains of opium; make a pessary with wax.

The room must be kept cool, and all motions of the body, especially of the lower parts, must be prohibited. Wakefulness is to be recommended, for humours are carried inward by sleep, and thus inflammation is increased. Eat sparingly, and drink only barley water or clarified whey, and eat chickens and chicken broth, boiled with endive, succory, sorrel, bugloss and mallows.

CHAPTER IX

Of Scirrhous Tumours, or Hardness of the Womb.

A *scirrhus*, or a hard unnatural swelling of the matrix is generally produced by neglected, or imperfectly cured phlegm, which, insensibly, hinders the functions of the womb, and predisposes the whole body to listlessness.

CAUSE.

One cause of this disease may be ascribed to want of judgment on the part of the physician, as many empirics when attending to inflammation of the womb, chill the humour so much that it can neither pass backward nor forward, and hence, the matter being condensed, turns into a hard, stony substance. Other causes may be suppression of the menses, retention of the *Lochein*, commonly called the after purging; eating decayed meat, as in the disordered longing after the *pleia* to which pregnant women are often subject. It may, however, also proceed from obstructions and ulcers in the matrix or from some evil affections of the stomach or spleen.

If the bottom of the womb be affected, she feels, as it were, a heavy burden representing a mole, [7] yet differing from it, in that the breasts are attenuated, and the whole body grows less. If the neck of the womb be affected, no outward humours will appear; its mouth is retracted and feels hard to the touch, nor can the woman have sexual intercourse without great pain.

PROGNOSTICS.

Confirmed scirrhus is incurable, and will turn to cancer or incurable dropsy, and when it ends in cancer it proves fatal, because as the innate heat of these parts is almost smothered, it can hardly be restored again.

CURE.

Where there is repletion, bleeding is advisable, therefore open a vein in one arm and in both feet, more especially if the menses are suppressed.

Treat the humours with syrup of borage, succory made with a poultice, and then take the following pills, according to the patient's strength.

Hiera piera six drachms, two and a half drachms each of black hellebore and polypody; a drachm and a half each of agaric, lapis lazuli, sal Indiae, coloquintida, mix them and make two pills. After purging, mollify the hardness as follows:—the privy parts and the neck of the womb with an ointment of decalthea and agrippa; or take two drachms each of opopanax, bdellium, ammoniac and myrrh, and half a drachm of saffron; dissolve the gum in oil of lilies and sweet almond and make an ointment with wax and turpentine. Apply diacatholicon ferellia below the navel, and make infusions of figs, mugwort, mallows, pennyroyal, althea, fennel roots, melilot, fenugreek and the four mollifying herbs, with oil of dill, camomiles and lilies dissolved in it. Take three drachms of gum bdellium, put the stone pyrites on the coals, and let her take the fumes into her womb. Foment the privy parts with a decoction of the roots and leaves of dane wort. Take a drachm each of gum galbanum and opopanax, half an ounce each of juice of dane wort and mucilage of fenugreek, an ounce of calve's marrow, and a sufficient quantity of wax, and make a pessary. Or make a pessary of lead only, dip it in the above mentioned things, and put it up.

The atmosphere must be kept temperate, and gross and salt meats such as pork, bull beef, fish and old cheese, must be prohibited.

FOOTNOTES:

[7]

Mole: "A somewhat shapeless, compact fleshy mass occurring in the uterus, due to the retention and continued life of the whole or a part of the foetal envelopes, after the death of the foetus (a *maternal or true mole*); or being some other body liable to be mistaken for this, or perhaps a polypus or false mole." (*Whitney's Century Dictionary*.)

CHAPTER X

Of Dropsy of the Womb.

Uterine dropsy is an unnatural swelling, caused by the collection of wind or phlegm in the cavity, membranes or substance of the womb, on account of the want of innate heat and of sufficient alimentation, and so it turns into an excrescence. The causes are, too much cold and moisture of the milt and liver, immoderate drinking, eating insufficiently cooked meat, all of which by causing repletion, overpower the natural heat. It may likewise be caused by undue menstruation, or by any other immoderate evacuation. To these may be added abortions, subcutaneous inflammations and a hardened swelling of the womb.

SIGNS.

The signs of this affection are as follows:—The lower parts of the stomach, with the genitals, are swollen and painful; the feet swell, the natural colour of the face is lost, the appetite becomes depraved, and there is a consequent heaviness of the whole body. If the woman turns over in bed a noise like flowing water is heard, and sometimes water is discharged from the womb. If the swelling is caused by wind and the stomach feels hot, it sounds like a drum; the bowels rumble, and the wind escapes through the neck of the womb with a murmuring noise. This affection may be distinguished from true conception in many ways, as will be shown in the chapter on *conception*. It is distinguished from common dropsy, by the lower parts of the stomach being most swollen. Again, it does not appear so injurious in this blood-producing capability, nor is the urine so pale, nor the face so altered. The upper parts are also not so reduced, as in usual dropsy.

PROGNOSTICS.

This affection foretells the ruin of the natural functions, by that peculiar sympathy it has with the liver, and that, therefore, *kathydria*, or general dropsy will follow.

CURE.

In the cure of this disease, imitate the practice of Hippocrates, and first mitigate the pain with fomentations of melilot, dog's mercury, mallows, linseed, camomiles and althoea. Then let the womb be prepared with syrup of stoebis, hyssop, calamint, mugwort, with distilled water, a decoction of elder, marjoram, sage, origan, spearage, pennyroyal, and betony. Purge with senna, agaric, rhubarb, and claterium. Take spicierum hier, a scruple each of rhubarb, agaric lozenges, and make into pills with iris juice.

When diseases arise from moistness, purge with pills, and in those affections which are caused by emptiness or dryness, purge by means of a draught. Apply cupping glasses to the stomach and also to the navel, especially if the swelling be flatulent. Put a seton on to the inside of each leg, the width of a hand below the knee. Take two drachms each of sparganium, diambrae, diamolet, diacaliminti, diacinamoni, myrrh lozenges, and a pound of sugar; make these into lozenges with betony water, and take them two hours before meals. Apply a little bag of camomiles, cummin and melilot boiled in oil of rue, to the bottom of the stomach as hot as it can be borne; anoint the stomach and the privates with unguent agripp, and unguent aragon. Mix iris oil with it, and cover the lower part of the stomach with a plaster of bay berries, or a cataplasm made of cummin, camomiles, briony root, adding cows' and goats' dung.

Our modern medical writers ascribe great virtues to tobacco-water, injected into the womb by means of a clyster. Take a handful each of balm of southernwood, origanum, wormwood, calamint, bay berries and marjoram, and four drachms of juniper berries; make a decoction of these in water, and use this for fomentations and infusions. Make pessaries of storax, aloes, with the roots of dictam, aristolochia and gentian, but instead of this you

may use the pessary prescribed at the end of Chapter XVII. Let her take aromatic electuary, disatyrion and candied eringo roots, every morning.

The air must be hot and dry, moderate exercise is to be taken and too much sleep prohibited. She may eat the flesh of partridges, larks, grouse, hares, rabbits, etc., and let her drink diluted urine.

CHAPTER XI

Of Moles [8] and False Conceptions.

This disease may be defined as an inarticulate shapeless piece of flesh, begotten in the womb as if it were true conception. In this definition we must note two things: (1) because a mole is said to be inarticulate or jointless, and without shape, it differs from monstrosities which are both *formata* and *articulata*; (2) it is said to be, as it were a true conception, which makes a difference between a true conception, and a mole, and this difference holds good in three ways. First, in its genus, because a mole cannot be said to be an animal: secondly, in the species, because it has not a human figure and has not the character of a man; thirdly, in the individual, for it has no affinity to the parent, either in the whole body, or in any particular part of it.

CAUSE.

There is a great difference of opinion amongst learned writers as to the cause of this affection. Some think, that if the woman's seed goes into the womb, and not the man's, that the mole is produced thereby. Others declare that it springs from the menstruous blood, but if these two things were granted, then virgins, by having their courses or through nocturnal pollutions, might be liable to the same things, which none have ever been yet. The true cause of this fleshy mole is due both to the man and from the menstruous blood in the woman both mixing together in the cavity of the womb. Nature finding herself weak there (and yet wishing to propagate her species), labours to bring forth a defective conception rather than nothing and instead of a living creature produces a lump of flesh.

SIGNS.

The signs of a mole are these. The *menses* are suppressed, the appetite becomes depraved, the breasts swell and the stomach becomes inflated and hard. So far the symptoms in a pregnant woman and in one that has a mole are the same, but now this is how they differ. The first sign of difference is in the movements of a mole. It may be felt moving in the womb before the third month, whereas an infant cannot be so felt; yet this motion cannot proceed from any intelligent power in the mole, but from the capabilities of the womb, and of the seminal vigour, distributed through the substance of the mole, for it does not live an animal, but a vegetable life, like a plant. *Secondly*, in a mole the stomach swells suddenly, but in true conception it is first contracted, and then rises by degrees. *Thirdly*, if the stomach is pressed with the hand, the mole gives way, and returns to its former position as soon as the hand is removed. But a child in the womb does not move immediately though pressed with the hand, and when the hand is removed it returns slowly or not at all. *Lastly*, no child continues in the womb more than eleven months, but a mole continues for four or five years, more or less, sometimes according as it is fastened to the matrix; and I have known a mole pass away in four or five months. If, however, it remains until the eleventh month, the woman's legs grow weak and the whole body wastes away, but the stomach still increases, which makes some women think that they are dropsical, though there is no reason for it, for in dropsy the legs swell and grow big, but in a mole they wither and fall away.

CURE.

In the school of Hippocrates we are taught that bleeding causes abortion, by taking all the nourishment which should preserve the life of the embryo. In order, therefore, that this faulty conception may be deprived of that nourishing sap by which it lives, open the liver vein and saphena in both feet, apply cupping glasses to the loins and sides of the stomach, and when that has been done, let the uterine parts be first softened, and then the expulsive powers be stimulated to get rid of the burden.

In order to relax the ligatures of the mole, take three handfuls of mallows with their roots, two handfuls each of camomiles, melilot, pellitory of the wall, violet leaves, dog's mercury, fennel roots, parsley, and one pound each of linseed and fenugreek; boil them in oil and let the patient sit in it up to her navel. When she comes out of her bath, she should anoint her private parts and loins with the following ointment:—"Take one ounce each of oil of camomiles, lilies and sweet almonds: half an ounce each of fresh butter, laudanum and ammoniac, and make an ointment with oil of lilies. Or, instead of this, you may use unguentum agrippae or dialthea. Take a handful of dog's mercury and althea roots; half a handful of flos brochae ursini; six ounces of linseed and barley meal. Boil all these together in honey and water and make a plaster, and make pessaries of gum galbanum, bdellium, ammoniac, figs, pig's fat and honey.

After the ligaments of the mole are loosened, let the expulsive powers be stimulated to expel the mole, and for doing this, all those drugs may be used which are adapted to bring on the courses. Take one ounce of myrrh lozenges, half an ounce each of castor, astrolachia, gentian and dittany and make them into a powder, and take one drachm in four ounces of mugwort water. Take calamint, pennyroyal, betony, hyssop, sage, horehound, valerian, madder and savine; make a decoction in water and take three ounces of it, with one and a half ounces of feverfew. Take three scruples each of mugwort, myrrh, gentian and pill. coch.; a drachm each of rue, pennyroyal and opopanax, and the same of asafoetida, cinnamon, juniper-berries and borage, and make into pills with savine juice, to be taken every morning. Make an infusion of hyssop, bay leaves, bay berries, calamint, camomiles, mugwort and savine. Take two scruples each of sacopenium, mugwort, savine, cloves, nutmeg, bay berries; one drachm of galbanum; one scruple each of hiera piera and black hellebore, and make a pessary with turpentine.

But if these medicaments are not procurable, then the mole must be pulled out by means of an instrument called the *pes gryphis*, [9] which may be done without much danger if it be performed by a skilful surgeon. After she has been delivered of the mole (because the woman will have lost much blood already), let the flow of blood be stopped as soon as possible.

Apply cupping glasses to the shoulders and ligatures to the arms, and if this be not effective, open the liver vein in the arm.

The atmosphere of the room must be kept tolerably dry and warm, and she must be put on a dry diet, to soothe the system; she must, however, drink white wine.

FOOTNOTES:

[8]

> *Mole*: "A somewhat shapeless, compact fleshy mass occurring in the uterus, due to the retention and continued life of the whole or a part of the foetal envelopes, after the death of the foetus (*a maternal or true mole*); or being some other body liable to be mistaken for this, or perhaps a polypus or false mole." (*Whitney's Century Dictionary*.)

[9]

> *Griffin's claw*, a peculiar hooked instrument.

CHAPTER XII

Of Conception and its Signs, and How a Woman may know whether it be Male or Female.

Ignorance often makes women the murderesses of the fruit of their own body, for many, having conceived and finding themselves out of order, and not rightly knowing the cause, go to the shop of their own conceit and take whatever they think fit, or else (as the custom is) they send to the doctor for a remedy, and he, not perceiving the cause of their trouble, for nothing can be diagnosed accurately by the urine, prescribes what he thinks best; perhaps some diuretic or cathartic, which destroy the embryo. Therefore Hippocrates says, it is necessary that women should be instructed in the signs of conception, so that the parent as well as the child may be saved from danger. I shall, therefore, lay down some rules, by which every woman may know whether she is pregnant or not, and the signs will be taken from the woman, from her urine, from the child and from experiments.

SIGNS.

The first day after conception, she feels a slight quivering and chilliness throughout her body; there is a tickling of the womb and a little pain in the lower parts of her stomach. Ten or twelve days after she feels giddy and her eyes dim and with circles round them; the breasts swell and grow hard, with some pain and pricking in them, whilst the stomach rises and sinks again by degrees, and there is a hardness about the navel. The nipples grow red, the heart beats unusually strongly, the natural appetite abates, and the woman has a craving after strange food. The neck of the womb is contracted, so that it can scarcely be felt when the finger is put in. And the following is an infallible sign; she is alternately in high spirits and melancholy; the monthly

courses cease without any apparent cause, the evacuations from the bowels are retained unusually long, by the womb pressing on the large gut, and her desire for sexual intercourse is diminished. The surest sign is taken from the infant, which begins to move in the womb in the third or fourth month, and not in the manner of a mole, mentioned above, from side to side like a stone, but gently, as may be perceived by applying the hand cold upon the stomach.

SIGNS TAKEN FROM THE URINE.

The best writers affirm that the water of a pregnant woman is white and has little specks in it, like those in a sunbeam, ascending and descending in it, of an opal colour, and when the sediment is disturbed by shaking the urine, it looks like carded wool. In the middle of gestation it turns yellow, then red and lastly black, with a red film. At night on going to bed, let her drink water and honey, and if afterwards she feels a beating pain in her stomach and about the navel, she has conceived. Or let her take the juice of cardius, and if she brings it up again, that is a sign of conception. Throw a clean needle into the woman's urine, put it into a basin and let it stand all night. If it is covered with red spots in the morning, she has conceived, but if it has turned black and rusty, she has not.

SIGNS TAKEN FROM THE SEX, TO SHOW WHETHER IT BE A MALE OR FEMALE.

If it is a male, the right breast swells first, the right eye is brighter than the left, the face is high-coloured, because the colour is such as the blood is, and as the male is conceived of purer blood and of more perfect seed than the female, red specks in the urine, and making a sediment, show that a male has been conceived, but if they are white, a female. Put the urine of the woman into a glass bottle, let it stand tightly stoppered for two days, then strain it through a fine cloth, and you will find little animals in it. If they are red, it is a male, but if white, it is a female.

The belly is rounder and lies higher with a boy than with a girl, and the right breast is harder and plumper than the left, and the right nipple redder, and the woman's colour is clearer than when she has conceived a girl.

To conclude, the most certain sign to give credit to, is the motion of the child, for the male moves in the third month, and the female not until the fourth.

CHAPTER XIII

Of Untimely Births.

When the fruit of the womb comes forth before the seventh month (that is, before it comes to maturity), it is said to be abortive; and, in effect, the children prove abortive, that is, do not live, that are born in the eighth month. Why children born in the seventh or ninth month should live, and not those born in the eighth, may seem strange, and yet it is true. The cause of it is ascribed by some to the planet under which the child is born; for every month, from conception to birth, is governed by its own planet, and in the eighth month Saturn predominates, which is dry and cold; and coldness, being an utter enemy to life, destroys the natural constitution of the child. Hippocrates gives a better reason, viz.:—The infant, being every way perfect and complete in the seventh month, wants more air and nourishment than it had before, and because it cannot obtain this, it tries for a passage out. But if it have not sufficient strength to break the membranes and to come out as ordained by nature, it will continue in the womb until the ninth month, so that by that time it may be again strengthened. But if it returns to the attempt in the eighth month and be born, it cannot live, because the day of its birth is either past or is to come. For in the eighth month Avicunus says, it is weak and infirm, and therefore on being brought into the cold air, its vitality must be destroyed.

CURE.

Untimely births may be caused by cold, for as it causes the fruit of the tree to wither and fall before it is ripe, so it nips the fruit of the womb before it comes to perfection, or makes it abortive;—sometimes by humidity, which weakens its power, so that the fruit cannot be retained until the proper time. It may be caused by dryness or emptiness, which rob the child of its

nourishment, or by an alvine discharge, by bleeding or some other evacuation, by inflammation of the womb, and other severe disease. Sometimes it is caused by joy, anger, laughter and especially by fear, for then the heat forsakes the womb, and goes to the heart, and so the cold sinks into the womb, whereby the ligaments are relaxed, and so abortion follows. On this account, Plato recommended that the woman should avoid all temptations to excessive joy and pleasure, as well as all occasions for fear and grief. Abortion may also be caused by the pollution of the air by filthy odours, and especially by the smell of the smouldering wick of a candle, and also by falls, blows, violent exercise, jumping, dancing, etc.

SIGNS.

Signs of coming abortion are a falling away of the breast, with a flow of watery milk, pains in the womb, heaviness in the head, unusual weariness in the hips and thighs, and a flowing of the courses. Signs denoting that the fruit is dead in the womb are sunken eyes, pains in the head, frights, paleness of the face and lips, gnawing at the stomach, no movements of the infant; coldness and looseness of the mouth of the womb. The stomach falls down, whilst watery and bloody discharges come from the womb.

CHAPTER XIV

Directions for Pregnant Women.

The prevention of untimely births consists in removing the aforementioned causes, which must be effected both before and after conception.

Before conception, if the body be too hot, dry or moist, employ such treatment as to counteract the symptoms; if the blood be vitiated purify it, if plethoric, open the liver vein; if gross, reduce it; if too thin strengthen and nourish it. All the diseases of the womb must be removed as I have shown.

After conception, let the atmosphere be kept temperate, do not sleep too much, avoid late hours, too much bodily exercise, mental excitement, loud noises and bad smells, and sweet smells must also be avoided by those who are hysterical. Refrain from all things that may provoke either urine or menstruation, also salt, sour, and windy food, and keep to a moderate diet.

If the bowels are confined, relieve the stomach with injections made of a decoction of mallows and violets, with sugar and salad oil; or make a broth with borage, buglos, beetroot, and mallows, and add a little manna to it. If, on the other hand, she be troubled with looseness of the bowels, do not check it with medical advice, for all the uterine fluxes have some bad qualities in them, which must be evacuated before the discharge is stopped.

A cough is another thing to which pregnant women are frequently liable, and which causes them to run great danger of miscarrying, by the shock and continual drain upon the vein. To prevent this shave off the hair from the coronal commissures, and apply the following plaster to the place.

Take half an ounce of resin, a drachm of laudanum, a drachm each of citron peel, lignaloes and galbanum, with a sufficient quantity of liquid and dry styrax. Dissolve the gum in vinegar and make a plaster, and at night let her inhale the fumes of these lozenges, thrown upon bright coals. Take also a drachm and a half each of frankincense, styrax powder and red roses: eight

drachms of sandrich, a drachm each of mastic, benjamin and amber; make into lozenges with turpentine, and apply a cautery to the nape of the neck. And every night let her take the following pills:—Half an ounce each of hypocistides, terrae sigilatae and fine bole; two drachms each of bistort, alcatia, styrax and calamint, and one drachm of cloves, and make into pills with syrup of myrtles.

In pregnant women, a corrupt matter is generated which, flowing to the ventricle, spoils the appetite and causes sickness. As the stomach is weak, and cannot digest this matter, it sometimes sends it to the bowels which causes a flux of the stomach, which greatly adds to the weakness of the womb. To prevent all these dangers the stomach must be strengthened by the following means:—Take one drachm each of lignaloes and nutmeg; a scruple each of mace, cloves, mastic, laudanum; an ounce of oil of spikenard; two grains of musk, half an ounce each of oil of mastic, quinces and wormwood, and make into an ointment for the stomach, to be applied before meals. Instead of this, however, you may use cerocum stomachile Galeni. Take half an ounce each of conserve of borage, buglos and atthos; two drachms each of confection of hyacinths, candied lemon peel, specierum, diamarg, pulo. de genunis: two scruples each of nutmeg and diambra; two drachma each of peony roots and diacoratum, and make into an electuary with syrup of roses, which she must take twice a day before meals. Another affection which troubles a pregnant woman is swelling of the legs, which happens during the first three months, by the superfluous humours descending from the stomach and liver. To cure this, take two drachms of oil of roses, and one drachm each of salt and vinegar; shake them together until the salt is dissolved, and anoint the legs with it hot, rubbing it well in with the hand. It may be done without danger during the fourth, fifth and sixth months of pregnancy; for a child in the womb is compared to an apple on the tree. For the first three months it is a weak and tender subject, like the apple, to fall away; but afterwards, when the membranes become strengthened, the fruit remains firmly fastened to the womb, and not subject to mischances, and so it remains, until the seventh month, until when it is near the time, the ligaments are again relaxed (like the apple that is almost ripe).

They grow looser every day, until the appointed time for delivery; if, therefore, the body is in real need of purging, the woman may do it without

danger in the fourth, fifth or sixth month, but neither before nor after that unless in the case of some violent illness, in which it is possible that both mother and child may perish. Apply plasters and ointments to the loins in order to strengthen the fruit in the womb. Take one drachm each of gum Arabic, galangale, bistort, hypocistid and storax, a drachm and a half each of fine bole, nutmeg, mastic, balaust, dragon's blood and myrtle berries, and a sufficient quantity of wax and turpentine and make into a plaster. Apply it to the loins in the winter, and remove it every twenty-four hours, lest the loins should become overheated by it. In the interim, anoint the private parts and loins with *countess' balsam* but if it be summer time and the loins hot, the following plaster will be more suitable. Take a pound of red roses, two drachms each of mastic and red Sanders, one drachm each of bole ammoniac and red coral, two drachms and a half each of pomegranate seed and prepared coriander seed, two scruples of barberries, one ounce each of oil of mastic and of quinces, and plantain-juice.

Anoint the loins also with sandalwood ointment, and once a week wash them with two parts of rose-water and one of white wine mixed together and warmed at the fire. This will assuage the heat of the loins, get rid of the oil of the plaster from the pores of the skin, and cause the fresh ointment or plaster to penetrate more easily, and to strengthen the womb. Some think that a load-stone laid upon the navel, keeps a woman from abortion. The same thing is also stated of the stone called *aetites* or eagle-stone, if it is hung round the neck. Samian stone has the same virtue.

CHAPTER XV

Directions for Women when they are taken in Labour, to ensure their safe Delivery, and Directions for Midwives.

Having thus given the necessary directions to pregnant women, how to manage their health during their pregnancy, I will now add what is necessary for them to do, in order that they may be safely delivered.

When the time of birth draws near, the woman must be sure to send for a skilful midwife, and that rather too soon than too late. She must have a pallet bed ready to place it near the fire, so that the midwife and those who are to help her, may be able to pass round it, and give assistance on either side, as may be required. A change of linen must be in readiness, and a small stool to rest her feet against, as she will have more power when her legs are bent, than when they are straight.

When everything is thus ready, and when the woman feels the pains coming on, if the weather be not cold, she should walk about the room, rest on the bed occasionally, waiting for the breaking of the waters, which is a fluid contained in one of the outward membranes, and which flows out thence, when the membrane is broken by the struggles of the child. There is no special time for this discharge, though it generally takes place about two hours before the birth. Movements will also cause the womb to open and dilate, and when lying long in bed will be uncomfortable. If she be very weak she may take some mild cordial to give her strength, if her pain will permit her; and if the labour be tedious, she may be revived with chicken or mutton broth, or she may take a poached egg; but she must be very careful not to eat to excess.

There are many postures in which women are delivered; some sitting in a chair, supported by others, or resting on the bed; some again upon their knees and resting on their arms; but the safest and most commodious way, is in the bed, and then the midwife ought to observe the following rules:—

Let her lay the woman upon her back, with her head a little raised by means of a pillow, with similar supports for her loins and buttocks, which latter should also be raised, for if she lies low, she cannot be delivered so easily. Then let her keep her knees and thighs as far apart as she can, her legs bent inward towards each other, and her buttocks, the soles of her feet and her heels being placed upon a small rest, placed for the purpose, so that she may be able to strain the stronger. In case her back should be very weak, a swathing band should be placed under it, the band being doubled four times and about four inches broad. This must be held by two persons who must raise her up a little every time her pains come on, with steady hands and in even time, but if they be not exact in their movements, they had better leave her alone. At the same time two women must hold her shoulders so that she may strain out the foetus more easily; and to facilitate this let one stroke or press the upper part of her stomach gently and by degrees. The woman herself must not be nervous or downhearted, but courageous, and forcing herself by straining and holding her breath.

When delivery is near, the midwife must wait patiently until the child's head, or some limb, bursts the membranes, for if the midwife through ignorance, or through haste to go to some other woman, as some have done, tears the membrane with her nails, she endangers both the woman and the child; for by lying dry and lacking that slipperiness which should make it easy, it comes forth with severe pains.

When the head appears, the midwife must hold it gently between her hands, and draw the child, whenever the woman's pains are upon her, but at no other times; slipping her forefingers under its armpits by degrees, and not using a rough hand in drawing it out, lest the tender infant might become deformed by such means. As soon as the child is taken out, which is usually with its face downwards,—it should be laid upon its back, that it may receive external respiration more freely; then cut the navel string about three inches from the body, tying the end which adheres to it with a silk string, as closely as you can; then cover the child's head and stomach well, allowing nothing to touch its face.

When the child has been thus brought forth, if it be healthy lay it aside, and let the midwife attend to the patient by drawing out the afterbirth; and this she may do by wagging and stirring it up and down, and afterwards drawing

it out gently. And if the work be difficult, let the woman hold salt in her hands, close them tightly and breathe hard into them, and by that she will know whether the membranes are broken or not. It may also be known by making her strain or vomit; by putting her fingers down her throat, or by straining or moving her lower parts, but let all be done immediately. If this should fail, let her take a draught of elder water, or the yolk of a new laid egg, and smell a piece of asafoetida, especially if she is troubled with a windy colic. If she happen to take cold, it is a great obstruction to the afterbirth; in such cases the midwife ought to chafe the woman's stomach gently, so as to break, not only the wind, but also to force the secundine to come down. But if these should prove ineffectual, the midwife must insert her hand into the orifice of the womb and draw it out gently.

Having thus discussed common births, or such as are generally easy, I shall now give directions in cases of extremity.

CHAPTER XVI

What ought to be done in cases of extremity, especially in women who, in labour, are attacked by a flux of blood, convulsions and fits of wind.

If the woman's labour be hard and difficult, greater care must be taken than at other times. And, first of all, the situation of the womb and her position in lying must be across the bed, and she must be held by strong persons to prevent her from slipping down or moving during the surgeon's operations. Her thighs must be put as far apart as possible, and held so, whilst her head must rest upon a bolster, and her loins be supported in the same manner. After her rump and buttocks have been raised, be careful to cover her stomach, belly and thighs with warm clothes, to keep them from the cold.

When the woman is in this position, let the operator put up his or her hand, if the neck of the womb be dilated, and remove the coagulated blood that obstructs the passage of the birth; and by degrees make way gently, let him remove the infant tenderly, having first anointed his hand with butter or some harmless salve. And if the waters have not come down, they may then be let out without difficulty. Then, if the infant should attempt to come out head foremost, or crosswise, he should turn it gently, to find the feet. Having done this, let him draw out one and fasten it with ribbon and then put it up again, and by degrees find the other, bringing them as close together and as even as possible, and between whiles let the woman breathe, and she should be urged to strain so as to help nature in the birth, that it may be brought forth. And to do this more easily, and that the hold may be surer, wrap a linen cloth round the child's thighs, taking care to bring it into the hand face downwards.

In case of flux of blood, if the neck of the womb be open, it must be considered whether the infant or the *secundine*, generally called the afterbirth, comes first, and as the latter happens to do so occasionally, it stops the mouth of the womb and hinders the birth, and endangers both the

woman's and the child's life. In this case the afterbirth must be removed by a quick turn. They have deceived many people, who, feeling their softness, have supposed that the womb was not dilated, and by that means the woman and child, or at least the latter, have been lost. When the afterbirth has been removed, the child must be sought for and drawn out, as directed above; and if the woman or the child die in such a case, the midwife or the surgeon are blameless because they have used their best endeavours.

If it appears upon examination that the afterbirth comes first, let the woman be delivered as quickly as possible, because a great flow of blood will follow, for the veins are opened, and on this account two things have to be considered.

First:—The manner in which the afterbirth advances, whether it be much or little. If the former, and the head of the child appears first, it may be guided and directed towards the neck of the womb, as in the case of natural birth, but if there appears any difficulty in the delivery, the best way is to look for the feet, and draw it out by them; but if the latter, the afterbirth may be put back with a gentle hand, and the child taken out first. But if the afterbirth has come so far forward that it cannot be put back, and the child follows it closely, then the afterbirth must be removed very carefully, and as quickly as may be, and laid aside without cutting the entrail that is fastened to it; for you may be guided to the infant by it, which must be drawn out by the feet, whether it be alive or dead, as quickly as possible; though this is not to be done except in cases of great necessity, for in other cases the afterbirth ought to come last.

In drawing out a dead child, these directions should be carefully followed by the surgeon, viz.—If the child be found to be dead, its head appearing first, the delivery will be more difficult; for it is an evident sign that the woman's strength is beginning to fail her, that, as the child is dead and has no natural power, it cannot be assisting in its own delivery in any way. Therefore the most certain and the safest way for the surgeon is, to put up his left hand, sliding it into the neck of the womb, and into the lower part of it towards the feet, as hollow in the palm as he can, and then between the head of the infant and the neck of the womb. Then, having a forceps in the right hand, slip it up above the left hand, between the head of the child and the flat of the hand, fixing it in the bars of the temple near the eye. As these

cannot be got at easily in the occipital bone, be careful still to keep the hand in its place, and gently move the head with it, and so with the right hand and the forceps draw the child forward, and urge the woman to exert all her strength, and continue drawing whenever her pains come on. When the head is drawn out, he must immediately slip his hand under the child's armpits, and take it quite out, and give the woman a piece of toasted white bread, in a quarter of a pint of Hippocras wine.

If the former application fails let the woman take the following potion hot when she is in bed, and remain quiet until she begins to feel it operating.

Take seven blue figs, cut them into pieces and add five grains each of fenugreek, motherwort and rue seed, with six ounces each of water of pennyroyal and motherwort; reduce it to half the quantity by boiling and after straining add one drachm of troches of myrrh and three grains of saffron; sweeten the liquor with loaf sugar, and spice it with cinnamon.—After having rested on this, let her strain again as much as possible, and if she be not successful, make a fumigation of half a drachm each of castor, opopanax, sulphur and asafoetida, pounding them into a powder and wetting the juice of rue, so that the smoke or fumes may go only into the matrix and no further.

If this have not the desired effect, then the following plaster should be applied:—Take an ounce and a half of balganum, two drachms of colocynth, half an ounce each of the juice of motherwort and of rue, and seven ounces of virgin bees' wax: pound and melt them together, spreading them on a cere-cloth so that they may spread from the navel to the os pubis and extending to the flanks, at the same time making a pessary of wood, enclosing it in a silk bag, and dipping it in a decoction of one drachm each of sound birthwort, savin colocinthis, stavescare and black hellebore, with a small sprig or two of rue.

But if these things have not the desired effect, and the woman's danger increases, let the surgeon use his instruments to dilate and widen the womb, for which purpose the woman must be placed on a chair, so that she may turn her buttocks as far from its back as possible, at the same time drawing up her legs as close as she can and spreading her thighs open as wide as possible; or if she is very weak it may be better to lay her on the bed with

her head downwards, her buttocks raised and both legs drawn up. Then the surgeon may dilate the womb with his speculum matrices and draw out the child and the afterbirth together, if it be possible, and when this is done, the womb must be well washed and anointed, and the woman put back to bed and comforted with spices and cordials. This course must be adopted in the case of dead children and moles, afterbirths and false births, which will not come out of themselves, at the proper time. If the aforementioned instrument will not widen the womb sufficiently, then other instruments, such as the drake's bill, or long pincers, ought to be used.

If any inflammation, swelling or congealed blood happens to be contracted in the womb under the film of these tumours, either before or after the birth, let the midwife lance it with a penknife or any suitable instrument, and squeeze out the matter, healing it with a pessary dipped in oil of red roses.

If the child happens at any time to be swollen through cold or violence, or has contracted a watery humour, if it is alive, such means must be used as are least injurious to the child or mother; but if it be dead, the humours must be let out by incisions, to facilitate the birth.

If, as often happens, the child is presented feet foremost, with the hands spreading out from the hips, the midwife must in such a case be provided with the necessary ointments to rub and anoint the child with, to help it coming forth, lest it should turn into the womb again, holding both the infant's arms close to the hips at the same time, that it may come out in this manner; but if it proves too big, the womb must be well anointed. The woman should also take a sneezing powder, to make her strain; the attendant may also stroke her stomach gently to make the birth descend, and to keep it from returning.

It happens occasionally, that the child presenting itself with the feet first, has its arms extended above its head; but the midwife must not receive it so, but put it back into the womb, unless the passage be extraordinarily wide, and then she must anoint both the child and the womb, and it is not safe to draw it out, which must, therefore, be done in this manner.—The woman must lie on her back with her head low and her buttocks raised; and then the midwife must compress the stomach and the womb with a gentle hand, and by that means put the child back, taking care to turn the child's face towards

the mother's back, raising up its thighs and buttocks towards the navel, so that the birth may be more natural.

If the child happens to come out with one foot, with the arm extended along the side and the other foot turned backwards; then the woman must be immediately put to bed and laid in the above-described position; when the midwife must immediately put back the foot which appears so, and the woman must rock herself from side to side, until she finds that the child has turned, but she must not alter her position nor turn upon her face. After this she may expect her pains and must have great assistance and cordials so as to revive and support her spirits.

At other times it happens that the child lies across in the womb, and falls upon its side; in this case the woman must not be urged in her labour; therefore, the midwife when she finds it so, must use great diligence to reduce it to its right form, or at least to such a form in the womb as may make the delivery possible and most easy by moving the buttocks and guiding the head to the passage; and if she be successful in this, let the woman rock herself to and fro, and wait with patience till it alters its way of lying.

Sometimes the child hastens simply by expanding its legs and arms; in which, as in the former case, the woman must rock herself, but not with violence, until she finds those parts fall to their proper station; or it may be done by a gentle compression of the womb; but if neither of them avail, the midwife must close the legs of the infant with her hand, and if she can get there, do the like by the arms, and so draw it forth; but if it can be reduced of itself to the posture of a proper birth it is better.

If the infant comes forward, both knees forward, and the hands hanging down upon the thighs, then the midwife must put both knees upward, till the feet appear; taking hold of which with her left hand let her keep her right hand on the side of the child, and in that posture endeavour to bring it forth. But if she cannot do this, then also the woman must rock herself until the child is in a more convenient posture for delivery.

Sometimes it happens that the child presses forward with one arm extended on its thighs, and the other raised over its head, and the feet stretched out at length in the womb. In such case, the midwife must not attempt to receive

the child in that posture, but must lay the woman on the bed in the manner aforesaid, making a soft and gentle compression on her belly, oblige the child to retire; which if it does not, then must the midwife thrust it back by the shoulder, and bring the arm that was stretched above the head to its right station; for there is most danger in these extremities; and, therefore, the midwife must anoint her hands and the womb of the woman with sweet butter, or a proper pomatum, and thrust her hand as near as she can to the arm of the infant, and bring it to the side. But if this cannot be done, let the woman be laid on the bed to rest a while; in which time, perhaps, the child may be reduced to a better posture; which the midwife finding, she must draw tenderly the arms close to the hips and so receive it.

If an infant come with its buttocks foremost, and almost double, then the midwife must anoint her hand and thrust it up, and gently heaving up the buttocks and back, strive to turn the head to the passage, but not too hastily, lest the infant's retiring should shape it worse: and therefore, if it cannot be turned with the hand, the woman must rock herself on the bed, taking such comfortable things as may support her spirits, till she perceives the child to turn.

If the child's neck be bowed, and it comes forward with its shoulders, as it sometimes doth, with the hands and feet stretched upwards, the midwife must gently move the shoulders, that she may direct the head to the passage; and the better to effect it, the woman must rock herself as aforesaid.

These and other like methods are to be observed in case a woman hath twins, or three children at a birth, which sometimes happens: for as the single birth hath but one natural and many unnatural forms, even so it may be in a double and treble birth.

Wherefore, in all such cases the midwife must take care to receive the first which is nearest the passage; but not letting the other go, lest by retiring it should change the form; and when one is born, she must be speedy in bringing forth the other. And this birth, if it be in the natural way, is more easy, because the children are commonly less than those of single birth, and so require a less passage. But if this birth come unnaturally, it is far more dangerous than the other.

In the birth of twins, let the midwife be very careful that the secundine be naturally brought forth, lest the womb, being delivered of its burden, fall, and so the secundine continue longer there than is consistent with the woman's safety.

But if one of the twins happens to come with the head, and the other with the feet foremost, then let the midwife deliver the natural birth first; and if she cannot turn the other, draw it out in the posture in which it presses forward; but if that with its feet downward be foremost, she may deliver that first, turning the other aside. But in this case the midwife must carefully see that it be not a monstrous birth, instead of twins, a body with two heads, or two bodies joined together, which she may soon know if both the heads come foremost, by putting up her hand between them as high as she can; and then, if she finds they are twins she may gently put one of them aside to make way for the other, taking the first which is most advanced, leaving the other so that it do not change its position. And for the safety of the other child, as soon as it comes forth out of the womb, the midwife must tie the navel-string, as has before been directed, and also bind, with a large, long fillet, that part of the navel which is fastened to the secundine, the more readily to find it.

The second infant being born, let the midwife carefully examine whether there be not two secundines, for sometimes it falls out, that by the shortness of the ligaments it retires back to the prejudice of the woman. Wherefore, lest the womb should close, it is most expedient to hasten them forth with all convenient speed.

If two infants are joined together by the body, as sometimes it monstrously falls out, then, though the head should come foremost, yet it is proper, if possible, to turn them and draw them forth by the feet, observing, when they come to the hips, to draw them out as soon as may be. And here great care ought to be used in anointing and widening the passage. But these sort of births rarely happening, I need to say the less of them, and, therefore, shall show how women should be ordered after delivery.

CHAPTER XVII

How child-bearing Women ought to be ordered after Delivery.

If a woman has had very hard labour, it is necessary that she should be wrapped up in a sheep's skin, taken off before it is cold, applying the fleshy side to her veins and belly, or, for want of this, the skin of a hare or coney, flayed off as soon as killed, may be applied to the same parts, and in so doing, a dilation being made in the birth, and the melancholy blood being expelled in these parts, continue these for an hour or two.

Let the woman afterwards be swathed with fine linen cloth, about a quarter of a yard in breadth, chafing the belly before it is swathed, with oil of St. John's wort; after that raise up the matrix with a linen cloth, many times folded: then with a linen pillar or quilt, cover the flanks, and place the swathe somewhat above the haunches, winding it pretty stiff, applying at the same time a linen cloth to her nipples; do not immediately use the remedies to keep back the milk, by reason the body, at such a time, is out of frame; for there is neither vein nor artery which does not strongly beat; and remedies to drive back the milk, being of a dissolving nature, it is improper to apply them to the breasts during such disorder, lest by doing so, evil humours be contracted in the breast. Wherefore, twelve hours at least ought to be allowed for the circulation and settlement of the blood, and what was cast on the lungs by the vehement agitation during labour, to retire to its proper receptacles.

Some time after delivery, you may take a restrictive of the yolks of two eggs, and a quarter of a pint of white wine, oil of St. John's wort, oil of roses, plantain and roses water, of each an ounce, mix them together, fold a linen cloth and apply it to the breast, and the pains of those parts will be greatly eased.

She must by no means sleep directly after delivery; but about four hours after, she may take broth, caudle or such liquid victuals as are nourishing; and if she be disposed to sleep it may be very safely permitted. And this is as much, in the case of a natural birth, as ought immediately to be done.

But in case of an extremity or an unnatural birth, the following rules ought to be observed:—

In the first place, let the-woman keep a temperate diet, by no means overcharging herself after such an extraordinary evacuation, not being ruled by giving credit to unskilful nurses, who admonish them to feed heartily, the better to repair the loss of blood. For that blood is not for the most part pure, but such as has been retained in the vessels or membrane better voided, for the health of the woman, than kept, unless there happen an extraordinary flux of the blood. For if her nourishment be too much, which curding, very often turns to imposthumes.

Therefore, it is requisite, for the first five days especially, that she take moderately panado broth, poached eggs, jelly of chickens or calves' feet or fresh barley broth; every day increasing the quantity a little.

And if she intend to be a nurse to the child, she may take something more than ordinary, to increase the milk by degrees, which must be of no continuance, but drawn off by the child or otherwise. In this case likewise, observe to let her have coriander or fennel seeds boiled in barley broth; but by all means, for the time specified, let her abstain from meat. If no fever trouble her, she may drink now and then a small quantity of pure white wine or of claret, as also syrup of maidenhead or any other syrup that is of an astringent quality, taken in a little water well boiled.

After the fear of fever or contraction of humour in the breast is over, she may be nourished more plentifully with the broth of capons, pullets, pigeons, mutton, veal, etc., which must not be until after eight days from the time of delivery; at which time the womb, unless some accident binds, has purged itself. It will then likewise be expedient to give cold meats, but let it be sparingly, so that she may the better gather strength. And let her, during the time, rest quietly and free from disturbance, not sleeping in the day time, if she can avoid it.

Take of both mallows and pellitory of the wall a handful; camomile and melilot flowers, of each a handful; aniseed and fennel of each two ounces; boil them in a decoction of sheep's head and take of this three quarts, dissolving in it common honey, coarse sugar and fresh butter and administer it clysterwise; but if it does not penetrate well take an ounce of catholicon.

CHAPTER XVIII

Acute Pains after Delivery.

These pains frequently afflict the woman no less than the pain of her labour, and are, by the more ignorant, many times taken the one for the other; and sometimes they happen both at the same instant; which is occasioned by a raw, crude and watery matter in the stomach, contracted through ill digestion; and while such pains continue, the woman's travail is retarded.

Therefore, to expel fits of the cholic, take two ounces of oil of sweet almonds, and an ounce of cinnamon water, with three or four drops of syrup of ginger; then let the woman drink it off.

If this does not abate the pain, make a clyster of camomile, balm-leaves, oil of olives and new milk, boiling the former in the latter. Administer it as is usual in such cases. And then, fomentation proper for dispelling the wind will not be amiss.

If the pain produces a griping in the guts after delivery, then take of the root of great comfrey, one drachm, nutmeg and peach kernels, of each two scruples, yellow amber, eight drachms, ambergris, one scruple; bruise them together, and give them to the woman as she is laid down, in two or three spoonfuls of white wine; but if she be feverish, then let it be in as much warm broth.

THE
FAMILY PHYSICIAN

BEING
CHOICE AND APPROVED
REMEDIES
FOR SEVERAL DISEASES
INCIDENTAL TO HUMAN BODIES

For the Apoplexy.

Take man's skull prepared, and powder of male peony, of each an ounce and a half, contrayerva, bastard dittany, angelica, zedvary, of each two drachms, mix and make a powder, add thereto two ounces of candied orange and lemon peel, beat all together to a powder, whereof you may take half a drachm or a drachm.

A Powder for the Epilepsy or Falling Sickness.

Take of opopanax, crude antimony, castor, dragon's blood, peony seeds, of each an equal quantity; make a subtle powder; the dose, half a drachm of black cherry water. Before you take it, the stomach must be prepared with some proper vomit, as that of Mynficht's emetic tartar, from four grains to six; if for children, salts of vitrol, from a scruple to half a drachm.

For a Headache of Long Standing.

Take the juice or powder in distilled water of hog lice and continue it.

For Spitting of Blood.

Take conserve of comfrey and of hips, of each an ounce and a half; conserve of red roses, three ounces; dragon's blood, a drachm; spices of hyacinths, two scruples; red coral, a drachm; mix and with syrup of poppies make a soft electuary. Take the quantity of a walnut, night and morning.

For a Looseness.

Take Venice treacle and diascordium, of each half a drachm, in warm ale or water gruel, or what you like best, at night, going to bed.

For the Bloody Flux.

First take a drachm of powder of rhubarb in a sufficient quantity of conserve of red roses, in the morning early; then at night, take of tornified or roasted rhubarb, half a drachm; diascordium, a drachm and a half; liquid laudanum cyclomated, a scruple: mix and make into a bolus.

For an Inflammation of the Lungs.

Take of cherious water, ten ounces; water of red poppies, three ounces; syrup of poppies, an ounce; pearl prepared, a drachm; make julep, and take six spoonfuls every fourth hour.

An Ointment for the Pleurisy.

Take oil of violets or sweet almonds, an ounce of each, with wax and a little saffron, make an ointment, warm it and bathe it upon the parts affected.

An Ointment for the Itch.

Take sulphur vive in powder, half an ounce, oil of tartar per deliquim, a sufficient quantity, ointment of roses, four ounces; make a liniment, to which add a scruple of rhodium to aromatize, and rub the parts affected with it.

For Running Scab.

Take two pounds of tar, incorporate it into a thick mass with well-sifted ashes; boil the mass in fountain-water, adding leaves of ground-ivy, white horehound, fumitory roots, sharp-pointed dock and of flocan pan, of each four handfuls; make a bath to be used with care of taking cold.

For Worms in Children.

Take wormseed, half a drachm, flour of sulphur, a drachm; mix and make a powder. Give as much as will lie on a silver threepence, night and morning, in grocer's treacle or honey, or to grown up people, you may add a sufficient quantity of aloe rosatum and so make them up into pills; three or four may be taken every morning.

For Fevers in Children.

Take crab-eyes, a drachm, cream of tartar, half a drachm; white sugar-candy finely powdered, weight of both; mix all well together and give as much as will lie on a silver threepence, in a spoonful of barley-water or sack whey.

A Quieting Night-Draught, when the Cough is Violent.

Take water of green wheat, six ounces, syrup diascordium, three ounces, take two or three spoonfuls going to bed every night or every other night.

An Electuary for the Dropsy.

Take best rhubarb, one drachm, gum lac, prepared, two drachms, zyloaloes, cinnamon, long birthwort, half an ounce each, best English saffron, half a scruple; with syrup of chicory and rhubarb make an electuary. Take the quantity of a nutmeg or small walnut every morning fasting.

For a Tympany Dropsy.

Take roots of chervil and candied eringo roots, half an ounce of each, roots of butcher-broom, two ounces, grass-roots, three ounces, shavings of ivory and hartshorn, two drachms and a half each; boil them in two or three pounds of spring water. Whilst the strained liquor is hot, pour it upon the leaves of watercresses and goose-grass bruised, of each a handful, adding a pint of Rhenish wine. Make a close infusion for two hours, then strain out the liquor again, and add to it three ounces of magirtral water and earth worms and an ounce and a half of the syrup of the five opening roots. Make an apozen, whereof take four ounces twice a day.

For an Inward Bleeding.

Take leaves of plantain and stinging nettles, of each three handfuls, bruise them well and pour on them six ounces of plantain water, afterwards make a strong expression and drink the whole off. *Probatum est*.

GENERAL OBSERVATIONS

Worthy of Notice.

WHEN YOU FIND

A red man to be faithful, a tall man to be wise, a fat man to be swift of foot, a lean man to be a fool, a handsome man not to be proud, a poor man not to be envious, a knave to be no liar, an upright man not too bold and hearty to his own loss, one that drawls when he speaks not to be crafty and circumventing, one that winks on another with his eyes not to be false and deceitful, a sailor and hangman to be pitiful, a poor man to build churches, a quack doctor to have a good conscience, a bailiff not to be a merciless villain, an hostess not to over-reckon you, and an usurer to be charitable ——

THEN SAY,

Ye have found a prodigy.

Men acting contrary to the common course of nature.

PART II

THE EXPERIENCED MIDWIFE

INTRODUCTION.

I have given this Part the title of The Experienced Midwife, because it is chiefly designed for those who profess Midwifery, and contains whatever is necessary for them to know in the practice thereof; and also, because it is the result of many years' experience, and that in the most difficult cases, and is, therefore, the more to be depended upon.

A midwife is the most necessary and honourable office, being indeed a helper of nature; which therefore makes it necessary for her to be well acquainted with all the operations of nature in the work of generation, and instruments with which she works. For she that knows not the operations of nature, nor with what tool she works, must needs be at a loss how to assist therein. And seeing the instruments of operation, both in men and women, are those things by which mankind is produced, it is very necessary that all midwives should be well acquainted with them, that they may better understand their business, and assist nature, as there shall be occasion.

The first thing then necessary as introductory to this treatise, is an anatomical description of the several parts of generation both in men and women; but as in the former part of this work I have treated at large upon these subjects, being desirous to avoid tautology, I shall not here repeat anything of what was then said, but refer the reader thereto, as a necessary introduction to what follows. And though I shall be necessitated to speak plainly so that I may be understood, yet I shall do it with that modesty that none shall have need to blush unless it be from something in themselves, rather than from what they shall find here; having the motto of the royal garter for my defence, which is:—"Honi soit qui mal y pense,"—"Evil be to him that evil thinks."

A
GUIDE TO CHILDBEARING WOMEN

BOOK I

CHAPTER I

SECTION I.—*Of the Womb*.

In this chapter I am to treat of the womb, which the Latins call *matrix*. Its parts are two; the mouth of the womb and the bottom of it. The mouth is an orifice at the entrance into it, which may be dilated and shut together like a purse; for though in the act of copulation it is big enough to receive the glans of the yard, yet after conception, it is so close and shut, that it will not admit the point of a bodkin to enter; and yet again, at the time of a woman's delivery, it is opened to such an extraordinary degree, that the child passeth through it into the world; at which time this orifice wholly disappears, and the womb seems to have but one great cavity from the bottom to the entrance of the neck. When a woman is not with child, it is a little oblong, and of substance very thick and close; but when she is with child it is shortened, and its thickness diminished proportionably to its distension; and therefore it is a mistake of anatomists who affirm, that its substance waxeth thicker a little before a woman's labour; for any one's reason will inform him, that the more distended it is, the thinner it must be; and the nearer a woman is to the time of her delivery the shorter her womb must be extended. As to the action by which this inward orifice of the womb is opened and shut, it is purely natural; for were it otherwise, there could not be so many bastards begotten as there are, nor would any married women have so many children. Were it in their own power they would hinder conception, though they would be willing enough to use copulation; for nature has attended that action with so pleasing and delightful sensations, that they are willing to indulge themselves in the use thereof notwithstanding the pains they afterwards endure, and the hazard of their lives that often follows it. And this comes to pass, not so much from an inordinate lust in woman, as that the great Director of Nature, for the increase and multiplication of mankind, and even all other species in the elementary world, hath placed such a magnetic virtue in the womb, that it draws the seed to it, as the loadstone draws iron.

The Author of Nature has placed the womb in the belly, that the heat might always be maintained by the warmth of the parts surrounding it; it is, therefore, seated in the middle of the hypogastrium (or lower parts of the belly between the bladder and the belly, or right gut) by which also it is defended from any hurt through the hardness of the bones, and it is placed in the lower part of the belly for the convenience of copulation, and of a birth being thrust out at full time.

It is of a figure almost round, inclining somewhat to an oblong, in part resembling a pear; for being broad at the bottom, it gradually terminates in the point of the orifice which is narrow.

The length, breadth and thickness of the womb differ according to the age and disposition of the body. For in virgins not ripe it is very small in all its dimensions, but in women whose terms flow in great quantities, and such as frequently use copulation, it is much larger, and if they have had children, it is larger in them than in such as have had none; but in women of a good stature and well shaped, it is (as I have said before), from the entry of the privy parts to the bottom of the womb usually about eight inches; but the length of the body of the womb alone, does not exceed three; the breadth thereof is near about the same, and of the thickness of the little finger, when the womb is not pregnant, but when the woman is with child, it becomes of a prodigious greatness, and the nearer she is to delivery, the more the womb is extended.

It is not without reason then, that nature (or the God of Nature) has made the womb of a membranous substance; for thereby it does the easier open to conceive, is gradually dilated by the growth of the foetus or young one, and is afterwards contracted or closed again, to thrust forth both it and the after-burden, and then to retire to its primitive seat. Hence also it is enabled to expel any noxious humours, which may sometimes happen to be contained within it.

Before I have done with the womb, which is the field of generation, and ought, therefore, to be the more particularly taken care of (for as the seeds of plants can produce no plants, nor sprig unless grown in ground proper to excite and awaken their vegetative virtue so likewise the seed of man, though potentially containing all the parts of the child, would never produce

so admissible an effect, if it were not cast into that fruitful field of nature, the womb) I shall proceed to a more particular description of its parts, and the uses for which nature has designed them.

The womb, then, is composed of various similar parts, that is of membranes, veins, arteries and nerves. Its membranes are two and they compose the principal parts of the body, the outermost of which ariseth from the peritoneum or caul, and is very thin, without it is smooth, but within equal, that it may the better cleave to the womb, as it is fleshier and thicker than anything else we meet with within the body, when the woman is not pregnant, and is interwoven with all sorts of fibres or small strings that it may the better suffer the extension of the child, and the water caused during pregnancy, and also that it may the easier close again after delivery.

The veins and arteries proceed both from the hypogastric and the spermatic vessels, of which I shall speak by and by; all these are inserted and terminated in the proper membranes of the womb. The arteries supply it with food and nourishment, which being brought together in too great a quantity, sweats through the substance of it, and distils as it were a dew at the bottom of the cavity; from thence proceed the terms in ripe virgins, and the blood which nourisheth the embryo in breeding women. The branches which issue from the spermatic vessels, are inserted on each side of the bottom of the womb, and are much less than those which proceed from the hypogastrics, those being greater and bedewing the whole substance of it. There are some other small vessels, which arising the one from the other are conducted to the internal orifice, and by these, those that are pregnant purge away the superfluity of the terms when they happen to have more than is used in the nourishment of the infant: by which means nature has taken so much care of the womb, that during pregnancy it shall not be obliged to open itself for passing away those excrementitious humours, which, should it be forced to do, might often endanger abortion.

As touching the nerves, they proceed from the brain, which furnishes all the inner parts of the lower belly in them, which is the true reason it hath so great a sympathy with the stomach, which is likewise very considerably furnished from the same part; so that the womb cannot be afflicted with any pain, but that the stomach is immediately sensible thereof, which is the cause of those loathings or frequent vomitings which happen to it.

But beside all these parts which compose the womb, it has yet four ligaments, whose office it is, to keep it firm in its place, and prevent its constant agitation, by the continual motion of the intestines which surround it, two of which are above and two below. Those above are called the broad ligaments, because of their broad and membranous figure, and are nothing else but the production of the peritoneum which growing out of the sides of the loins towards the veins come to be inserted in the sides of the bottom of the womb, to hinder the body from bearing too much on the neck, and so from suffering a precipitation as will sometimes happen when the ligaments are too much relaxed; and do also contain the testicles, and as well, safely conduct the different vessels, as the ejaculatories, to the womb. The lowermost are called round ligaments, taking their origin from the side of the womb near the horn, from whence they pass the groin, together with the production of the peritoneum, which accompanies them through the rings of the oblique and transverse muscles of the belly, by which they divide themselves into many little branches resembling the foot of a goose, of which some are inserted into the os pubis, the rest are lost and confounded with the membranes which women and children feel in their thighs. These two ligaments are long, round and nervous, and pretty big in their beginning near the matrix, hollow in their rise, and all along the os pubis, where they are a little smaller and become flat, the better to be inserted in the manner aforesaid. It is by their means the womb is hindered from rising too high. Now, although the womb is held in its natural situation by means of these four ligaments, it has liberty enough to extend itself when pregnant, because they are very loose, and so easily yield to its distension. But besides these ligaments, which keep the womb, as it were, in a poise, yet it is fastened for greater security by its neck, both to the bladder and rectum, between which it is situated. Whence it comes to pass, that if at any time the womb be inflamed, it communicates the inflammation to the neighbouring part.

Its use or proper action in the work of generation, is to receive and retain the seed, and deduce from it power and action by its heat, for the generation of the infant; and it is, therefore, absolutely necessary for the conservation of the species. It also seems by accident to receive and expel the impurities of the whole body, as when women have abundance of whites, and to purge away, from time to time, the superfluity of the blood, as when a woman is not with child.

SECT. II.—*Of the difference between the ancient and modern Physicians, touching the woman's contributing seed for the Formation of the Child.*

Our modern anatomists and physicians are of different sentiments from the ancients touching the woman's contributing seed for the formation of the child, as well as the man; the ancients strongly affirming it, but our modern authors being generally of another judgment. I will not make myself a party to this controversy, but set down impartially, yet briefly, the arguments on each side, and leave the judicious reader to judge for himself.

Though it is apparent, say the ancients, that the seed of man is the principal efficient and beginning of action, motion and generation, yet the woman affords seed, and contributes to the procreation of the child, it is evident from hence, that the woman had seminal vessels, which had been given her in vain if she wanted seminal excretions; but since nature forms nothing in vain, it must be granted that they were formed for the use of the seed and procreation, and fixed in their proper places, to operate and contribute virtue and efficiency to the seed; and this, say they, is further proved from hence, that if women at years of maturity use not copulation to eject their seed, they often fall into strange diseases, as appears by young women and virgins, and also it appears that, women are never better pleased than when they are often satisfied this way, which argues, that the pleasure and delight, say they, is double in women to what it is in men, for as the delight of men in copulation consists chiefly in the emission of the seed, so women are delighted, both in the emission of their own and the reception of the man's.

But against this, all our modern authors affirm that the ancients are very erroneous, inasmuch as the testicles in women do not afford seed, but are two eggs, like those of a fowl or other creatures; neither have they any such offices as in men, but are indeed an ovarium, or receptacle for eggs, wherein these eggs are nourished, by the sanguinary vessels dispersed through them; and from hence one or more, as they are fecundated by the man's seed, are conveyed into the womb by the oviducts. And the truth of this, say they, is so plain, that if you boil them, the liquor shall have the

same taste, colour and consistency with the taste of bird's eggs. And if it be objected that they have no shells, the answer is easy; for the eggs of fowls while they are in the ovary, nay, after they have fallen into the uterus, have no shell: and though they have one when they are laid, yet it is no more than a fence which nature has provided for them against outward injuries, they being hatched without the body, but those of women being hatched within the body have no need of any other fence than the womb to secure them.

They also further say, that there are in the generation of the foetus, or young ones, two principles, *active* and *passive*; the *active* is the man's seed elaborated in the testicles out of the arterial blood and animal spirits; the *passive* principle is the ovum or egg, impregnated by the man's seed; for to say that women have true seed, say they, is erroneous. But the manner of conception is this; the most spirituous part of the man's seed, in the act of copulation, reaching up to the ovarium or testicles of the woman (which contains divers eggs, sometimes fewer) impregnates one of them; which, being conveyed by the oviducts to the bottom of the womb, presently begins to swell bigger and bigger, and drinks in the moisture that is so plentifully sent hither, after the same manner that the seed in the ground suck the fertile moisture thereof, to make them sprout.

But, notwithstanding what is here urged by modern anatomists, there are some late writers of the opinion of the ancients, viz., that women both have, and emit seed in the act of copulation; and even women themselves take it ill to be thought merely passive in the act wherein they make such vigorous exertions; and positively affirm, that they are sensible of the emission of their seed in that action, and that in it a great part of the delight which they take in that act, consists. I shall not, therefore, go about to take away any of their happiness from them, but leave them in possession of their imaginary felicity.

Having thus laid the foundation of this work, I will now proceed to speak of conception, and of those things which are necessary to be observed by women from the time of their conception, to the time of their delivery.

CHAPTER II

Of Conception; what it is; how women are to order themselves after Conception.

SECTION I.—*What Conception is, and the qualifications requisite thereto.*

Conception is nothing but an action of the womb, by which the prolific seed is received and retained, that an infant may be engendered and formed out of it. There are two sorts of conception: the one according to nature, which is followed by the generation of the infant in the womb; the other false and wholly against nature, in which the seed changes into water, and produces only false conceptions, moles, or other strange matter. Now, there are three things principally necessary in order to a true conception, so that generation may follow, viz., without diversity of sex there can be no conception; for, though some will have a woman to be an animal that can engender of herself, it is a great mistake; there can be no conception without a man discharge his seed into the womb. What they allege of pullets laying eggs without a cock's treading them is nothing to the purpose, for those eggs should they be set under a hen, will never become chickens because they never received any prolific virtue from the male, which is absolutely necessary to this purpose, and is sufficient to convince us, that diversity of the sex is necessary even to those animals, as well as to the generation of man. But diversity of sex, though it be necessary to conception, yet it will not do alone; there must also be a congression of the different sexes; for diversity of sex would profit little if copulation did not follow. I confess I have heard of subtle women, who, to cover their sin and shame, have endeavoured to persuade some peasants that they were never touched by man to get them with child; and that one in particular pretended to conceive by going into a bath where a man had washed himself a little before and spent his seed in it, which was drawn and sucked into her womb, as she

pretended. But such stories as these are only for such who know no better. Now that these different sexes should be obliged to come to the touch, which we call copulation or coition, besides the natural desire of begetting their like, which stirs up men and women to it, the parts appointed for generation are endowed by nature with a delightful and mutual itch, which begets in them a desire to the action; without which, it would not be very easy for a man, born for the contemplation of divine mysteries, to join himself, by the way of coition, to a woman, in regard to the uncleanness of the part and the action. And, on the other side, if the woman did but think of those pains and inconveniences to which they are subject by their great bellies, and those hazards of life itself, besides the unavoidable pains that attend their delivery, it is reasonable to believe they would be affrighted from it. But neither sex makes these reflections till after the action is over, considering nothing beforehand but the pleasure of the enjoyment, so that it is from this voluptuous itch that nature obliges both sexes to this congression. Upon which the third thing followeth of course, viz., the emission of seed into the womb in the act of copulation. For the woman having received this prolific seed into her womb, and retained it there, the womb thereupon becomes depressed, and embraces the seed so closely, that being closed the point of a needle cannot enter into it without violence. And now the woman may be said to have conceived, having reduced by her heat from power into action, the several faculties which are contained in the seed, making use of the spirits with which the seed abounds, and which are the instruments which begin to trace out the first lineaments of the parts, and which afterwards, by making use of the menstruous blood flowing to it, give it, in time, growth and final perfection. And thus much shall suffice to explain what conception is. I shall next proceed to show

SECT. II.—*How a Woman ought to order herself after Conception.*

My design in this treatise being brevity, I shall bring forward a little of what the learned have said of the causes of twins, and whether there be any such things as superfoetations, or a second conception in a woman (which is yet common enough), and as to twins, I shall have occasion to speak of them

when I come to show you how the midwife ought to proceed in the delivery of the women that are pregnant with them. But having already spoken of conception, I think it now necessary to show how such as have conceived ought to order themselves during their pregnancy, that they may avoid those inconveniences, which often endanger the life of the child and many times their own.

A woman, after conception, during the time of her being with child, ought to be looked upon as indisposed or sick, though in good health; for child bearing is a kind of nine months' sickness, being all that time in expectation of many inconveniences which such a condition usually causes to those that are not well governed during that time; and therefore, ought to resemble a good pilot, who, when sailing on a rough sea and full of rocks, avoids and shuns the danger, if he steers with prudence, but if not, it is a thousand to one but he suffers shipwreck. In like manner, a woman with child is often in danger of miscarrying and losing her life, if she is not very careful to prevent those accidents to which she is subject all the time of her pregnancy. All which time her care must be double, first of herself, and secondly of the child she goes with for otherwise, a single error may produce a double mischief; for if she receives a prejudice, the child also suffers with her. Let a woman, therefore, after conception, observe a good diet, suitable to her temperament, custom, condition and quality; and if she can, let the air where she ordinarily dwells be clear and well tempered, and free from extremes, either of heat or cold; for being too hot, it dissipateth the spirits too much and causes many weaknesses; and by being too cold and foggy, it may bring down rheums and distillations on the lungs, and so cause her to cough, which, by its impetuous motion, forcing downwards, may make her miscarry. She ought alway to avoid all nauseous and ill smells; for sometimes the stench of a candle, not well put out, may cause her to come before time; and I have known the smell of charcoal to have the same effect. Let her also avoid smelling of rue, mint, pennyroyal, castor, brimstone, etc.

But, with respect to their diet, women with child have generally so great loathings and so many different longings, that it is very difficult to prescribe an exact diet for them. Only this I think advisable, that they may use those meats and drinks which are to them most desirable, though, perhaps, not in themselves so wholesome as some others, and, it may be not so pleasant;

but this liberty must be made use of with this caution, that what they desire be not in itself unwholesome; and also that in everything they take care of excess. But, if a child-bearing woman finds herself not troubled with such longings as we have spoken of, let her take simple food, and in such quantity as may be sufficient for herself and the child, which her appetite may in a great measure regulate; for it is alike hurtful to her to fast too long as to eat too much; and therefore, rather let her eat a little and often; especially let her avoid eating too much at night, because the stomach being too much filled, compresseth the diaphragm, and thereby causeth difficulty of breathing. Let her meat be easy of digestion, such as the tenderest parts of beef, mutton, veal, fowls, pullets, capons, pigeons and partridges, either boiled or roasted, as she likes best, new laid eggs are also very good for her; and let her put into her broth those herbs that purify it, as sorrel, lettuce, succory and borage; for they will purge and purify the blood. Let her avoid whatever is hot seasoned, especially pies and baked meats, which being of hot digestion, overcharge the stomach. If she desire fish let it be fresh, and such as is taken out of rivers and running streams. Let her eat quinces and marmalade, to strengthen her child: for which purpose sweet almonds, honey, sweet apples, and full ripe grapes, are also good. Let her abstain from all salt, sour, bitter and salt things, and all things that tend to provoke the terms—such as garlic, onions, mustard, fennel, pepper and all spices except cinnamon, which in the last three months is good for her. If at first her diet be sparing, as she increases in bigness, let her diet be increased, for she ought to consider that she has a child as well as herself to nourish. Let her be moderate in her drinking; and if she drinks wine, let it be rather claret than white (for it will breed good blood, help the digestion, and comfort the stomach, which is weakly during pregnancy); but white wine being diuretic, or that which provokes urine, ought to be avoided. Let her be careful not to take too much exercise, and let her avoid dancing, riding in a coach, or whatever else puts the body into violent motion, especially in the first month. But to be more particular, I shall here set down rules proper for every month for the child-bearing woman to order herself, from the time she first conceived, to the time of her delivery.

Rules for the First Two Months.

As soon as a woman knows, or has reason to believe, that she has conceived, she ought to abstain from all violent motions and exercise; whether she walks afoot, or rides on horseback or in a coach, it ought to be very gently. Let her also abstain from Venery (for which, after conception, she has usually no great inclination), lest there be a mole or superfoetation, which is the adding of one embryo to another. Let her beware not to lift her arms too high, nor carry great burdens, nor repose herself on hard and uneasy seats. Let her use moderately good, juicy meat and easy of digestion, and let her wines be neither too strong nor too sharp, but a little mingled with water; or if she be very abstemious, she may use water wherein cinnamon has been boiled. Let her avoid fastings, thirst, watchings, mourning, sadness, anger, and all other perturbations of the mind. Let no one present any strange or unwholesome thing to her, nor so much as name it, lest she should desire it and not be able to get it, and so either cause her to miscarry, or the child to have some deformity on that account. Let her belly be kept loose with prunes, raisins or manna in her broth, and let her use the following electuary, to strengthen the womb and the child—

"Take conserve of borage, buglos and roses, each two ounces; an ounce of balm; an ounce each of citron peel and shreds, candied mirobalans, an ounce each; extract of wood aloes a scruple; prepared pearl, half a drachm; red coral and ivory, of each a drachm; precious stones each a scruple; candied nutmegs, two drachms, and with syrup of apples and quinces make an electuary."

Let her observe the following rules.

"Take pearls prepared, a drachm; red coral and ivory prepared, each half a drachm, precious stones, each a scruple; yellow citron peel, mace, cinnamon, cloves, each half a drachm; saffron, a scruple; wood aloes, half a scruple; ambergris, six drachms; and with six ounces of sugar dissolved in rosewater make rolls." Let her also apply strengtheners of nutmeg, mace and mastich made up in bags, to the navel, or a toast dipped in malmsey, or sprinkled with powdered mint. If she happens to desire clay, chalk, or coals (as many women with child do), give her beans boiled with sugar, and if she happens to long for anything that she cannot obtain, let her presently drink a large draught of pure cold water.

Rules for the Third Month.

In this month and the next, be sure to keep from bleeding; for though it may be safe and proper at other times, yet it will not be so at the end of the fourth month; and yet if blood abound, or some incidental disease happens which requires evacuation, you may use a cupping glass, with scarification, and a little blood may be drawn from the shoulders and arms, especially if she has been accustomed to bleed. Let her also take care of lacing herself too straitly, but give herself more liberty than she used to do; for inclosing her belly in too strait a mould, she hinders the infant from taking its free growth, and often makes it come before its time.

Rules for the Fourth Month.

In this month also you ought to keep the child-bearing woman from bleeding, unless in extraordinary cases, but when the month is passed, blood-letting and physic may be permitted, if it be gentle and mild, and perhaps it may be necessary to prevent abortion. In this month she may purge, in an acute disease, but purging may only be used from the beginning of this month to the end of the sixth; but let her take care that in purging she use no vehement medicine, nor any bitter, as aloes, which is disagreeable and hurtful to the child, and opens the mouth of the vessels; neither let her use coloquintida, scammony nor turbith; she may use cassia, manna, rhubarb, agaric and senna but dyacidodium purgans is best, with a little of the electuary of the juice of roses.

Rules for the Fifth, Sixth and Seventh Months.

In these months, child-bearing women are troubled with coughs, colds, heart-beating, fainting, watching, pains in the loins and hips, and bleeding. The cough is from a sharp vapour that comes to the jaws and rough artery from the terms, or the thin part of that blood got less into the reins of the breast; this endangers abortion, and strength fails from watching: therefore, purge the humours that come to the breast, with rhubarb and agaric, and strengthen the head as in a catarrh, and give sweet lenitives as in a cough. Palpitation and faintness arises from vapours that go to it by the arteries, or

from blood that abounds and cannot get out of the womb, but ascends and oppresses the heart; and in this case cordials should be used both inwardly and outwardly. Watching, is from sharp dry vapours that trouble the animal spirits, and in this case use frictions, and let the woman wash her feet at bed-time, and let her take syrup of poppies, dried roses, emulsions of sweet almonds, and white poppy seed. If she be troubled with pains in her loins and hips, as in those months she is subject to be, from the weight of her child as it grows big and heavy, and so stretches the ligaments of the womb and part adjacent, let her hold it up with swathing bands about her neck. About this time also the woman often happens to have a flux of blood, either at the nose, womb or haemorrhoids, from plenty of blood, or from the weakness of the child that takes it not in, or else from evil humour in the blood, that stirs up nature and sends it forth. And sometimes it happens that the vessels of the womb may be broken, either by some violent motion, fall, cough or trouble of the mind (for any of these will work that effect), and this is so dangerous, that in such a case the child cannot be well, but if it be from blood only, the danger is less, provided it flows by the veins of the neck of the womb, for then it prevents plethora and takes not away the nourishment of the child; but if it proceeds from the weakness of the child, that draws it not in, abortion of the child often follows, or hard travail, or else she goes beyond her time. But if it flows from the inward veins of the womb, there is more danger by the openness of the womb, if it come from evil blood; the danger is alike from cacochymy, which is like to fall upon both. If it arises from plethora, open a vein, but with great caution, and use astringents, of which the following will do well:—Take prepared pearls, a scruple; red coral, two scruples; mace, nutmeg, each a drachm; cinnamon, half a drachm; make a powder, or with white sugar make rolls. Or give this powder in broth:—"Take red coral, a drachm; half a drachm precious stones; red sander, half a drachm; bole, a drachm; scaled earth and tormental roots, each two scruples, with sugar of roses and Manus Christi; with pearl, five drachms; make a powder." You may also strengthen the child at the navel, and if there be a cacochymy, alter the humours, and if you can do it safely, evacuate; you may likewise use amulets on her hands and about her neck. In a flux of haemorrhoids, wear off the pain, and let her drink hot wine with a toasted nutmeg. In these months the belly is also subject to be bound, but if it be without any apparent disease, the broth of a chicken or veal, sodden with oil, or with the decoction of mallows or

marsh-mallows, mercury or linseed, put up in a clyster, will not be amiss, but in less quantity than is given in other cases:—viz. of the decoction, five ounces, of common oil, three ounces, of sugar, two ounces, and of cassia fistula, one ounce. But if she will not take a clyster, one or two yolks of new laid eggs, or a little peas-pottage warm, a little salt and sugar, and supped a little before meat, will be very convenient. But if her belly be distended and stretched with wind a little fennel seed and aniseed reduced to a powder and mixed with honey and sugar made after the manner of an electuary, will be very well Also, if thighs and feet swell let them be anointed with erphodrinum (which is a liquid medicine) made with vinegar and rose-water, mingled with salt.

Rules for the Eighth Month.

The eighth month is commonly called the most dangerous; therefore the greatest care and caution ought to be used, the diet better in quality, but no more, nor indeed, so much in quantity as before, but as she must abate her diet, she must increase her exercise; and because then women with child, by reason that sharp humours alter the belly, are accustomed to weaken their spirits and strength, they may well take before meat, an electuary of diarrhoden, or aromaticum rosatum or diamagarton; and sometimes they may lick a little honey. As they will loathe, nauseate their meat, they may take green ginger, candied with sugar, and the rinds of citron and oranges candied; and let them often use honey for strengthening the infant. When she is not very far from her labour, let her eat every day seven roasted figs before her meat, and sometimes let her lick a little honey. But let her beware of salt and powdered meat, for it is neither good for her nor the child.

Rules for the Ninth Month.

In the ninth month let her have a care of lifting any great weight, but let her move a little more, to dilate the parts, and stir up natural heat. Let her take heed of stooping, and neither sit too much nor lie on her sides, neither ought she to bend herself much enfolded in the umbilical ligaments, by which means it often perisheth. Let her walk and stir often, and let her exercise be, rather to go upwards than downwards. Let her diet, now especially, be light

and easy of digestion and damask prunes with sugar, or figs with raisins, before meat, as also the yolks of eggs, flesh and broth of chickens, birds, partridges and pheasants; astringent and roasted meats, with rice, hard eggs, millet and such like other things are proper. Baths of sweet water, with emollient herbs, ought to be used by her this month with some intermission, and after the baths let her belly be anointed with oil of sweet roses and of violets; but for her privy parts, it is better to anoint them with the fat of hens, geese or ducks, or with oil of lilies, and the decoction of linseed and fenugreek, boiled with oil of linseed and marshmallows, or with the following liniment:—

Take mallows and marshmallows, cut and shred, of each one ounce; of linseed, one ounce; let them be boiled from twenty ounces of water to ten; then let her take three ounces of the boiled broth, of oil of almonds and oil of flower-de-luce, of each one ounce; of deer's suet, three ounces. Let her bathe with this, and anoint herself with it, warm.

If for fourteen days before the birth, she do every morning and evening bathe and moisten her belly with muscadine and lavender water, the child will be much strengthened thereby. And if every day she eat toasted bread, it will hinder anything from growing to the child. Her privy parts must be gently stroked down with this fomentation.

"Take three ounces of linseed, and one handful each of mallows and marshmallows sliced, then let them be put into a bag and immediately boiled." Let the woman with child, every morning and evening, take the vapour of this decoction in a hollow stool, taking great heed that no wind or air come to her in-parts, and then let her wipe the part so anointed with a linen cloth, and she may anoint the belly and groins as at first.

When she has come so near to her time, as to be ten or fourteen days thereof, if she begins to feel any more than ordinary pain let her use every day the following:—"Take mallows and marshmallows, of each a handful; camomiles, hard mercury, maidenhair, of each a handful; of linseed, four ounces; let them be boiled in a sufficient quantity of water as to make a bath therewith." But let her not sit too hot upon the seat, nor higher than a little above her navel; nor let her sit upon it longer than about half an hour, lest

her strength languish and decay, for it is better to use it often than to stay too long in it.

And thus have I shown how a child-bearing woman ought to govern herself each month during her pregnancy. How she must order herself at her delivery, shall be shown in another chapter, after I have first shown the intended midwife how the child is first formed in the womb, and the manner of its decumbiture there.

CHAPTER III

Of the Parts proper to a Child in the womb; How it is formed there, and the manner of its Situation therein.

In the last chapter I treated of conception, showed what it was, how accomplished and its signs, and how she who has conceived ought to order herself during the time of her pregnancy. Now, before I come to speak of her delivery, it is necessary that the midwife be first made acquainted with the parts proper to a child in the womb, and also that she be shown how it is formed, and the manner of its situation and decumbiture there; which are so necessary to her, that without the knowledge thereof, no one can tell how to deliver a woman as she ought. This, therefore, shall be the work of this chapter. I shall begin with the first of these.

SECTION I.—*Of the Parts proper to a Child in the Womb.*

In this section, I must first tell you what I mean by the parts proper to a child in the womb; and they are only those that either help or nourish it; and whilst it is lodged in that dark repository of nature, and that help to clothe and defend it there and are cast away, as of no more use, after it is born, and these are two, viz., the umbilicars, or navel vessels, and the secundinum. By the first it is nourished, and by the second clothed and defended from wrong. Of each of these I shall speak distinctly; and first,

Of the Umbilicars, or Navel Vessels.

These are four in number, viz.:—one vein, two arteries, and the vessel which is called the urachos.

(1) The vein is that on which the infant is nourished, from the time of its conception till the time of its delivery; till being brought into the light of the world, it has the same way of concocting the food we have. This vein ariseth from the liver of the child, and is divided into two parts when it has passed the navel; and these two are divided and subdivided, the branches being upheld by the skin called *chorion* (of which I speak by and by), and are joined to the veins of the mother's womb, from whence they have their blood for the nourishment of the child.

(2) The arteries are two on each side which proceed from the back branches of the great artery of the mother, and the vital blood is carried by those to the child being ready concocted by the mother.

(3) A nervous or sinewy production is led from the bottom of the bladder of the infant to the navel, and this is called *urachos*, and its use is, to convey the urine of the infant from the bladder to the alantois. Anatomists do very much vary in their opinion concerning this, some denying any such thing to be in the delivery of the woman, and others on the contrary affirming it; but experience has testified there is such a thing, for Bartholomew Carbrolius, the ordinary doctor of anatomy to the College of Physicians at Montpellier in France, records the history of a maid, whose water being a long time stopped, at last issued out through the navel. And Johannes Fernelius speaks of the same thing that happened to a man of thirty years of age, who having a stoppage at the neck of the bladder, his urine issued out of his navel for many months together, and that without any prejudice at all to his health, which he ascribes to the ill lying of his navel, whereby the urachos was not well dried. And Volchier Coitas quotes such another instance in a maid of thirty-four at Nuremburg in Germany. These instances, though they happen but seldom, are sufficient to prove that there is such a thing as anurachos in men.

These four vessels before mentioned, viz., one vein, two arteries and the urachos, join near the navel, and are united by a skin which they have from the chorion and so become like a gut or rope, and are altogether void of sensibility, and this is that which women call the navel-string. The vessels are thus joined together, that so they may neither be broken, severed nor entangled; and when the infant is born are of no use save only to make up

the ligament which stops the hole of the navel and for some other physical use, etc.

Of the Secundine or After-birth.

Setting aside the name given to this by the Greeks and Latins, it is called in English by the name of secundine, after-birth or after-burden; which are held to be four in number.

(1) The *first* is called placenta, because it resembles the form of a cake, and is knit both to the navel and chorion, and makes up the greatest part of the secundine or after-birth. The flesh of it is like that of the melt or spleen, soft, red and tending something to blackness, and hath many small veins and arteries in it: and certainly the chief use of it is, for containing the child in the womb.

(2) The *second* is the chorion. This skin and that called the amnios, involve the child round, both above and underneath, and on both sides, which the alantois does not. This skin is that which is most commonly called the secundine, as it is thick and white garnished with many small veins and arteries, ending in the placenta before named, being very light and slippery. Its use is, not only to cover the child round about, but also to receive, and safely bind up the roots of the veins and arteries or navel vessels before described.

(3) The *third* thing which makes up the secundine in the alantois, of which there is a great dispute amongst anatomists. Some say there is such a thing, and others that there is not. Those who will have it to be a membrane, say it is white, soft and exceedingly thin, and just under the placenta, where it is knit to the urachos, from which it receives the urine; and its office is to keep it separate from the sweat, that the saltness of it may not offend the tender skin of the child.

(4) The *fourth*, and last covering of the child is called amnios; and it is white, soft and transparent, being nourished by some very small veins and arteries. Its use is, not only to enwrap the child, but also to retain the sweat of the child.

Having thus described the parts proper to a child in the womb, I will next proceed to speak of the formation of the child therein, as soon as I have explained the hard terms of the section, that those for whose help it is designed, may understand what they read. A *vein* is that which receives blood from the liver, and distributes in several branches to all parts of the body. *Nerve* is the same with *sinew*, and is that by which the brain adds sense and motion to the body. *Placenta*, properly signifies *sugar* cake; but in this section it is used to signify a spongy piece of flesh resembling a cake, full of veins and arteries, and is made to receive a mother's blood appointed for the infant's nourishment in the womb. The *chorion* is an outward skin which compasseth the child in the womb. The *amnios* is the inner skin which compasseth the child in the womb. The *alantois* is the skin that holds the urine of the child during the time that it abides in the womb. The *urachos* is the vessel that conveys the urine from the child in the womb to the *alantois*. I now proceed to

SECT. II.—*Of the Formation of the Child in the Womb.*

To speak of the formation of the child in the womb, we must begin where nature begins, and, that is at the act of coition, in which the womb having received the generative seed (without which there can be no conception), the womb immediately shuts up itself so close that the point of a needle cannot enter the inward orifice; and this it does, partly to hinder the issuing out of the seed again, and partly to cherish it by an inward heat, the better to provoke it to action; which is one reason why women's bellies are so lank at their first conception. The woman having thus conceived, the first thing which is operative in conception is the spirit whereof the seed is full, which, nature quickening by the heat of the womb, stirs up the action. The internal spirits, therefore, separate the parts that are less pure, which are thick, cold and clammy, from those that are more pure and noble. The less pure are cast to the outside, and with these seed is circled round and the membrane made, in which that seed that is most pure is wrapped round and kept close together, that it may be defended from cold and other accidents, and operate the better.

The first thing that is formed is the amnios; the next the chorion; and they enwrap the seed round like a curtain. Soon after this (for the seed thus shut up in the woman lies not idle), the navel vein is bred, which pierceth those skins, being yet very tender, and carries a drop of blood from the veins of the mother's womb to the seed; from which drop the vena cava, or chief vein, proceeds, from which all the rest of the veins which nourish the body spring; and now the seed hath something to nourish it, whilst it performs the rest of nature's work, and also blood administered to every part of it, to form flesh.

This vein being formed, the navel arteries are soon after formed; then the great artery, of which all the others are but branches; and then the heart, for the liver furnisheth the arteries with blood to form the heart, the arteries being made of seed, but the heart and the flesh, of blood. After this the brain is formed, and then the nerves to give sense and motion to the infant. Afterwards the bones and flesh are formed; and of the bones, first of all, the vertebrae or chine bones, and then the skull, etc. As to the time in which this curious part of nature's workmanship is formed, having already in Chapter II of the former part of this work spoken at large upon this point, and also of the nourishment of the child in the womb, I shall here only refer the reader thereto, and proceed to show the manner in which the child lies in the womb.

SECT. III.—*Of the manner of the Child's lying in the Womb.*

This is a thing so essential for a midwife to know, that she can be no midwife who is ignorant of it; and yet even about this authors extremely differ; for there are not two in ten that agree what is the form that the child lies in the womb, or in what fashion it lies there; and yet this may arise in a great measure from the different times of the women's pregnancy; for near the time of its deliverance out of those winding chambers of nature it oftentimes changes the form in which it lay before, for another.

I will now show the several situations of the child in the mother's womb, according to the different times of pregnancy, by which those that are contrary to nature, and are the chief cause of ill labours, will be more easily

conceived by the understanding midwife. It ought, therefore, in the first place to be observed, that the infant, as well male as female, is generally situated in the midst of the womb; for though sometimes, to appearance a woman's belly seems higher on one side than the other, yet it is so with respect to the belly only, and not to her womb, in the midst of which it is always placed.

But, in the second place, a woman's great belly makes different figures, according to the different times of pregnancy; for when she is young with child, the embryo is always found of a round figure, a little long, a little oblong, having the spine moderately turned inwards, and the thighs folded, and a little raised, to which the legs are so raised, that the heels touch the buttocks; the arms are bending, and the hands placed upon the knees, towards which part of the body, the head is turned downwards towards the inward orifice of the womb, tumbling as it were over its head so that then the feet are uppermost, and the face towards the mother's great gut; and this turning of the infant in this manner, with its head downwards, towards the latter end of a woman's reckoning, is so ordered by nature, that it may be thereby the better disposed of its passage into the world at the time of its mother's labour, which is not then far off (and indeed some children turn not at all until the very time of birth); for in this posture all its joints are most easily extended in coming forth; for by this means its arms and legs cannot hinder its birth, because they cannot be bent against the inner orifice of the womb and the rest of the body, being very supple, passeth without any difficulty after the head, which is hard and big; being passed the head is inclined forward, so that the chin toucheth the breast, in which posture, it resembles one sitting to ease nature, and stooping down with the head to see what comes from him. The spine of the back is at that time placed towards the mother's, the head uppermost, the face downwards; and proportionately to its growth, it extends its members by little and little, which were exactly folded in the first month. In this posture it usually keeps until the seventh or eighth month, and then by a natural propensity and disposition of the upper first. It is true there are divers children, that lie in the womb in another posture, and come to birth with their feet downwards, especially if there be twins; for then, by their different motions they do so disturb one another, that they seldom come both in the same posture at the time of labour, but one will come with the head, and another with the feet, or perhaps lie

across; but sometimes neither of them will come right. But, however the child may be situated in the womb, or in whatever posture it presents itself at the time of birth, if it be not with its head forwards, as I have before described, it is always against nature, and the delivery will occasion the more pain and danger, and require greater care and skill from the midwife, than when the labour is more natural.

CHAPTER IV

A Guide for Women in Travail, showing what is to be done when they fall in Labour, in order to their Delivery.

The end of all that we have been treating of is, the bringing forth of a child into the world with safety both to the mother and the infant, as the whole time of a woman's pregnancy may be termed a kind of labour; for, from the time of the conception to the time of her delivery, she labours under many difficulties, is subject to many distempers, and in continual danger, from one affection or other, till the time of birth comes; and when that comes, the greatest labour and travail come along with it, insomuch that then all the other labours are forgotten, and that only is called the time of her labours, and to deliver her safely is the principal business of the midwife; and to assist therein, shall be the chief design of this chapter. The time of the child's being ready for its birth, when nature endeavours to cast it forth, is that which is properly the time of a woman's labour; nature then labouring to be eased of its burden. And since many child-bearing women, (especially the first child) are often mistaken in their reckoning and so, when they draw near their time take every pain they meet with for their labour, which often proves prejudicial and troublesome to them, when it is not so, I will in the first section of this chapter, set down some signs, by which a woman may know when the true time of her labour is come.

SECTION I.—*The Signs of the true Time of a Woman's Labour.*

When women with child, especially of their first, perceive any extraordinary pains in the belly, they immediately send for their midwife, as taking it for their labour; and then if the midwife be not a skilful and experienced woman, to know the time of labour, but takes it for granted

without further inquiry (for some such there are), and so goes about to put her into labour before nature is prepared for it, she may endanger the life of both mother and child, by breaking the amnios and chorion. These pains, which are often mistaken for labour, are removed by warm clothes laid to the belly, and the application of a clyster or two, by which those pains which precede a true labour, are rather furthered than hindered. There are also other pains incident to a woman in that condition from the flux of the belly, which are easily known by the frequent stools that follow them.

The signs, therefore, of labour, some few days before, are that the woman's belly, which before lay high, sinks down, and hinders her from walking so easily as she used to do; also there flow from the womb slimy humours, which nature has appointed to moisten and smooth the passage that its inward orifice may be the more easily dilated when there is occasion; which beginning to open at this time, suffers that slime to flow away, which proceeds from the Glandules called *prostata*. These are signs preceding the labour; but when she is presently falling into labour, the signs are, great pains about the region of the reins and loins, which coming and retreating by intervals, are answered in the bottom of the belly by congruous throes, and sometimes the face is red and inflamed, the blood being much heated by the endeavours a woman makes to bring forth her child; and likewise, because during these strong throes her respiration is intercepted, which causes the blood to have recourse to her face; also her privy parts are swelled by the infant's head lying in the birth, which, by often thrusting, causes those parts to descend outwards. She is much subject to vomiting, which is a good sign of good labour and speedy delivery, though by ignorant people thought otherwise; for good pains are thereby excited and redoubled; which vomiting is excited by the sympathy there is between the womb and the stomach. Also, when the birth is near, women are troubled with a trembling in the thighs and legs, not with cold, like the beginning of an ague fit, but with the heat of the whole body, though it must be granted, this does not happen always. Also, if the humours which then flow from the womb are discoloured with the blood, which the midwives call *shows*, it is an infallible mark of the birth being near. And if then the midwife puts up her fingers into the neck of the womb, she will find the inner orifice dilated; at the opening of which the membranes of the infant, containing the waters, present themselves and are strongly forced down with each pain she hath; at

which time one may perceive them sometimes to resist, and then again press forward the finger, being more or less hard and extended, according as the pains are stronger or weaker. These membranes, with the waters in them, when they are before the head of the child, midwives call *the gathering of the waters*, resemble to the touch of the fingers those eggs which have no shell, but are covered only with a simple membrane. After this, the pains still redoubling the membranes are broken by a strong impulsation of these waters, which flow away, and then the head of the infant is presently felt naked, and presents itself at the inward orifice of the womb. When these waters come thus away, then the midwife may be assured the birth is very near, this being the most certain sign that can be; for the *amnios alantois*, which contained these waters, being broken by the pressing forward of the birth, the child is no better able to subsist long in the womb afterwards than a naked man in a heap of snow. Now, these waters, if the child comes presently after them, facilitate the labour by making the passage slippery; and therefore, let no midwife (as some have foolishly done) endeavour to force away the water, for nature knows best when the true time of birth is, and therefore retains the waters till that time. But if by accident the water breaks away too long before the birth, then such things as will hasten it, may be safely administered, and what these are, I will show in another section.

SECT. II.—*How a Woman ought to be ordered when the time of her labour is come.*

When it is known that the true time of her labour is come by the signs laid down in the foregoing, of which those most to be relied upon are pains and strong throes in the belly, forcing downwards towards the womb, and a dilation of the inward orifice, which may be perceived by touching it with the finger, and the gathering of the waters before the head of the child, and thrusting down the membranes which contain them; through which, between the pains, one may in some manner with the finger discover the part which presents itself (as we have said before), especially if it be the head of the child, by its roundness and hardness; I say, if these things concur and are evident, the midwife may be sure it is the time of the

woman's labour, and care must be taken to get all those things that are necessary to comfort her at that time. And the better to help her, be sure to see that she is not tightly laced; you must also give her one strong clyster or more, if there be occasion, provided it be done at the beginning, and before the child be too forward, for it will be difficult for her to receive them afterwards. The benefit accruing therefrom will be, that they excite the gut to discharge itself of its excrements, so that the rectum being emptied there may be the more space for the dilation of the passage; likewise to cause the pains to bear the more downward, through the endeavours she makes when she is at stool, and in the meantime, all other necessary things for her labour should be put in order, both for the mother and the child. To this end, some get a midwife's; but a pallet bed, girded, is much the best way, placed near the fire, if the season so require, which pallet ought to be so placed, that there may be easy access to it on every side, that the woman may be the more easily assisted, as there is occasion.

If the woman abounds with blood, to bleed her a little more may not be improper, for thereby she will both breathe the better, and have her breasts more at liberty, and likewise more strength to bear down her pains; and this may be done without danger because the child being about ready to be born, has no more need of the mother's blood for its nourishment; besides, this evacuation does many times prevent her having a fever after delivery. Also, before her delivery, if her strength will permit, let her walk up and down her chamber; and that she may have strength so to do, it will be necessary to give her good strengthening things, such as jelly, broth, new laid eggs, or some spoonfuls of burnt wine; and let her by all means hold out her pains, bearing them down as much as she can, at the time when they take her; and let the midwife from time to time touch the inward orifice with her finger, to know whether the waters are ready to break and whether the birth will follow soon after. Let her also anoint the woman's privities with emollient oil, hog's grease, and fresh butter, if she find they are hard to be dilated. Let the midwife, likewise, all the time be near the labouring woman, and diligently observe her gestures, complaints, and pains, for by this she may guess pretty well how far her labour advanceth, because when she changeth her ordinary groans into loud cries, it is a sign that the child is near the birth; for at the time her pains are greater and more frequent. Let the woman likewise, by intervals, rest herself upon the bed to regain her strength, but

not too long, especially if she be little, short and thick, for such women have always worse labour if they lie long on their beds in their travail. It is better, therefore, that she walk about her chamber as long as she can, the woman supporting her under the arms, if it be necessary; for by this means, the weight of the child causes the inward orifices of the womb to dilate the sooner than in bed, and if her pains be stronger and more frequent, her labour will not be near so long. Let not the labouring woman be concerned at those qualms and vomitings which, perhaps, she may find come upon her, for they will be much for her advantage in the issue, however uneasy she may be for a time, as they further her pains and throes by provoking downward.

When the waters of the child are ready and gathered (which may be perceived through the membranes presenting themselves to the orifice) to the bigness of the whole dilatation, the midwife ought to let them break of themselves, and not, like some hasty midwives, who being impatient of the woman's long labour, break them, intending thereby to hasten their business, when instead thereof, they retard it; for by the too hasty breaking of these waters (which nature designed to make the child slip more easy), the passage remains dry by which means the pains and throes of the labouring woman are less efficacious to bring forth the infant than they would otherwise have been. It is, therefore, much the better way to let the waters break of themselves; after which the midwife may with ease feel the child by that part which first presents, and thereby discern whether it comes right, that is, with the head foremost, for that is the proper and most natural way of the birth. If the head comes right, she will find it big, round, hard and equal; but if it be any other part, she will find it rugged, unequal, soft and hard, according to the nature of the part it is. And this being the true time when a woman ought to be delivered, if nature be not wanting to perform its office, therefore, when the midwife finds the birth thus coming forward let her hasten to assist and deliver it, for it ordinarily happens soon after, if it be natural.

But if it happens, as it sometimes may, that the waters break away too long before the birth, in such a case, those things which hasten nature may safely be administered. For which purpose make use of pennyroyal, dittany, juniper berries, red coral, betony and feverfew, boiled in white wine, and give a drachm of it, or it would be much better to take the juice of it when it

is in its prime, which is in May, and having clarified it, make it into a syrup with double its weight of sugar, and keep it all the year, to use when occasion calls for it; mugwort used in the same manner is also good in this case; also a drachm of cinnamon powder given inwardly profits much in this case; and so does tansey broiled and applied to the privities; or an oil of it, so, made and used, as you were taught before. The stone *aetites* held to the privities, is of extraordinary virtue, and instantly draws away, both child and after-burden; but great care must be taken to remove it presently, or it will draw forth womb and all; for such is the magnetic virtue of this stone that both child and womb follow it as readily as iron doth the load-stone or the load-stone the north star.

There are many things that physicians affirm are good in this case; among which are an ass's or horse's hoof, hung near the privities; a piece of red coral hung near the said place. A load-stone helps very much, held in the woman's left hand; or the skin cut off a snake, girt about the middle, next to the skin. These things are mentioned by Mizaldus, but setting those things aside, as not so certain, notwithstanding Mizaldus quotes them, the following prescriptions are very good to speedy deliverance to women in travail.

(1) A decoction of white wine made in savory, and drank.

(2) Take wild tansey, or silver weed, bruise it, and apply to the woman's nostrils.

(3) Take date stones, and beat them to powder, and let her take half a drachm of them in white wine at a time.

(4) Take parsley and bruise it and press out the juice, and dip a linen cloth in it, and put it so dipped into the mouth of the womb; it will presently cause the child to come away, though it be dead, and it will bring away the after-burden. Also the juice of the parsley is a thing of so great virtue (especially stone parsley) that being drank by a woman with child, it cleanseth not only the womb, but also the child in the womb, of all gross humours.

(5) A scruple of castorum in powder, in any convenient liquor, is very good to be taken in such a case, and so also is two or three drops of castorum in

any convenient liquor; or eight or nine drops of spirits of myrrh given in any convenient liquor, gives speedy deliverance.

(6) Give a woman in such a case another woman's milk to drink; it will cause speedy delivery, and almost without pain.

(7) The juice of leeks, being drunk with warm water, highly operates to cause speedy delivery.

(8) Take peony seeds and beat them into a powder, and mix the powder with oil, with which oil anoint the privities of the woman and child; it will give her deliverance speedily, and with less pain than can be imagined.

(9) Take a swallow's nest and dissolve it in water, strain it, and drink it warm, it gives delivery with great speed and much ease.

Note this also in general, that all that move the terms are good for making the delivery easy, such as myrrh, white amber in white wine, or lily water, two scruples or a drachm; or cassia lignea, dittany, each a drachm; cinnamon, half a drachm, saffron, a scruple; give a drachm, or take borax mineral, a drachm, and give it in sack; or take cassia lignea, a drachm; dittany, amber, of each a drachm; cinnamon, borax, of each a drachm and a half; saffron, a scruple, and give her half a drachm; or give her some drops of oil of hazel in convenient liquor; or two or three drops of oil of cinnamon in vervain water. Some prepare the secundine thus:—Take the navel-string and dry it in an oven, take two drachms of the powder, cinnamon a drachm, saffron half a scruple, with the juice of savin make trochisks; give two drachms; or wash the secundine in wine and bake it in a pot; then wash it in endive water and wine, take half a drachm of it; long pepper, galangal, of each half a drachm; plantain and endive seed, of each half a drachm; lavender seed, four scruples; make a powder, or take laudanum, two drachms; storax, calamite, benzoin, of each half a drachm; musk, ambergris each six grains, make a powder or trochisks for a fume. Or use pessaries to provoke the birth; take galbanum dissolved in vinegar, an ounce; myrrh, two drachms, with oil of oat make a pessary.

An Ointment For the Navel.

Take oil of keir, two ounces, juice of savine an ounce, of leeks and mercury, each half an ounce; boil them to the consumption of the juice; add galbanum dissolved in vinegar, half an ounce, myrrh, two drachms, storax liquid a drachm, round bitwort, sowbread, cinnamon, saffron, a drachm, with wax make an ointment and apply it.

If the birth be retarded through the weakness of the mother, refresh her by applying wine and soap to the nose, confect. alkermas. diamarg.

These things may be applied to help nature in her delivery when the child comes to the birth the right way, and yet the birth be retarded; but if she finds the child comes the wrong way, and that she is not able to deliver the woman as she ought to be, by helping nature, and saving both mother and child (for it is not enough to lay a woman if it might be done any other way with more safety and ease, and less hazard to woman and child), then let her send speedily for the better and more able to help; and not as I once knew a midwife do, who, when a woman she was to deliver had hard labour, rather than a man-midwife should be sent for, undertook to deliver the woman herself (though told it was a man's business), and in her attempting it, brought away the child, but left the head in the mother's womb; and had not a man midwife been presently sent for, the mother had lost her life as well as the child; such persons may rather be termed butchers than midwives. But supposing the woman's labour to be natural, I will next show what the midwife ought to do, in order of her delivery.

CHAPTER V

Of Natural Labour; What it is and what the Midwife is to do in such Labour.

SECTION I.—*What Natural Labour is*.

There are four things which denominate a woman's natural labour; the first is, that it be at the full time, for if a woman comes before her time, it cannot be termed natural labour, neither will it be so easy as though she had completed her nine months. The second thing is, that it be speedy, and without any ill accident; for when the time of her birth come, nature is not dilatory in the bringing it forth, without some ill accident intervene, which renders it unnatural.

The third is, that the child be alive; for all will grant, that the being delivered of a dead child is very unnatural. The fourth is, that the child come right, for if the position of the child in the womb be contrary to that which is natural, the event will prove it so, by making that which should be a time of life, the death both of the mother and the child.

Having thus told you what I mean by natural labour, I shall next show how the midwife is to proceed therein, in order to the woman's delivery. When all the foregoing requisites concur, and after the waters be broken of themselves, let there rather a quilt be laid upon the pallet bedstead than a feather bed, having there-on linen and cloths in many folds, with such other things as are necessary, and that may be changed according to the exigency requiring it, so that the woman may not be incommoded with the blood, waters and other filth which are voided in labour. The bed ought to be ordered, that the woman being ready to be delivered, should lie on her back upon it, having her body in a convenient posture; this is, her head and breast a little raised, so that she may be between lying and sitting, for being so placed, she is best capable of breathing, and, likewise, will have more

strength to bear her pains than if she lay otherwise, or sunk down in her bed. Being so placed, she must spread her thighs abroad, folding her legs a little towards her buttocks, somewhat raised by a little pillow underneath, to the end that her rumps should have more liberty to retire back; and let her feet be stayed against some firm thing; besides this, let her take firm hold of some of the good women attending her, with her hands, that she may the better stay herself during her pains. She being thus placed at her bed, having her midwife at hand, the better to assist as nature may require, let her take courage, and help her pains as best she can, bearing them down when they take her, which she must do by holding her breath, and forcing them as much as possible, in like manner as when she goes to stool, for by such straining, the diaphragm, or midriff, being strongly thrust downward, necessarily forces down the womb and the child in it. In the meantime, let the midwife endeavour to comfort her all she can, exhorting her to bear her labour courageously, telling her it will be quickly over, and that there is no fear but that she will have a speedy delivery. Let the midwife also, having no rings on her fingers, anoint them with oil of fresh butter, and therewith dilate gently the inward orifice of the womb putting her finger ends into the entry thereof, and then stretch them one from the other, when her pains take her; by this means endeavouring to help forward the child, and thrusting by little and little, the sides of the orifice towards the hinder part of the child's head, anointing it with fresh butter if it be necessary.

When the head of the infant is a little advanced into the inward orifice, the midwife's phrase is:—"It is crowned"; because it girds and surrounds it just as a crown; but when it is so far that the extremities begin to appear without the privy parts, then they say, "The infant is in the passage"; and at this time the woman feels herself as if it were scratched, or pricked with pins, and is ready to imagine that the midwife hurts her, when it is occasioned by the violent distension of those parts and the laceration which sometimes the bigness of the child's head causeth there. When things are in this posture, let the midwife seat herself conveniently to receive the child, which will come quickly, and with her finger ends (which she must be sure to keep close pared) let her endeavour to thrust the crowning of the womb (of which I have spoken before), back over the head of the child, and as soon as it is advanced as far as the ears, or thereabouts, let her take hold of the two sides with her two hands, that when a good pain comes she may quickly draw

forth the child, taking care that the navel-string be not entangled about the neck or any part, as sometimes it is, lest thereby the after-burden be pulled with violence, and perhaps the womb also, to which it is fastened, and so either cause her to flood or else break the strings, both which are of bad consequence to the woman, whose delivery may thereby be rendered the more difficult. It must also be carefully observed that the head be not drawn forth straight, but shaking it a little from one side to the other, that the shoulders may sooner and easier take their places immediately after it is past, without losing time, lest the head being past, the child be stopped there by the largeness of the shoulders, and so come in danger of being suffocated and strangled in the passage, as it sometimes happens, for the want of care therein. But as soon as the head is born, if there be need, she may slide her fingers under the armpits, and the rest of the body will follow without any difficulty.

As soon as the midwife hath in this manner drawn forth the child, let her put it on one side, lest the blood and water which follows immediately, should do it any injury by running into its mouth and nose, as they would do, if it lay on its back; and so endanger the choking of it. The child being thus born, the next thing requisite is, to bring away the after-burden, but before that let the midwife be very careful to examine whether there be more children in the womb; for sometimes a woman may have twins that expected it not; which the midwife may easily know by the continuance of the pains after the child is born, and the bigness of the mother's belly. But the midwife may be sure of it, if she puts her hand up to the entry of the womb, and finds there another watery gathering, and the child in it presenting to the passage, and if she find it so, she must have a care of going to fetch the after-birth, till the woman be delivered of all the children she is pregnant with. Wherefore the first string must be cut, being first tied with a thread three or four times double, and fasten the other end with string to the woman's thighs, to prevent the inconvenience it may cause by hanging between the thighs; and then removing the child already born, she must take care to deliver her of the rest, observing all the circumstances as with the first; after which, it will be necessary to fetch away the after-birth, or births. But of that I shall treat in another section, and first show what is to be done to the new-born infant.

SECT. II.—*Of the Cutting of the Child's Navel String.*

Though this is accounted by many but as a trifle, yet great care is to be taken about it, and it shows none of the least art and skill of a midwife to do it as it should be; and that it may be so done, the midwife should observe: (1) The time. (2) The place. (3) The manner. (4) The event.

(1) The time is, as soon as ever the infant comes out of the womb, whether it brings part of the after-burden with it or not; for sometimes the child brings into the world a piece of the amnios upon its head, and is what mid wives call the *caul*, and ignorantly attribute some extraordinary virtue to the child so born; but this opinion is only the effect of their ignorance; for when a child is born with such a crown (as some call it) upon its brows, it generally betokens weakness and denotes a short life. But to proceed to the matter in hand. As soon as the child comes into the world, it should be considered whether it is weak or strong; and if it be weak, let the midwife gently put back part of the natural and vital blood into the body of the child by its navel; for that recruits a weak child (the vital and natural spirits being communicated by the mother to the child by its navel-string), but if the child be strong, the operation is needless. Only let me advise you, that many children that are born seemingly dead, may soon be brought to life again, if you squeeze six or seven drops of blood out of that part of the navel-string which is cut off, and give it to the child inwardly.

(2) As to the place in which it should be cut, that is, whether it should be cut long or short, it is that which authors can scarcely agree in, and which many midwives quarrel about; some prescribing it to be cut at four fingers' breadth, which is, at best, but an uncertain rule, unless all fingers were of one size. It is a received opinion, that the parts adapted to the generation are contracted and dilated according to the cutting of the navel-string, and this is the reason why midwives are generally so kind to their own sex, that they leave a longer part of the navel-string of a male than female, because they would have the males well provided for the encounters of Venus; and the reason they give, why they cut that of the female shorter is, because they believe it makes them more acceptable to their husbands. Mizaldus was not altogether of the opinion of these midwives, and he, therefore, ordered the navel string to be cut long both in male and female children; for which he gives the following reason, that the instrument of generation follows the

proportion of it; and therefore, if it be cut too short in a female, it will be a hindrance to her having children. I will not go about to contradict the opinions of Mizaldus; these, experience has made good:—That one is, that if the navel-string of a child, after it be cut, be suffered to touch the ground, the child will never hold its water, either sleeping or waking, but will be subjected to an involuntary making of water all its lifetime. The other is, that a piece of a child's navel-string carried about one, so that it touch his skin, defends him that wears it from the falling sickness and convulsions.

(3) As to the manner it must be cut, let the midwife take a brown thread, four or five times double, of an ell long, or thereabouts, tied with a single knot at each of the ends, to prevent their entangling; and with this thread so accommodated (which the woman must have in readiness before the woman's labour, as also a good pair of scissors, that no time may be lost) let her tie the string within an inch of the belly with a double knot, and turning about the end of the thread, let her tie two more on the other side of the string, reiterating it again, if it be necessary; then let her cut off the navel-string another inch below the ligatures, towards the after-birth, so that there only remains but two inches of the string, in the midst of which will be the knot we speak of, which must be so close knit, as not to suffer a drop of blood to squeeze out of the vessels, but care must be taken, not to knit it so strait, as to out it in two, and therefore the thread must be pretty thick and pretty strait cut, it being better too strait than too loose; for some children have miserably lost their lives, with all their blood, before it was discovered, because the navel-string was not well tied, therefore great care must be taken that no blood squeeze through; for if there do, a new knot must be made with the rest of the string. You need not fear to bind the navel-string very hard because it is void of sense, and that part which you leave, falls off in a very few days, sometimes in six or seven, or sooner, but never tarries longer than eight or nine. When you have thus cut the navel-string, then take care the piece that falls off touch not the ground, for the reason I told you Mizaldus gave, which experience has justified.

(4) The last thing I mentioned, was the event or consequence, or what follows cutting the navel-string. As soon as it is cut, apply a little cotton or lint to the place to keep it warm, lest the cold enter into the body of the child, which it most certainly will do, if you have not bound it hard enough. If the lint or cotton you apply to it, be dipped in oil of roses, it will be the

better, and then put another small rag three or four times double upon the belly; upon the top of all, put another small bolster, and then swathe it with a linen swathe, four fingers broad, to keep it steady, lest by moving too much, or from being continually stirred from side to side, it comes to fall off before the navel-string, which you left remaining, is fallen off.

It is the usual custom of midwives to put a piece of burnt rag to it, which we commonly call tinder; but I would rather advise them to put a little ammoniac to it, because of its drying qualities.

SECT. III.—*How to bring away the After-burden.*

A woman cannot be said to be fairly delivered, though the child be born, till the after-burden be also taken from her; herein differing from most animals, who, when they have brought forth their young, cast forth nothing else but some water, and the membranes which contained them. But women have an after-labour, which sometimes proves more dangerous than the first; and how to bring it safely away without prejudice to her, shall be my business to show in this section.

As soon as the child is born, before the midwife either ties or cuts the navel-string, lest the womb should close, let her take the string and wind it once or twice about one or two fingers on her left hand joined together, the better to hold it, with which she may draw it moderately, and with the right hand, she may only take a single hold of it, above the left, near the privities, drawing likewise with that very gently, resting the while the forefinger of the same hand, extended and stretched forth along the string towards the entrance of the vagina, always observing, for the greater facility, to draw it from the side where the burden cleaves least; for in so doing, the rest will separate the better; and special care must be taken that it be not drawn forth with too much violence, lest by breaking the string near the burden, the midwife be obliged to put the whole hand into the womb to deliver the woman; and she need to be a very skilful person that undertakes it, lest the womb, to which the burden is sometimes very strongly fastened, be drawn away with it, as has sometimes happened. It is, therefore, best to use such remedies as may assist nature. And here take notice, that what brings away the birth, will also

bring away the after-birth. And therefore, for effecting this work, I will lay down the following rules.

(1) Use the same means of bringing away the after-birth, that you made use of to bring away the birth; for the same care and circumspection are needful now that there were then.

(2) Considering that the labouring woman cannot but be much spent by what she has already undergone in bringing forth the infant, be therefore sure to give her something to comfort her. And in this case good jelly broths, also a little wine and toast in it, and other comforting things, will be necessary.

(3) A little hellebore in powder, to make her sneeze, is in this case very proper.

(4) Tansey, and the stone aetites, applied as before directed, are also of good use in this case.

(5) If you take the herb vervain, and either boil it in wine, or a syrup with the juice of it, which you may do by adding to it double its weight of sugar (having clarified the juice before you boil it), a spoonful of that given to the woman is very efficacious to bring away the secundine; and feverfew and mugwort have the same operation taken as the former.

(6) Alexanders [10] boiled in wine, and the wine drank, also sweet servile, sweet cicily, angelica roots, and musterwort, are excellent remedies in this case.

(7) Or, if this fail, the smoke of marigolds, received up a woman's privities by a funnel, have been known to bring away the after-birth, even when the midwife let go her hold.

(8) Boil mugwort in water till it be very soft, then take it out, and apply it in the manner of a poultice to the navel of the labouring woman, and it instantly brings away the birth. But special care must be taken to remove it as soon as they come away, lest by its long tarrying it should draw away the womb also.

SECT. IV.—*Of Laborious and Difficult Labours and how the Midwife is to proceed therein.*

There are three sorts of bad labours, all painful and difficult, but not all properly unnatural. It will be necessary, therefore, to distinguish these.

The *first* of these labours is that when the mother and child suffer very much extreme pain and difficulty, even though the child come right; and this is distinguishably called the laborious labour.

The *second* is that which is difficult and differs not much from the former, except that, besides those extraordinary pains, it is generally attended with some unhappy accident, which, by retarding the birth, causes the difficulty; but these difficulties being removed, it accelerates the birth, and hastens the delivery.

Some have asked, what is the reason that women bring forth their children with so much pain? I answer, the sense of feeling is distributed to the whole body by the nerves, and the mouth of the womb being so narrow, that it must of necessity be dilated at the time of the woman's delivery, the dilating thereof stretches the nerves, and from thence comes the pain. And therefore the reason why some women have more pain in their labour than others, proceeds from their having the mouth of the matrix more full of nerves than others. The best way to remove those difficulties that occasion hard pains and labour, is to show first from whence they proceed. Now the difficulty of labour proceeds either from the mother, or child, or both.

From the mother, by reason of the indisposition of the body, or from some particular part only, and chiefly the womb, as when the woman is weak, and the mother is not active to expel the burden, or from weakness, or disease, or want of spirits; or it may be from strong passion of the mind with which she was once possessed; she may also be too young, and so may have the passage too narrow; or too old, and then, if it be her first child, because her pains are too dry and hard, and cannot be easily dilated, as happens also to them which are too lean; likewise those who are small, short or deformed, as crooked women who have not breath enough to help their pains, and to bear them down, persons that are crooked having sometimes the bones of the passage not well shaped. The colic also hinders labour, by preventing

the true pains; and all great and active pains, as when the woman is taken with a great and violent fever, a great flooding, frequent convulsions, bloody flux, or any other great distemper. Also, excrements retained cause great difficulty, and so does a stone in the bladder: or when the bladder is full of urine, without being able to void it, or when the woman is troubled with great and painful piles. It may also be from the passages, when the membranes are thick, the orifice too narrow, and the neck of the womb not sufficiently open, the passages strained and pressed by tumours in the adjacent parts, or when the bones are too firm, and will not open, which very much endangers the mother and the child; or when the passages are not slippery, by reason of the waters having broken too soon, or membranes being too thin. The womb may also be out of order with regard to its bad situation or conformation, having its neck too narrow, hard and callous, which may easily be so naturally, or may come by accident, being many times caused by a tumour, an imposthume, ulcer or superfluous flesh.

As to hard labour occasioned by the child, it is when the child happens to stick to a mole, or when it is so weak it cannot break the membranes; or if it be too big all over, or in the head only; or if the natural vessels are twisted about its neck; when the belly is hydropsical; or when it is monstrous, having two heads, or joined to another child, also, when the child is dead or so weak that it can contribute nothing to its birth; likewise when it comes wrong, or there are two or more. And to all these various difficulties there is oftentimes one more, and that is, the ignorance of the midwife, who for want of understanding in her business, hinders nature in her work instead of helping her.

Having thus looked into the cause of hard labour, I will now show the industrious midwife how she may minister some relief to the labouring woman under these difficult circumstances. But it will require judgment and understanding in the midwife, when she finds a woman in difficult labour, to know the particular obstruction, or cause thereof, that so a suitable remedy may be applied; as for instance, when it happens by the mother's being too young and too narrow, she must be gently treated, and the passages anointed with oil, hog's lard, or fresh butter, to relax and dilate them the easier, lest there should happen a rupture of any part when the child is born; for sometimes the peritoneum breaks, with the skin from the privities to the fundament.

But if the woman be in years with her first child, let her lower parts be anointed to mollify the inward orifice, which in such a case being more hard and callous, does not easily yield to the distention of labour, which is the true cause why such women are longer in labour, and also why their children, being forced against the inward orifice of the womb (which, as I have said, is a little callous) are born with great bumps and bruises on their heads.

Those women who are very small and mis-shaped, should not be put to bed, at least until the waters are broken, but rather kept upright and assisted to walk about the chamber, by being supported under the arms; for by that means, they will breathe more freely, and mend their pains better than on the bed, because there they lie all of a heap. As for those that are very lean, and have hard labour from that cause, let them moisten the parts with oil and ointments, to make them more smooth and slippery, that the head of the infant, and the womb be not so compressed and bruised by the hardness of the mother's bones which form the passage. If the cause be weakness, she ought to be strengthened, the better to support her pains, to which end give her good jelly broths, and a little wine with a toast in it. If she fears her pains, let her be comforted, assuring her that she will not endure any more, but be delivered in a little time. But if her pains be slow and small, or none at all, they must be provoked by frequent and pretty strong clysters; let her walk about her chamber, so that the weight of the child may help them forward. If she flood or have strong convulsions she must then be helped by a speedy delivery; the operation I shall relate in this section of unnatural labours. If she be costive, let her use clysters, which may also help to dispel colic, at those times very injurious because attended with useless pains, and because such bear not downward, and so help not to forward the birth. If she find an obstruction or stoppage of the urine, by reason of the womb's bearing too much on the bladder, let her lift up her belly a little with her hands, and try if by that she receives any benefit; if she finds she does not, it will be necessary to introduce a catheter into her bladder, and thereby draw forth her urine. If the difficulty be from the ill posture of the woman, let her be placed otherwise, in a posture more suitable and convenient for her; also if it proceeds from indispositions of the womb, as from its oblique situation, etc., it must be remedied, as well as it can be, by the placing her body accordingly; or, if it be a vicious conformation, having the neck too

hard, too callous, too straight, it must be anointed with oil and ointments, as before directed. If the membranes be so strong that the waters do not break in due time, they may be broken with the fingers, if the midwife be first well assured that the child is come forward into the passage, and ready to follow presently after; or else, by the breaking of the waters too soon, the child may be in danger of remaining dry a long time; to supply which defect, you may moisten the parts with fomentations, decoctions, and emollient oils; which yet is not half so well as when nature does her work in her own time, with the ordinary slime and waters. The membranes sometimes do press forth with the waters, three or four fingers' breadth out of the body before the child resembling a bladder full of water; but there is no great danger in breaking them, if they be not already broken; for when the case is so, the child is always in readiness to follow, being in the passage, but let the midwife be very careful not to pull it with her hand, lest the after-burden be thereby loosened before its time, for it adheres thereto very strongly. If the navel-string happen to come first, it must presently be put up again, and kept so, if possible, or otherwise, the woman must be immediately delivered. But if the after-burden should come first, it must not be put up again by any means; for the infant having no further occasion for it, it would be but an obstacle if it were put up; in this case, it must be cut off, having tied the navel-string, and afterwards draw forth the child with all speed that may be, lest it be suffocated.

SECT. V.—*Of Women labouring of a dead Child*.

When the difficulty of labour arises from a dead child, it is a great danger to a mother and great care ought to be taken therein; but before anything be done, the midwife ought to be well assured that the child is dead indeed, which may be known by these signs.

(1) The breast suddenly slacks, or falls flat, or bags down. (2) A great coldness possesses the belly of the mother, especially about the navel. (3) Her urine is thick, with a filthy stinking settling at the bottom. (4) No motion of the child can be perceived; for the trial whereof, let the midwife put her hand into warm water, and lay it upon the belly, for that, if it is alive, will make it stir. (5) She is very subject to dreams of dead men, and

affrighted therewith. (6) She has extraordinary longings to eat such things as are contrary to nature. (7) Her breath stinks, though not used so to do. (8) When she turns herself in her bed, the child sways that way like a lump of lead.

These things being carefully observed, the midwife may make a judgment whether the child be alive or dead, especially if the woman take the following prescription:—"Take half a pint of white wine and burn it, and add thereto half an ounce of cinnamon, but no other spices whatever, and when she has drunk it, if her travailing pains come upon her, the child is certainly dead; but if not, the child may possibly be either weak or sick, but not dead. This will bring her pains upon her if it be dead, and will refresh the child and give her ease if it be living; for cinnamon refresheth and strengtheneth the child.

Now, if upon trial it be found the child is dead, let the mother do all she can to forward the delivery, because a dead child can in no wise be helpful therein. It will be necessary, therefore, that she take some comfortable things to prevent her fainting, by reason of the putrid vapours arising from the dead child. And in order to her delivery let her take the following herbs boiled in white wine (or at least as many of them as you can get), viz., dittany, betony, pennyroyal, sage, feverfew, centaury, ivy leaves and berries. Let her also take sweet basil in powder, and half a drachm at a time in white wine; let her privities also be anointed with the juice of the garden tansey. Or take the tansey in the summer when it can most plentifully be had, and before it runs up to flower, and having bruised it well, boil it in oil until the juice of it be consumed. If you set it in the sun, after you have mixed it with oil, it will be more effectual. This, an industrious midwife, who would be prepared against all events, ought to have always by her. As to the manner of her delivery, the same methods must be used as are mentioned in the section of natural labour. And here again, I cannot but commend the stone aetites, held near the privities, whose magnetic virtue renders it exceedingly necessary on this occasion, for it draws the child any way with the same facility that the load-stone draws iron.

Let the midwife also make a strong decoction of hyssop with water, and let the woman drink it very hot, and it will in a little time bring away the dead child.

If, as soon as she is delivered of the dead child, you are in doubt that part of the afterbirth is left behind in the body (for in such cases as these many times it rots, and comes away piece-meal), let her continue drinking the same decoction until her body be cleansed.

A decoction made of herbs, muster-wort, used as you did the decoction of hyssop, works the effect. Let the midwife also take the roots of pollodum and stamp them well; warm them a little and bind them on the sides of her feet, and it will soon bring away the child either dead or alive.

The following medicines also are such as stir up the expulsive faculty, but in this case they must be stronger, because the motion of the child ceases.

Take savine, round birthwort, trochisks of myrrh, castor, cinnamon and saffron, each half a drachm; make a powder, give a drachm.

Or she may purge first, and then apply an emollient, anointing her about the womb with oil of lilies, sweet almonds, camomiles, hen and goose-grease. Also foment to get out the child, with a decoction of mercury, orris, wild cucumbers, saecus, broom flowers. Then anoint the privities and loins with ointment of sow-bread. Or, take coloquintida, agaric, birthwort, of each a drachm; make a powder, add ammoniacum dissolved in wine, ox-gall, each two drachms. Or make a fume with an ass's hoof burnt, or gallianum, or castor, and let it be taken in with a funnel.

To take away pains and strengthen the parts, foment with the decoction of mugwort, mallows, rosemary, with wood myrtle, St. John's wort, each half an ounce, spermaceti two drachms, deer's suet, an ounce; with wax make an ointment. Or take wax six ounces, spermaceti an ounce; melt them, dip flux therein, and lay it all over her belly.

If none of these things will do, the last remedy is to try surgery, and then the midwife ought without delay to send for an expert and able man-midwife, to deliver her by manual operation, of which I shall treat more at large in the next chapter.

FOOTNOTES:

[10]

Horse-parsley.

CHAPTER VI

Of Unnatural Labour.

In showing the duty of a midwife, when the child-bearing woman's labour is unnatural, it will be requisite to show, in the first place, what I mean by unnatural labour, for that women do bring forth in pain and sorrow is natural and common to all. Therefore, that which I call unnatural is, when the child comes to the birth in a contrary posture to that which nature ordained, and in which the generality of the children come into the world.

The right and natural birth is when the child comes with its head first; and yet this is too short a definition of a natural birth; for if any part of the head but the crown comes first, so that the body follows not in a straight line, it is a wrong and difficult birth, even though the head comes first. Therefore, if the child comes with its feet first, or with the side across, it is quite contrary to nature, or to speak more plainly, that which I call unnatural.

Now, there are four general ways a child may come wrong. (1) When any of the foreparts of the body first present themselves. (2) When by an unhappy transposition, any of the hinder parts of the body first present themselves. (3) When either of the sides, or, (4) the feet present themselves first. To these, the different wrong postures that a child can present itself in, may be reduced.

SECTION I.—*How to deliver a Woman of a Dead Child by Manual Operation*.

When manual operation is necessary, let the operator acquaint the woman of the absolute necessity there is for such an operation; and that, as the child has already lost its life, there is no other way left for the saving hers. Let him also inform her, for her encouragement, that he doubts not, with the

divine blessing, to deliver her safely, and that the pains arising therefrom will not be so great as she fears. Then let him stir up the woman's pains by giving her some sharp clyster, to excite her throes to bear down, and bring forth the child. And if this prevails not, let him proceed with the manual operation.

First, therefore, let her be placed across the bed that he may operate the easier; and let her lie on her back, with her hips a little higher than her head, or at least the body equally placed, when it is necessary to put back or turn the infant to give it a better posture. Being thus situated, she must fold her legs so as her heels be towards her buttocks, and her thighs spread, and so held by a couple of strong persons, there must be others also to support her under her arms, that the body may not slide down when the child is drawn forth; for which sometimes great strength is required. Let the sheets and blankets cover her thighs for decency's sake, and with respect to the assistants, and also to prevent her catching cold; the operator herein governing himself as well with respect to his convenience, and the facility and surety of the operation, as to other things. Then let him anoint the entrance to the womb with oil or fresh butter, if necessary, that with so more ease he may introduce his hand, which must also be anointed, and having by the signs above mentioned, received satisfaction that the child is dead, he must do his endeavours to fetch it away as soon as he possibly can. If the child offer the head first, he must gently put it back until he hath liberty to introduce his hand quite into the womb; then sliding it along, under the belly, to find the feet, let him draw it forth by them, being very careful to keep the head from being locked into the passage; and that it be not separated from the body; which may be effected the more easily, because the child being very rotten and putrefied, the operator need not be so mindful to keep the breast and face downwards as he is in living births. But if notwithstanding all these precautions, by reason of the child's putrefaction, the head should be separated and left behind in the womb, it must be drawn forth according to the directions which have been given in the third section of this chapter. But when the head, coming first, is so far advanced that it cannot well be put back, it is better to draw it forth so, than to torment the woman too much by putting it back to turn it, and bring it by the feet; but the head being a part round and slippery, it may also happen that the operator cannot take hold of it with his fingers by reason of its

moisture, nor put them up to the side of it, because the passage is filled with its bigness; he must, therefore, take a proper instrument, and put it up as far as he can without violence, between the womb and the child's head (for the child being dead before, there can be no danger in the operation), and let him fasten it there, giving it hold upon one of the bones of the skull, that it may not slide, and after it is well fixed in the head, he may therewith draw it forth, keeping the ends of the fingers of his left hand flat upon the opposite side, the better to help to disengage it, and by wagging it a little, to conduct it directly out of the passage, until the head be quite born; and then, taking hold of it with his hands only, the shoulders being drawn into the passage, and so sliding the fingers of both hands under the armpits, the child may be quite delivered, and then the after-burden fetched, to finish the operation, being careful not to pluck the navel-string too hard lest it break, as often happens when it is corrupt.

If the dead child comes with the arm up to the shoulders so extremely swelled that the woman must suffer too great violence to have it put back, it is then (being first well assured the child is dead) best to take it off by the shoulder joints, by twisting three or four times about, which is very easily done by reason of the softness and tenderness of the body. After the arm is so separated, and no longer possesses the passage, the operator will have more room to put up his hand into the womb, to fetch the child by the feet and bring it away.

But although the operator is sure the child is dead in the womb, yet he must not therefore presently use instruments because they are never to be used but when hands are not sufficient, and there is no other remedy to prevent the woman's danger, or to bring forth the child any other way; and the judicious operator will choose that way which is the least hazardous, and most safe.

SECT. II.—*How a Woman must be Delivered when the Child's Feet come first.*

There is nothing more obvious to those whose business it is to assist labouring women, than that the several unnatural postures in which children

present themselves at the birth are the occasions of most of the bad labours and ill accidents that happen to them in that condition.

And since midwives are often obliged, because of their unnatural situations, to draw the children forth by the feet, I conceive it to be most proper first to show how a child must be brought forth that presents itself in that posture, because it will be a guide to several of the rest.

I know indeed in this case it is the advice of several authors to change the figure, and place the head so that it may present to the birth, and this counsel I should be very much inclined to follow, could they but also show how it may be done. But it will appear very difficult, if not impossible to be performed, if we would avoid the danger that by such violent agitations both the mother and the child must be put into, and therefore my opinion is, that it is better to draw forth by the feet, when it presents itself in that posture, than to venture a worse accident by turning it.

As soon, therefore, as the waters are broken, and it is known that the child come thus and that the womb is open enough to admit the midwife's or operator's hand into it, or else by anointing the passage with oil or hog's grease, to endeavour to dilate it by degrees, using her fingers to this purpose, spreading them one from the other, after they are together entered, and continue to do so until they be sufficiently dilated, then taking care that her nails be well pared, no rings on her fingers and her hands well anointed with oil or fresh butter, and the woman placed in the manner directed in the former section, let her gently introduce her hand into the entrance of the womb, where finding the child's feet, let her draw it forth in the manner I shall presently direct; only let her first see whether it presents one foot or both, and if but one foot, she ought to consider whether it be the right foot or the left, and also in what fashion it comes; for by that means she will soon come to know where to find the other, which as soon as she knows and finds, let her draw it forth with the other; but of this she must be specially careful, viz., that the second be not the foot of another child; for if so, it may be of the utmost consequence, for she may sooner split both mother and child, than draw them forth. But this may be easily prevented if she but slide the hand up by the first leg and thigh to the waist, and there finding both thighs joined together, and descending from one and the same body.

And this is also the best means to find the other foot, when it comes but with one.

As soon as the midwife has found both the child's feet, she may draw them forth, and holding them together, may bring them little by little in this manner, taking afterwards hold of the arms and thighs, as soon as she can come at them, drawing them so till the hips come forth. While this is doing, let her observe to wrap the parts in a single cloth, so that her hands being always greasy slide not in the infant's body, which is very slippery, because of the vicious humours which are all over it; which being done, she may take hold under the hips, so as to draw it forth to the beginning of the breast; and let her on both sides with her hand bring down the child's hand along its body, which she may easily find; and then let her take care that the belly and face of the child be downwards; for if they should be upwards, there would be the same danger of its being stopped by the chin, over the share-bone, and therefore, if it be not so she must turn it to that posture; which may easily be done if she takes a proper hold of the body when the breasts and arms are forth, in the manner we have said, and draw it, turning it in proportion on that side it most inclines to, till it be turned with the face downwards, and so, having brought it to the shoulders, let her lose no time, desiring the woman at the same time to bear down, that so drawing the head at that instant may take its place, and not be stopped in the passage, though the midwife takes all possible care to prevent it. And when this happens, she must endeavour to draw forth the child by the shoulders (taking care that she separate not the body from the head, as I have known it done by the midwife), discharging it by little and little from the bones in the passage with the fingers of each hand, sliding them on each side opposite the other, sometimes above and sometimes under, till the work be ended; endeavouring to dispatch it as soon as possible, lest the child be suffocated, as it will unavoidably be, if it remain long in that posture; and this being well and carefully effected, she may soon after fetch away the after-birth, as I have before directed.

SECT. III.—*How to bring away the Head of the Child, when separated from the Body, and left behind in the Womb.*

Though the utmost care be taken in bringing away the child by the feet, yet if it happen to be dead, it is sometimes so putrid and corrupt, that with the least pull the head separates from the body and remains alone in the womb, and cannot be brought away but with a manual operation and great difficulty, it being extremely slippery, by reason of the place where it is, and from the roundness of its figure, on which no hold can well be taken; and so very great is the difficulty in this case that sometimes two or three very able practitioners in midwifery have, one after the other, left the operation unfinished, as not able to effect it, after the utmost industry, skill and strength; so that the woman, not being able to be delivered, perished. To prevent which fatal accident, let the following operation be observed.

When the infant's head separates from the body, and is left alone behind, whether owing to putrefaction or otherwise, let the operator immediately, without any delay, while the womb is yet open, direct up his right hand to the mouth of the head (for no other hole can there be had), and having found it let him put one or two of his fingers into it, and the thumb under its chin; then let him draw it little by little, holding it by the jaws; but if that fails, as sometimes it will when putrefied, then let him pull off the right hand and slide up his left, with which he must support the head, and with the right hand let him take a narrow instrument called a *crochet*, but let it be strong and with a single branch, which he must guide along the inside of his hand, with the point of it towards it, for fear of hurting the womb; and having thus introduced it, let him turn it towards the head to strike either in an eyehole, or the hole of the ear, or behind the head, or else between the sutures, as he finds it most convenient and easy; and then draw forth the head so fastened with the said instrument, still helping to conduct it with his left hand; but when he hath brought it near the passage, being strongly fastened to the instrument, let him remember to draw forth his hand, that the passage not being filled with it, may be larger and easier, keeping still a finger or two on the side of the head, the better to disengage it.

There is also another method, with more ease and less hardship than the former; let the operator take a soft fillet or linen slip, of about four fingers' breadth, and the length of three quarters of an ell or thereabouts, taking the two ends with the left hand, and the middle with the right, and let him so put it up with his right, as that it may be beyond the head, to embrace it as a sling does a stone, and afterwards draw forth the fillet by the two ends

together; it will thus be easily drawn forth, the fillet not hindering the least passage, because it takes up little or no space.

When the head is fetched out of the womb care must be taken that not the least part of it be left behind, and likewise to cleanse the womb of the after-burden, if yet remaining. If the burden be wholly separated from the side of the womb, that ought to be first brought away, because it may also hinder the taking hold of the head. But if it still adheres to the womb, it must not be meddled with till the head be brought away; for if one should endeavour to separate it from the womb, it might then cause a flooding, which would be augmented by the violence of the operation, the vessels to which it is joined remaining for the most part open as long as the womb is distended, which the head causeth while it is retained in it, and cannot be closed until this strange body be voided, and this it doth by contracting and compressing itself together, as has been more fully before explained. Besides, the after-birth remaining thus cleaving to the womb during the operation, prevents it from receiving easily either bruise or hurt.

SECT. IV.—*How to deliver a Woman when the child's head is presented to the birth.*

Though some may think it a natural labour when the child's head come first, yet, if the child's head present not the right way, even that is an unnatural labour; and therefore, though the head comes first, yet if it be the side of the head instead of the crown, it is very dangerous both to the mother and the child, for the child's neck would be broken, if born in that manner, and by how much the mother's pains continue to bear the child, which is impossible unless the head be rightly placed, the more the passages are stopped. Therefore, as soon as the position of the child is known, the woman must be laid with all speed, lest the child should advance further than this vicious posture, and thereby render it more difficult to thrust it back, which must be done, in order to place the head right in the passage, as it ought to be.

To this purpose, therefore, place the woman so that her buttocks may be a little higher than her head and shoulders, causing her to lean a little to the

opposite side to the child's ill posture; then let the operator slide up his hand, well anointed with oil, by the side of the child's head; to bring it right gently, with his fingers between the head and the womb; but if the head be so engaged that it cannot be done that way, he must then put up his hand to the shoulders, that by so thrusting them back a little into the womb, sometimes on the one side, and sometimes on the other, he may, little by little, give a natural position. I confess it would be better if the operator could put back the child by its shoulders with both hands, but the head takes up so much room, that he will find much ado to put up one, with which he must perform this operation, and, with the help of the finger-ends of the other hand put forward the child's birth as in natural labour.

Some children present their face first, having their hands turned back, in which posture it is extremely difficult for a child to be born; and if it continues so long, the face will be swelled and become black and blue, so that it will at first appear monstrous, which is occasioned as well by the compression of it in that place, as by the midwife's fingers in handling it, in order to place it in a better posture. But this blackness will wear away in three or four days' time, by anointing it often with oil of sweet almonds. To deliver the birth, the same operation must be used as in the former, when the child comes first with the side of the head; only let the midwife or operator work very gently to avoid as much as possible the bruising the face.

SECT. V.—*How to Deliver a Woman when the Child presents one or both Hands together with the Head.*

Sometimes the infant will present some other part together with its head; which if it does, it is usually with one or both of its hands; and this hinders the birth, because the hands take up part of that passage which is little enough for the head alone; besides that, when this happens, they generally cause the head to lean on one side; and therefore this position may be well styled unnatural. When the child presents thus, the first thing to be done after it is perceived, must be, to prevent it from coming down more, or engaging further in the passage; and therefore, the operator having placed

the woman on the bed, with her head lower than her buttocks, must guide and put back the infant's hand with his own as much as may be, or both of them, if they both come down, to give way to the child's head; and this being done, if the head be on one side, it must be brought into its natural posture in the middle of the passage, that it may come in a straight line, and then proceed as directed in the foregoing section.

SECT. VI.—*How a Woman ought to be delivered, when the Hands and Feet of the Infant come together.*

There are none but will readily grant, that when the hands and feet of an infant present together, the labour must be unnatural, because it is impossible a child should be born in that manner. In this case, therefore, when the midwife guides her hand towards the orifice of the womb she will perceive only many fingers close together, and if it be not sufficiently dilated, it will be a good while before the hands and feet will be exactly distinguished; for they are sometimes so shut and pressed together, that they seem to be all of one and the same shape, but where the womb is open enough to introduce the hand into it, she will easily know which are the hands and which are the feet; and having taken particular notice thereof, let her slide up her hand and presently direct it towards the infant's breast, which she will find very near, and then let her gently thrust back the body towards the bottom of the womb, leaving the feet in the same place where she found them. And then, having placed the woman in a convenient posture, that is to say, her buttocks a little raised above her breast (and which situation ought also to be observed when the child is to be put back into the womb), let the midwife afterwards take hold of the child by the feet, and draw it forth, as is directed in the second section.

This labour, though somewhat troublesome, yet is much better than when the child presents only its hands; for then the child must be quite turned about before it can be drawn forth; but in this they are ready, presenting themselves, and there is little to do, but to lift and thrust back the upper part of the body, which is almost done of itself, by drawing it by the feet alone.

I confess there are many authors that have written of labours, who would have all wrong births reduced to a natural figure, which is, to turn it that it may come with the head first. But those that have written thus, are such as never understood the practical part, for if they had the least experience therein, they would know that it is impossible; at least, if it were to be done, that violence must necessarily be used in doing it, that would probably be the death both of mother and child in the operation. I would, therefore, lay down as a general rule, that whenever a child presents itself wrong to the birth, in what posture so ever, from the shoulders to the feet, it is the way, and soonest done, to draw it out by the feet; and that it is better to search for them, if they do not present themselves, than to try and put them in their natural posture, and place the head foremost; for the great endeavours necessary to be used in turning the child in the womb, do so much weaken both the mother and the child, that there remains not afterwards strength enough to commit the operation to the work of nature; for, usually, the woman has no more throes or pains fit for labour after she has been so wrought upon; for which reason it would be difficult and tedious at best; and the child, by such an operation made very weak, would be in extreme danger of perishing before it could be born. It is, therefore, much better in these cases to bring it away immediately by the feet, searching for them as I have already directed, when they do not present themselves; by which the mother will be prevented a tedious labour, and the child be often brought alive into the world, who otherwise could hardly escape death.

SECT. VII.—*How a Woman should be delivered that has twins, which present themselves in different postures.*

We have already spoken something of the birth of twins in the chapter of natural labour, for it is not an unnatural labour barely to have twins, provided they come in the right position to the birth. But when they present themselves in different postures, they come properly under the denomination of unnatural labours; and if when one child presents itself in a wrong figure, it makes the labour dangerous and unnatural, it must needs make it much more so when there are several, and render it not only more painful to the mother and children, but to the operator also; for they often

trouble each other and hinder both their births. Besides which the womb is so filled with them, that the operator can hardly introduce his hand without much violence, which he must do, if they are to be turned or thrust back, to give them a better position.

When a woman is pregnant with two children, they rarely present to the birth together, the one being generally more forward than the other; and that is the reason that but one is felt, and that many times the midwife knows not that there are twins until the first is born, and that she is going to fetch away the afterbirth. In the first chapter, wherein I treated of natural labour, I have showed how a woman should be delivered of twins, presenting themselves both right; and before I close the chapter of unnatural labour, it only remains that I show what ought to be done when they either both come wrong or one of them only, as for the most part it happens; the first generally coming right, and the second with the feet forward, or in some worse posture. In such a case, the birth of the first must be hastened as much as possible and to make way for the second, which is best brought away by the feet, without endeavouring to place it right, because it has been, as well as the mother, already tired and weakened by the birth of the first, and there would be greater danger to its death, than likelihood of its coming out of the womb that way.

But if, when the first is born naturally, the second should likewise offer its head to the birth, it would then be best to leave nature to finish what she has so well begun, and if nature should be too slow in her work, some of those things mentioned in the fourth chapter to accelerate the birth, may be properly enough applied, and if, after that, the second birth should be delayed, let a manual operation be delayed no longer, but the woman being properly placed, as has been before directed, let the operator direct his hand gently into the womb to find the feet, and so draw forth the second child, which will be the more easily effected, because there is a way made sufficiently by the birth of the first; and if the waters of the second child be not broke, as it often happens, yet, intending to bring it by its feet, he need not scruple to break the membranes with his fingers; for though, when the birth of a child is left to the operation of nature, it is necessary that the waters should break of themselves, yet when the child is brought out of the womb by art, there is no danger in breaking them, nay, on the contrary it

becomes necessary; for without the waters are broken, it will be almost impossible to turn the child.

But herein principally lies the care of the operator, that he be not deceived, when either the hands or feet of both children offer themselves together to the birth; in this case he ought well to consider the operation, of whether they be not joined together, or any way monstrous, and which part belongs to one child and which to the other; so that they may be fetched one after the other, and not both together, as may be, if it were not duly considered, taking the right foot of one and the left of the other, and so drawing them together, as if they both belonged to one body, because there is a left and a right, by which means it would be impossible to deliver them. But a skilful operator will easily prevent this, if, after having found two or three of several children presenting together in the passage, and taking aside two of the forwardest, a right and a left, and sliding his arm along the legs and thighs up to the wrist, if forward, or to the buttocks, if backwards, he finds they both belong to one body; of which being thus assured, he may begin to draw forth the nearest, without regarding which is the strongest or weakest, bigger or less, living or dead, having first put aside that part of the other child which offers to have the more way, and so dispatch the first as soon as may be, observing the same rules as if there were but one, that is keeping the breast and face downwards, with every circumstance directed in that section where the child comes with its feet first, and not fetch the burden till the second child is born. And therefore, when the operator hath drawn forth one child, he must separate it from the burden, having tied and cut the navel-string, and then fetch the other by the feet in the same manner, and afterwards bring away the after-burden with the two strings as hath been before showed. If the children present any other part but the feet, the operator may follow the same method as directed in the foregoing section, where the several unnatural positions are fully treated of.

CHAPTER VII

Directions for Child-bearing Women in their Lying-in.

SECTION I.—*How a Woman newly Delivered ought to be ordered.*

As soon as she is laid in her bed, let her be placed in it conveniently for ease and rest, which she stands in great need of to recover herself of the great fatigue she underwent during her travail, and that she may lie the more easily let her hands and body be a little raised, that she may breathe more freely, and cleanse the better, especially of that blood which then comes away, that so it may not clot, which being retained causeth great pain.

Having thus placed her in bed, let her take a draught of burnt white wine, having a drachm of spermaceti melted therein. The best vervain is also singularly good for a woman in this condition, boiling it in what she either eats or drinks, fortifying the womb so exceedingly that it will do it more good in two days, than any other thing does in double that time, having no offensive taste. And this is no more than what she stands in need of; for her lower parts being greatly distended until the birth of the infant, it is good to endeavour the prevention of an inflammation there. Let there also be outwardly applied, all over the bottom of her belly and privities, the following anodyne and cataplasm:—Take two ounces of oil of sweet almonds, and two or three new laid eggs, yolks and whites, stirring them together in an earthen pipkin over hot embers till they come to the consistence of a poultice; which being spread upon a cloth, must be applied to those parts indifferently warm, having first taken away the closures (which were put to her presently after her delivery), and likewise such clots of blood as were then left. Let this lie on for five or six hours, and then renew it again when you see cause.

Great care ought to be taken at first, that if her body be very weak, she be not kept too hot, for extremity of heat weakens nature and dissolves the strength; and whether she be weak or strong, be sure that no cold air comes near her at first; for cold is an enemy to the spermatic parts; if it get into the womb it increases the after pains, causes swelling in the womb and hurts the nerves. As to her diet, let it be hot, and let her eat but little at a time. Let her avoid the light for the first three days, and longer if she be weak, for her labour weakens her eyes exceedingly, by a harmony between the womb and them. Let her also avoid great noise, sadness and trouble of mind.

If the womb be foul, which may easily be perceived by the impurity of the blood (which will then easily come away in clots or stinking, or if you suspect any of the after-burden to be left behind, which may sometimes happen), make her drink a feverfew, mugwort, pennyroyal and mother of thyme, boiled in white wine and sweetened with sugar.

Panado and new laid eggs are the best meat for her at first, of which she may eat often, but not too much at a time. And let her nurse use cinnamon in all her meats and drinks, for it generally strengthens the womb.

Let her stir as little as may be until after the fifth, sixth, or seventh day after her delivery, if she be weak; and let her talk as little as possible, for that weakens her very much.

If she goes not well to stool, give a clyster made only of the decoction of mallows and a little brown sugar.

When she hath lain in a week or more, let her use such things as close the womb, of which knot-grass and comfrey are very good, and to them you may add a little polypodium, for it will do her good, both leaves and root being bruised.

SECT. II.—*How to remedy those Accidents which a Lying-in Woman is subject to*.

I. The first common and usual accident that troubles women in their lying-in is after-pains. They proceed from cold and wind contained in the bowels,

with which they are easily filled after labour, because then they have more room to dilate than when the child was in the womb, by which they were compressed; and also, because nourishment and matter, contained as well in them as in the stomach, have been so confusedly agitated from side to side during the pains of labour, by the throes which always must compress the belly, that they could not be well digested, whence the wind is afterwards generated and, by consequence, the gripes which the woman feels running into her belly from side to side, according as the wind moves more or less, and sometimes likewise from the womb, because of the compression and commotion which the bowels make. This being generally the case, let us now apply a suitable remedy.

1. Boil an egg soft, and pour out the yolk of it, with which mix a spoonful of cinnamon water, and let her drink it; and if you mix in it two grains of ambergris, it will be better; and yet vervain taken in anything she drinks, will be as effectual as the other.

2. Give a lying-in woman, immediately after delivery, oil of sweet almonds and syrup of maiden-hair mixed together. Some prefer oil of walnuts, provided it be made of nuts that are very good; but it tastes worse than the other at best. This will lenify the inside of the intestines by its unctuousness, and by that means bring away that which is contained in them more easily.

3. Take and boil onions well in water, then stamp them with oil of cinnamon, spread them on a cloth, and apply them to the region of the womb.

4. Let her be careful to keep her belly warm, and not to drink what is too cold; and if the pain prove violent, hot cloths from time to time must be laid on her belly, or a pancake fried in walnut oil may be applied to it, without swathing her belly too strait. And for the better evacuating the wind out of the intestines, give her a clyster, which may be repeated as often as necessity requires.

5. Take bay-berries, beat them to a powder, put the powder upon a chafing-dish of coals, and let her receive the smoke of them up her privities.

6. Take tar and bear's grease, of each an equal quantity, boil them together, and whilst it is boiling, add a little pigeon's dung to it. Spread some of this

upon a linen cloth, and apply it to the veins of the back of her that is troubled with afterpains, and it will give her speedy ease.

Lastly, let her take half a drachm of bay-berries beaten into a powder, in a drachm of muscadel or teat.

II. Another accident to which women in child-bed are subject is haemorrhoids or piles, occasioned through the great straining in bringing the child into the world. To cure this,

1. Let her be let blood in the saphoena vein.

2. Let her use polypodium in her meat, and drink, bruised and boiled.

3. Take an onion, and having made a hole in the middle, of it, fill it full of oil, roast it and having bruised it all together, apply it to the fundament.

4. Take a dozen of snails without shells, if you can get them, or else so many shell snails, and pull them out, and having bruised them with a little oil, apply them warm as before.

5. If she go not well to stool, let her take an ounce of cassia fistula drawn at night, going to bed; she needs no change of diet after.

III. Retention of the menses is another accident happening to women in child-bed, and which is of so dangerous a consequence, that, if not timely remedied, it proves mortal. When this happens,

1. Let the woman take such medicines as strongly provoke the terms, such as dittany, betony, pennyroyal, feverfew, centaury, juniper-berries, peony roots.

2. Let her take two or three spoonfuls of briony water each morning.

3. Gentian roots beaten into a powder, and a drachm of it taken every morning in wine, are an extraordinary remedy.

4. The roots of birthwort, either long or round, so used and taken as the former, are very good.

5. Take twelve peony seeds, and beat them into a very fine powder, and let her drink them in a draught of hot cardus posset, and let her sweat after.

And if the last medicine do not bring them down the first time she takes it, let her take as much more three hours after, and it seldom fails.

IV. Overflowing of the menses is another accident incidental to child-bed women. For which,

1. Take shepherd's purse, either boiled in any convenient liquor, or dried and beaten into a powder, and it will be an admirable remedy to stop them, this being especially appropriated to the privities.

2. The flower and leaves of brambles or either of them, being dried and beaten into a powder, and a drachm of them taken every morning in a spoonful of red wine, or in a decoction of leaves of the same (which, perhaps, is much better), is an admirable remedy for the immoderate flowing of the term in women.

V. Excoriations, bruises, and rents in the lower part of the womb are often occasioned by the violent distention and separation of the caruncles in a woman's labour. For the healing whereof,

As soon as the woman is laid, if there be only simple contusions and excoriations, then let the anodyne cataplasm, formerly directed, be applied to the lower parts to ease the pain, made of the yolks and whites of new laid eggs, and oil of roses, boiled a little over warm embers, continually stirring it until it be mixed, and then spread on a fine cloth; it must be applied very warm to the bearing place for five or six hours, and when it is taken away, lay some fine rags, dipped in oil of St. John's wort twice or thrice a day; also foment the parts with barley water and honey of roses, to cleanse them from the excrements which pass. When the woman makes water, let them be defended with fine rags, and thereby hinder the urine from causing smart or pain.

VI. The curding and clotting of the milk is another accident that happens to women in child-bed, for in the beginning of child-bed, the woman's milk is not purified because of the great commotions her body suffered during her labour, which affected all the parts, and it is then affected with many humours. Now this clotting of the milk does, for the most part, proceed from the breasts not being fully drawn, and that, either because she has too much milk, and that the infant is too small and weak to suck it all, or

because she doth not desire to be a nurse, for the milk in those cases remaining in the breasts after concoction, without being drawn, loses its sweetness and the balsamic qualities it had, and by reason of the heat it requires, and the too long stay it makes there, is sours, curds and clots, in like manner as we see rennet put into ordinary milk to turn it into curds. The curding of the milk may also be caused by having taken a great cold, and not keeping the breasts well covered.

But from what cause so ever this curding of the milk proceeds, the most certain remedy is, to draw the breasts until it is emitted and dried. But in regard that the infant by reason of weakness, cannot draw strength enough, the woman being hard marked when her milk is curded, it will be most proper to get another woman to draw her breasts until the milk comes freely, and then she may give her child suck. And that she may not afterwards be troubled with a surplus of milk, she must eat such diet as give but little nourishment, and keep her body open.

But if the case be such that the woman neither can nor will be a nurse, it is necessary to apply other remedies for the curing of this distemper; for then it will be best not to draw the breasts, for that will be the way to bring more milk into them. For which purpose it will be necessary to empty the body by bleeding the arms, besides which, let the humours be drawn down by strong clysters and bleeding at the foot; nor will it be amiss to purge gently, and to digest, dissolve and dissipate the curded milk, four brans dissolved in a decoction of sage, milk, smallage and fennel, mixing with it oil of camomile, with which oil let the breasts be well anointed. The following liniment is also good to scatter and dissipate the milk.

A Liniment to Scatter and Dissipate the Milk.

That the milk flowing back to the breast may without offence be dissipated, you must use this ointment:—"Take pure wax, two ounces, linseed, half a pound; when the wax is melted, let the liniment be made, wherein linen cloths must be clipped, and, according to their largeness, be laid upon the breasts; and when it shall be dispersed, and pains no more, let other linen cloths be laid in the distilled water of acorns, and put upon them.

Note.—That the cloths dipped into distilled water of acorns must be used only by those who cannot nurse their own children; but if a swelling in the breast of her who gives such do arise, from abundance of milk, threatens an inflammation, let her use the former ointment, but abstain from using the distilled water of acorns.

CHAPTER VIII

Directions for the Nurses, in ordering Newly-born Children.

When the child's navel-string hath been cut according to the rules prescribed, let the midwife presently cleanse it from the excrements and filth it brings into the world with it; of which some are within the body, as the urine in the bladder, and the excrements found in the guts; and the others without, which are thick, whitish and clammy, proceeding from the sliminess of the waters. There are sometimes children covered all over with this, that one would think they were rubbed over with soft cheese, and some women are of so easy a belief, that they really think it so, because they have eaten some while they were with child. From these excrements let the child be cleansed with wine and water a little warmed, washing every part therewith, but chiefly the head because of the hair, also the folds of the groin, and the cods or privities; which parts must be gently cleansed with a linen rag, or a soft sponge dipped in lukewarm wine. If this clammy or viscous excrement stick so close that it will not easily be washed off from those places, it may be fetched off with oil of sweet almond, or a little fresh butter melted with wine, and afterwards well dried off; also make tents of fine rags, and wetting them in this liquor, clear the ears and nostrils; but for the eyes, wipe them only with a dry, soft rag, not dipping it in the wine, lest it should make them smart.

The child being washed, and cleansed from the native blood and impurities which attend it into the world, it must in the next place be searched to see whether all things be right about it, and that there is no fault nor dislocation; whether its nose be straight, or its tongue tied, or whether there be any bruise or tumour of the head; or whether the mold be not over shot; also whether the scrotum (if it be a male) be not blown up and swelled, and, in short, whether it has suffered any violence by its birth, in any part of its body, and whether all the parts be well and duly shaped; that suitable

remedies may be applied if anything be found not right. Nor is it enough to see that all be right without, and that the outside of the body be cleansed, but she must also observe whether it dischargeth the excrements contained within, and whether the passage be open; for some have been born without having been perforated. Therefore, let her examine whether the conduits of the urine and stool be clear, for want of which some have died, not being able to void their excrements, because timely care was not taken at first. As to the urine all children, as well males as females, do make water as soon as they are born, if they can, especially if they feel the heat of the fire, and also sometimes void the excrements, but not so soon as the urine. If the infant does not ordure the first day, then put into its fundament a small suppository, to stir it up to be discharged, that it may not cause painful gripes, by remaining so long in the belly. A sugar almond may be proper for this purpose, anointed all over with a little boiled honey; or else a small piece of castile-soap rubbed over with fresh butter; also give the child for this purpose a little syrup of roses or violets at the mouth, mixed with some oil of sweet almonds, drawn without a fire, anointing the belly also, with the same oil or fresh butter.

The midwife having thus washed and cleansed the child, according to the before mentioned directions, let her begin to swaddle it in swathing clothes, and when she dresses the head, let her put small rags behind the ears, to dry up the filth which usually engenders there, and so let her do also in the folds of the armpits and groins, and so swathe it; then wrap it up warm in a bed with blankets, which there is scarcely any woman so ignorant but knows well enough how to do; only let me give them this caution, that they swathe not the child too tightly in its blankets, especially about the breast and stomach, that it may breathe the more freely, and not be forced to vomit up the milk it sucks, because the stomach cannot be sufficiently distended to contain it; therefore let its arms and legs be wrapped in its bed, stretched and straight and swathed to keep them so, viz., the arms along its sides, and its legs equally both together with a little of the bed between them, that they may not be galled by rubbing each other; then let the head be kept steady and straight, with a stay fastened each side of the blanket, and then wrap the child up in a mantle and blankets to keep it warm. Let none think this swathing of the infant is needless to set down, for it is necessary it should be thus swaddled, to give its little body a straight figure, which is most

proper and decent for a man, and to accustom him to keep upon his feet, who otherwise would go upon all fours, as most animals do.

CHAPTER IX

SECTION I.—*Of Gripes and Pains in the, Bellies of Young Children*.

This I mention first, as it is often the first and most common distemper which happens to little infants, after their birth; many children being so troubled therewith, that it causes them to cry day and night and at last die of it. The cause of it for the most part comes from the sudden change of nourishment, for having always received it from the umbilical vessel whilst in the mother's womb, they come on a sudden not only to change the manner of receiving it, but the nature and quality of what they received, as soon as they are born; for instead of purified blood only, which was conveyed to them by means of the umbilical vein, they are now obliged to be nourished by their mother's milk, which they suck with their mouths, and from which are engendered many excrements, causing gripes and pains; and not only because it is not so pure as the blood with which it was nourished in the womb, but because the stomach and the intestines cannot make a good digestion, being unaccustomed to it. It is sometimes caused also by a rough phlegm, and sometimes by worms; for physicians affirm that worms have been bred in children even in their mother's belly.

Cure. The remedy must be suited to the cause. If it proceed from the too sudden change of nourishment, the remedy must be to forbear giving the child suck for some days, lest the milk be mixed with phlegm, which is then in the stomach corrupt; and at first it must suck but little, until it is accustomed to digest it. If it be the excrements in the intestines, which by their long stay increase their pains, give them at the month a little oil of sweet almonds and syrup of roses; if it be worms, lay a cloth dipped in oil of wormwood mixed with ox-gall, upon the belly, or a small cataplasm, mixed with the powder of rue, wormwood, coloquintida, aloes, and the seeds of citron incorporated with ox-gall and the powder of lupines. Or give

it oil of sweet almonds and syrup of roses; if it be worms, lay a cloth, dipped in oil of wormwood mixed with ox-gall, upon the belly, or a small cataplasm mixed with the powder of rue, wormwood, coloquintida, aloes, and the seeds of citron incorporated with ox-gall and the powder of lupines. Or give it oil of sweet almonds with sugar-candy, and a scruple of aniseed; it purgeth new-born babes from green cholera and stinking phlegm, and, if it be given with sugar-pap, it allays the griping pains of the belly. Also anoint the belly with oil of dill, or lay pelitory stamped with oil of camomile to the belly.

SECT. II.—*Of Weakness In Newly-born Infants.*

Weakness is an accident that many children bring into the world along with them, and is often occasioned by the labour of the mother; by the violence and length whereof they suffer so much, that they are born with great weakness, and many times it is difficult to know whether they are alive or dead, their body appearing so senseless, and their face so blue and livid, that they seem to be quite choked; and even after some hours, then-showing any signs of life is attended with weakness, that it looks like a return from death, and that they are still in a dying condition.

Cure. Lay the infant speedily in a warm blanket, and carry it to the fire, and then let the midwife take a little wine in her mouth and spout it into its mouth, repeating it often, if there be occasion. Let her apply linen dipped in urine to the breast and belly, and let the face be uncovered, that it may breathe the more freely; also, let the midwife keep its mouth a little open, cleanse the nostrils with small linen tents [11] dipt in white wine, that so it may receive the smell of it; and let her chafe every part of its body well with warm cloths, to bring back its blood and spirits, which being retired inwards through weakness, often puts him in danger of being choked. By the application of these means, the infant will gradually recover strength, and begin to stir its limbs by degrees, and at length to cry; and though it be but weakly at first, yet afterwards, as it breathes more freely, its cry will become more strong.

SECT. III.—*Of the Fundament being closed up in a newly-born Infant.*

Another defect that new-born infants are liable to is, to have their fundaments closed up, by which they can neither evacuate the new excrements engendered by the milk they suck, nor that which was amassed in their intestines before birth, which is certainly mortal without a speedy remedy. There have been some female children who have their fundaments

quite closed, and yet have voided the excrements of the guts by an orifice which nature, to supply the defect, had made within the neck of the womb.

Cure. Here we must take notice, that the fundament is closed two ways; either by a single skin, through which one may discover some black and blue marks, proceeding from the excrements retained, which, if one touch with the finger, there is a softness felt within, and thereabout it ought to be pierced; or else it is quite stopped by a thick, fleshy substance, in such sort that there appears nothing without, by which its true situation may be known. When there is nothing but the single skin which makes the closure, the operation is very easy, and the children may do very well; for then an aperture or opening may be made with a small incision-knife, cross-ways, that it may the better receive a round form, and that the place may not afterwards grow together, taking care not to prejudice the sphincter or muscle of the rectum. The incision being thus made, the excrements will certainly have issue. But if, by reason of their long stay in the belly, they become so dry that the infant cannot void them, then let a clyster be given to moisten and bring them away; afterwards put a linen tent into the new-made fundament, which at first had best be anointed with honey of roses, and towards the end, with a drying, cicatrizing ointment, such as unguentum album or ponphilex, observing to cleanse the infant of its excrement, and dry it again as soon and as often as it evacuates them, that so the aperture may be prevented from turning into a malignant ulcer.

But if the fundament be stopped up in such a manner, that neither mark nor appearance of it can be seen or felt, then the operation is much more difficult, and, even when it is done, the danger is much greater that the infant will not survive it. Then, if it be a female, and it sends forth its excrements by the way I mentioned before, it is better not to meddle than, by endeavouring to remedy an inconvenience, run an extreme hazard of the infant's death. But when there is no vent for the excrements, without which death is unavoidable, then the operation is justifiable.

Operation. Let the operator, with a small incision-knife that hath but one edge, enter into the void place, and turning the back of it upwards, within half a finger's breadth of the child's rump, which is the place where he will certainly find the intestines, let him thrust it forward, that it may be open enough to give free vent to matter there contained, being especially careful

of the sphincter; after which, let the wound be dressed according to the method directed.

SECT. IV.—*Of the Thrush, or Ulcers In the Mouth of the Infant.*

The thrush is a distemper that children are very subject to, and it arises from bad milk, or from foul humour in the stomach; for sometimes, though there be no ill humour in the milk itself, yet it may corrupt the child's stomach because of its weakness or some other indisposition; in which, acquiring an acrimony, instead of being well digested, there arise from it thrice biting vapours, which forming a thick viscosity, do thereby produce this distemper.

Cure. It is often difficult, as physicians tell us, because it is seated in hot and moist places, where the putrefaction is easily augmented; and because the remedies applied cannot lodge there, being soon washed with spittle. But if it arises from too hot quality in the nurse's milk, care must be taken to temper and cool, prescribing her cool diet, bleeding and purging her also, if there be occasion.

Take lentils, husked, powder them, and lay a little of them upon the child's gums. Or take bdellium flowers, half an ounce, and with oil of roses make a liniment. Also wash the child's mouth with barley and plantain-water, and honey of roses, mixing with them a little verjuice of lemons, as well to loosen and cleanse the vicious humours which cleave to the inside of the infant's mouth, as to cool those parts which are already over-heated. It may be done by means of a small fine rag, fastened to the end of a little stick, and dipped therein, wherewith the ulcers may be gently rubbed, being careful not to put the child in too much pain, lest an inflammation make the distemper worse. The child's body must also be kept open, that the humours being carried to the lower parts, the vapours may not ascend, as is usual for them to do when the body is costive, and the excrements too long retained.

If the ulcers appear malignant, let such remedies be used as do their work speedily, that the evil qualities that cause them, being thereby instantly corrected, their malignity may be prevented; and in this case, touch the

ulcers with plantain water, sharpened with spirits of vitriol; for the remedy must be made sharp, according to the malignity of the distemper. It will be necessary to purge these ill humours out of the whole habit of the child, by giving half an ounce of succory and rhubarb.

SECT. V.—*Of Pains in the Ears, Inflammation, Moisture, etc*.

The brain in infants is very moist, and hath many excrements which nature cannot send out at the proper passages; they get often to the ears, and there cause pains, flux of blood, with inflammation and matter with pain; this in children is hard to be known as they have no other way to make it known but by constant crying; you will perceive them ready to feel their ears themselves, but will not let others touch them, if they can prevent; and sometimes you may discern the parts about the ears to be very red.

These pains, if let alone, are of dangerous consequences, because they may bring forth watchings and epilepsy; for the moisture breeds worms there, and fouls the spongy bones, and by degrees causes incurable deafness.

Cure. Allay the pain with all convenient speed, but have a care of using strong remedies. Therefore, only use warm milk about the ears, with the decoction of poppy tops, or oil of violets; to take away the moisture, use honey of roses, and let aqua mollis be dropped into the ears; or take virgin honey, half an ounce; red wines two ounces; alum, saffron, saltpetre, each a drachm, mix them at the fire; or drop in hemp seed oil with a little wine.

SECT. VI.—*Of Redness and Inflammation of the Buttocks, Groin and the Thighs of a Young Child.*

If there be no great care taken to change and wash the child's bed as soon as it is fouled with the excrements, and to keep the child very clean, the acrimony will be sure to cause redness, and beget a smarting in the buttocks, groin and thighs of the child, which, by reason of the pain, will afterwards be subject to inflammations, which follow the sooner, through

the delicacy and tenderness of their skin, from which the outward skin of the body is in a short time separated and worn away.

Cure. First, keep the child cleanly, and secondly, take off the sharpness of its urine. As to keeping it cleanly, she must be a sorry nurse who needs to be taught how to do it; for if she lets it but have dry, warm and clean beds and cloths, as often and as soon as it has fouled and wet them, either by its urine or its excrements, it will be sufficient. And as to taking off the sharpness of the child's urine, that must be done by the nurse's taking a cool diet, that her milk may have the same quality; and, therefore, she ought to abstain from all things that may tend to heat it.

But besides these, cooling and drying remedies are requisite to be applied to the inflamed parts; therefore let the parts be bathed in plantain-water, with a fourth of lime water added to it, each time the child's excrements are wiped off; and if the pain be very great, let it only be fomented with lukewarm milk. The powder of a post to dry it, or a little mill-dust strewed upon the parts affected, may be proper enough, and is used by many women. Also, unguentum album, or diapompholigos, spread upon a small piece of leather in form of a plaster, will not be amiss.

But the chief thing must be, the nurse's taking great care to wrap the inflamed parts with fine rags when she opens the child, that these parts may not gather and be pained by rubbing together.

SECT. VII.—*Of Vomiting in Young Children*.

Vomiting in young children proceeds sometimes from too much milk, and sometimes from bad milk, and as often from a moist, loose stomach; for as dryness retains so looseness lets go. This is, for the most part, without danger in children; for they that vomit from their birth are the lustiest; for the stomach not being used to meat, and milk being taken too much, crudities are easily bred, or the milk is corrupted; and it is better to vomit these up than to keep them in; but if vomiting last long, it will cause an atrophy or consumption, for want of nourishment.

Cure. If this be from too much milk, that which is emitted is yellow and green, or otherwise ill-coloured and stinking; in this case, mend the milk, as has been shown before; cleanse the child with honey of roses, and strengthen its stomach with syrup of milk and quinces, made into an electuary. If the humours be hot and sharp, give the syrup of pomegranates, currants and coral, and apply to the belly the plaster of bread, the stomach cerate, or bread dipped in hot wine; or take oil of mastich, quinces, mint, wormwood, each half an ounce; of nutmegs by expression, half a drachm; chemical oil of mint, three drops. Coral hath an occult property to prevent vomiting, and is therefore hung about the neck.

SECT. VIII—*Of Breeding Teeth in Young Children*.

This is a very great and yet necessary evil in all children, having variety of symptoms joined with it. They begin to come forth, not all at once, but one after the other, about the sixth or seventh month; the fore-teeth coming first, then the eye-teeth, and last of all the grinders. The eye-teeth cause more pain to the child than any of the rest, because they have a deep root, and a small nerve which has communication with that which makes the eye move.

In the breeding of the teeth, first they feel an itching in their gums, then they are pierced as with a needle, and pricked by the sharp bones, whence proceed great pains, watching, inflammation of the gums, fever, looseness and convulsions, especially when they breed their eye-teeth.

The signs when children breed their eye-teeth are these:

1. It is known by the time, which is usually about the seventh month.

2. Their gums are swelled, and they feel a great heat there with an itching, which makes them put their fingers into their mouths to rub them; a moisture also distils from the gums into the mouth, because of the pain they feel there.

3. They hold the nipple faster than before.

4. The gums are white when the teeth begin to come, and the nurse, in giving them suck, finds the mouth hotter, and that they are much changed, crying every moment, and cannot sleep, or but very little at a time.

The fever that follows breeding of teeth comes from choleric humours, inflamed by watching, pain and heat. And the longer teeth are breeding, the more dangerous it is; so that many in the breeding of them, die of fevers and convulsions.

Cure. Two things are to be regarded:—one is, to preserve the child from the evil accidents that may happen to it by reason of the great pain; the other, to assist as much as may be, the cutting of the teeth, when they can hardly cut the gums themselves.

For the first of these, viz., the preventing of those accidents to the child, the nurse ought to take great care to keep a good diet, and to use all things that may cool and temper her milk, that so a fever may not follow the pain of the teeth. And to prevent the humour falling too much upon the inflamed gums, let the child's belly be always kept loose by gentle clysters, if he be bound; though oftentimes there is no need of them, because they are at those times usually troubled with a looseness; and yet, for all that, clysters may not be improper.

As to the other, which is to assist it cutting the teeth, that the nurse must do from time to time by mollifying and loosening them, and by rubbing them with her finger dipped in butter or honey; or let the child have a virgin-wax candle to chew upon; or anoint the gums with the mucilage of quince made with mallow-water, or with the brains of a hare; also foment the cheeks with the decoction of althoea, and camomile flowers and dill, or with the juice of mallows and fresh butter. If the gums are inflamed, add juice of nightshade and lettuce. I have already said, the nurse ought to take a temperate diet; I shall now only add, that barley-broth, water-gruel, raw eggs, prunes, lettuce and endive, are good for her; but let her avoid salt, sharp, biting and peppered meats, and wine.

SECT. IX.—*Of the Flux of the Belly, or Looseness in Infants.*

It is very common for infants to have the flux of the belly, or looseness, especially upon the least indisposition; nor is it to be wondered at, seeing their natural moistness contributes so much thereto; and even if it be extraordinarily violent, such are in a better state of health than those that are bound. The flux, if violent, proceeds from divers causes, as 1. From breeding of the teeth, and is then commonly attended with a fever in which the concoction is hindered, and the nourishment corrupted. 2. From watching. 3. From pain. 4. From stirring up of the humours by a fever. 5. When they suck or drink too much in a fever. Sometimes they have a flux without breeding of teeth, from inward cold in the guts or stomach that obstructs concoction. If it be from the teeth, it is easily known; for the signs of breeding in teeth will discover it. If it be from external cold, there are signs of other causes. If from a humour flowing from the head there are signs of a catarrh, and the excrements are frothy. If crude and raw humours are voided, and there be wind, belching, and phlegmatic excrements, or if they be yellow, green and stink, the flux is from a hot and sharp humour. It is best in breeding of teeth when the belly is loose, as I have said before; but if it be too violent, and you are afraid it may end in a consumption, it must be stopped; and if the excrements that are voided be black, and attended with a fever, it is very bad.

Cure. The remedy in this case, is principally in respect to the nurse, and the condition of the milk must be chiefly observed; the nurse must be cautioned that she eat no green fruit, nor things of hard concoction. If the child suck not, remove the flux with such purges as leave a cooling quality behind them, as syrup of honey or roses, or a clyster. Take the decoction of millium, myrobolans, of each two or three ounces, with an ounce or two of syrup of roses, and make a clyster. After cleansing, if it proceed from a hot cause, give syrup of dried roses, quinces, myrtles and a little sanguis draconis. Also anoint with oil of roses, myrtles, mastich, each two drachms; with oil of myrtles and wax make an ointment. Or take red roses and moulin, of each a handful; cypress roots two drachms; make a bag, boil it in red wine and apply it to the belly. Or use the plaster bread or stomach ointment. If the cause be cold, and the excrements white give syrup of mastich and quinces, with mint-water. Use outwardly, mint, mastich,

cummin; or take rose seeds, an ounce, cummin, aniseed, each two drachms; with oil of mastich, wormwood and wax, make an ointment.

SECT. X.—*Of the Epilepsy and Convulsions in Children.*

This is a distemper that is often fatal to young children, and frequently proceeds from the brain, originating either from the parents, or from vapours, or bad humours that twitch the membranes of the brain; it is also sometimes caused by other distempers and by bad diet; likewise, the toothache, when the brain consents, causes it, and so does a sudden fright. As to the distemper itself, it is manifest and well enough known where it is; and as to the cause whence it comes, you may know by the signs of the disease, whether it comes from bad milk, or worms, or teeth; if these are all absent, it is certain that the brain is first affected; if it come with the small-pox or measles, it ceaseth when they come forth, if nature be strong enough.

Cure. For the remedy of this grievous, and often mortal distemper, give the following powder to prevent it, to a child as soon as it is born:—Take male peony roots, gathered in the decrease of the moon, a scruple; with leaf gold make a powder; or take peony roots, a drachm; peony seeds, mistletoe of the oak, elk's hoof, man's skull, amber, each a scruple; musk, two grains; make a powder. The best part of the cure is taking care of the nurse's diet, which must be regular, by all means. If it be from corrupt milk, provoke a vomit; to do which, hold down the tongue, and put a quill dipped in sweet almonds, down the throat. If it come from the worms, give such things as will kill the worms. If there be a fever, with respect to that also, give coral smaragad and elk's hoof. In the fit, give epileptic water, as lavender water, and rub with oil of amber, or hang a peony root, and elk's hoof smaragad, about the child's neck.

As to a convulsion, it is when the brain labours to cast out that which troubles it; the mariner is in the marrow of the back, and fountain of the nerves; it is a stubborn disease, and often kills.

Wash the body, when in the fit, with decoction of althoea, lily roots, peony and camomile flowerets, and anoint it with man's and goose's grease, oils of

worms, orris, lilies, foxes, turpentine, mastich, storax and calamint. The sun flower is also very good, boiled in water, to wash the child.

FOOTNOTES:

[11]

> Tent (*surgical*). A bunch of some fibre such as sponge or horsehair introduced into an opening, natural or artificial, to keep it open, or increase its calibre.

PROPER AND SAFE REMEDIES FOR CURING ALL THOSE DISTEMPERS THAT ARE PECULIAR TO THE FEMALE SEX AND ESPECIALLY THOSE OBSERVATIONS TO BEARING OF CHILDREN

BOOK II

Having finished the first part of this book, and wherein, I hope, amply made good my promise to the reader, I am now come to treat only of those distempers to which they are more subject when in a breeding condition, and those that keep them from being so; together with such proper and safe remedies as may be sufficient to repel them. And since amongst all the diseases to which human nature is subject, there is none that more diametrically opposes the very end of our creation, and the design of nature in the formation of different sexes, and the power thereby given us for the work of generation, than that of sterility or barrenness which, where it prevails, renders the most accomplished midwife but a useless person, and destroys the design of our book; I think, therefore, that barrenness is an effect that deserves our first and principal consideration.

CHAPTER I

Of Barrenness; its several Kinds; with the proper Remedies for it; and the Signs of Insufficiency both in Men and Women.

SECTION I.—*Of Barrenness in General*.

Barrenness is either natural or artificial.

Natural barrenness is when a woman is barren, though the instruments of generation are perfect both in herself and in her husband, and no preposterous or diabolical course used to it, and neither age, nor disease, nor any defect hindering, and yet the woman remains naturally barren.

Now this may proceed from a natural cause, for if the man and woman be of one complexion, they seldom have children, and the reason is clear, for the universal course of nature being formed of a composition of contraries, cannot be increased by a composition of likes; and, therefore, if the constitution of the woman be hot and dry, as well as the man's there can be no conception; and if, on the contrary, the man should be of a cold and moist constitution, as well as the woman, the effect would be the same; and this barrenness is purely natural. The only way to help this is, for people, before they marry, to observe each others constitution and complexion, if they design to have children. If their complexions and constitutions be alike, they are not fit to come together, for discordant natures only, make harmony in the work of generation.

Another natural cause of barrenness, is want of love between man and wife. Love is that vivid principle that ought to inspire each organ in the act of generation, or else it will be spiritless and dull; for if their hearts be not united in love, how should their seed unite to cause Conception? And this is sufficiently evinced, in that there never follows conception on a rape. Therefore, if men and women design to have children, let them live so, that

their hearts as well as their bodies may be united, or else they may miss their expectations.

A third cause of natural barrenness, is the letting virgins blood in the arm before their natural courses are come down, which is usually in the fourteenth and fifteenth year of their age; sometimes, perhaps before the thirteenth, but never before the twelfth. And because usually, they are out of order, and indisposed before their purgations come down, their parents run to the doctor to know what is the matter; and he, if not skilled, will naturally prescribe opening a vein in the arm, thinking fullness of blood the cause; and thus she seems recovered for the present: and when the young virgin happens to be in the same disorder, the mother applies again to the surgeon, who uses the same remedy; and by these means the blood is so diverted from its proper channel, that it comes not down the womb as usual, and so the womb dries up, and she is for ever barren. To prevent this, let no virgin blood in the arm before her courses come down well; for that will bring the blood downwards, and by that means provoke the *menstrua* to come down.

Another cause of natural barrenness, is debility in copulation. If persons perform not that act with all the bent and ardour that nature requires, they may as well let it alone; for frigidity and coldness never produces conception. Of the cure of this we will speak by and by, after I have spoken of accidental barrenness, which is occasioned by some morbific matter or infirmity in the body, either of the man or of the woman, which being removed they become fruitful. And since, as I have before noted, the first and great law of creation, was to increase and multiply, and barrenness is in direct opposition to that law, and frustrates the end of our creation, and often causes man and wife to have hard thoughts one of another, I shall here, for the satisfaction of well meaning people, set down the signs and causes of insufficiency both in men and women; premising first that when people have no children, they must not presently blame either party, for neither may be in fault.

SECT. II.—*Signs and Causes of Insufficiency in Men*.

One cause may be in some viciousness of the yard, as if the same be crooked, or any ligaments thereof distorted and broken, whereby the ways and passages, through which the seed should flow, come to be stopped or vitiated.

Another cause may be, too much weakness of the yard, and tenderness thereof, so that it is not strong enough erected to inject seed into the womb; for the strength and stiffness of the yard very much conduces to conception, by reason of the forcible injection of the seed.

Also, if the stones have received any hurt, so that they cannot exercise the proper gift in producing seed, or if they be oppressed with an inflammation, tumour, wound or ulcer, or drawn up within the belly, and not appearing outwardly.

Also, a man may be barren by reason of the defect of seed, as first, if he cast forth no seed at all, or less in substance than is needful. Or, secondly, if the seed be vicious, or unfit for generation; as on the one side, it happens in bodies that are gross and fat, the matter of it being defective; and on the other side, too much leanness, or continual wasting or consumption of the body, destroys seed; nature turning all the matter and substance thereof into the nutriment of the body.

Too frequent copulation is also one great cause of barrenness in men; for it attracteth the seminal moisture from the stones, before it is sufficiently prepared and concocted. So if any one, by daily copulation, do exhaust and draw out all their moisture of the seed, then do the stones draw the moist humours from the superior veins unto themselves; and so, having but a little blood in them, they are forced of necessity to cast it out raw and unconcocted, and thus the stones are violently deprived of the moisture of their veins, and the superior veins, and all the other parts of the body, of their vital spirits; therefore it is no wonder that those who use immoderate copulation are very weak in their bodies, seeing their whole body is deprived of the best and purest blood, and of the spirit, insomuch that many who have been too much addicted to that pleasure, have killed themselves in the very act.

Gluttony, drunkenness, and other excesses, do so much hinder men from fruitfulness, that it makes them unfit for generation.

But among other causes of barrenness of men, this also is one, and makes them almost of the nature of eunuchs, and that is the incision or the cutting of the veins behind their ears, which in case of distempers is oftentimes done; for, according to the opinions of most physicians and anatomists, the seed flows from the brain by those veins behind the ears, more than any part of the body. From whence it is very probable, that the transmission of the seed is hindered by the cutting of the veins behind the ears, so that it cannot descend to the testicles, or may come thither very crude and raw.

SECT. III.—*Signs and Causes of Insufficiency or Barrenness in Women*.

Although there are many causes of the barrenness of women, yet the chief and principal are internal, respecting either the privy parts, the womb or menstruous blood.

Therefore, Hippocrates saith (speaking as well of easy as difficult conception in women) the first consideration is to be had of their species; for little women are more apt to conceive than great, slender than gross, white and fair than ruddy and high coloured, black than wan, those that have their veins conspicuous, than others; but to be very fleshy is evil, and to have great swelled breasts is good.

The next thing to be considered is, the monthly purgations, whether they have been duly every month, whether they flow plentifully, are of a good colour, and whether they have been equal every month.

Then the womb, or place of conception, is to be considered. It ought to be clean and sound, dry and soft, not retracted or drawn up; not prone or descending downward; nor the mouth thereof turned away, nor too close shut up. But to speak more particularly:—

The first parts to be spoken of are the *pudenda*, or privities, and the womb; which parts are shut and enclosed either by nature or against nature; and from hence, such women are called *imperforate*; as in some women the mouth of their womb continues compressed, or closed up, from the time of their birth until the coming down of their courses, and then, on a sudden,

when their terms press forward to purgation, they are molested with great and unusual pains. Sometimes these break of their own accord, others are dissected and opened by physicians; others never break at all, which bring on disorders that end in death.

All these *Aetius* particularly handles, showing that the womb is shut three manner of ways, which hinders conception. And the first is when the *pudenda* grow and cleave together. The second is, when these certain membranes grow in the middle part of the matrix within. The third is, when (though the lips and bosom of the *pudenda* may appear fair and open), the mouth of the womb may be quite shut up. All which are occasions of barrenness, as they hinder the intercourse with man, the monthly courses, and conception.

But amongst all causes of barrenness in women, the greatest is in the womb, which is the field of generation; and if this field is corrupt, it is in vain to expect any fruit, be it ever so well sown. It may be unfit for generation by reason of many distempers to which it is subject; as for instance, overmuch heat and overmuch cold; for women whose wombs are too thick and cold, cannot conceive, because coldness extinguishes the heat of the human seed. Immoderate moisture of the womb also destroys the seed of man, and makes it ineffectual, as corn sown in ponds and marshes; and so does overmuch dryness of the womb, so that the seed perisheth for want of nutriment. Immoderate heat of the womb is also a cause of barrenness for it scorcheth up the seed as corn sown in the drought of summer; for immoderate heat burns all parts of the body, so that no conception can live in the womb.

When unnatural humours are engendered, as too much phlegm, tympanies, wind, water, worms, or any other evil humour abounding contrary to nature, it causes barrenness as do all terms not coming down in due order.

A woman may also have accidental causes of barrenness (at least such as may hinder her conception), as sudden frights, anger, grief and perturbation of mind; too violent exercises, as leaping, dancing, running, after copulation, and the like. But I will now add some signs, by which these things may be known.

If the cause of barrenness be in the man, through overmuch heat in the seed, the woman may easily feel that in receiving it.

If the nature of the woman be too hot, and so unfit for conception, it will appear by her having her terms very little, and the colour inclining to yellowness; she is also very hasty, choleric and crafty; her pulse beats very swift, and she is very desirous of copulation.

To know whether the fault is in the man or in the woman, sprinkle the man's urine upon a lettuce leaf, and the woman's urine upon another, and that which dries away first is unfruitful. Also take five wheaten corns and seven beans, put them into an earthen pot, and let the party make water therein; let this stand seven days, and if in that time they begin to sprout, then the party is fruitful; but if they sprout not, then the party is barren, whether it be the man or the woman; this is a certain sign.

There are some that make this experiment of a woman's fruitfulness; take myrrh, red storax and some odoriferous things, and make a perfume of which let the woman receive into the neck of the womb through a funnel; if the woman feels the smoke ascend through her body to the nose, then she is fruitful; otherwise she is barren. Some also take garlic and beer, and cause the woman to lie upon her back upon it, and if she feel the scent thereof in her nose, it is a sign of her being fruitful.

Culpepper and others also give a great deal of credit to the following experiment. Take a handful of barley, and steep half of it in the urine of a man, and the other half in the urine of the woman, for the space of twenty-four hours; then take it out, and put the man's by itself, and the woman's by itself; set it in a flower-pot, or some other thing, where let it dry; water the man's every morning with his own urine, and the woman's with hers, and that which grows first is the most fruitful; but if they grow not at all, they are both naturally barren.

Cure. If the barrenness proceeds from stoppage of the menstrua, let the woman sweat, for that opens the parts; and the best way to sweat is in a hot-house. Then let the womb be strengthened by drinking a draught of white wine, wherein a handful of stinking arrach, first bruised, has been boiled, for by a secret magnetic virtue, it strengthens the womb, and by a sympathetic quality, removes any disease thereof. To which add also a

handful of vervain, which is very good to strengthen both the womb and the head, which are commonly afflicted together by sympathy. Having used these two or three days, if they come not down, take of calamint, pennyroyal, thyme, betony, dittany, burnet, feverfew, mugwort, sage, peony roots, juniper berries, half a handful of each, or as many as can be got; let these be boiled in beer, and taken for her drink.

Take one part of gentian-root, two parts of centaury, distil them with ale in an alembic after you have bruised the gentian-roots and infused them well. This water is an admirable remedy to provoke the terms. But if you have not this water in readiness, take a drachm of centaury, and half a drachm of gentian-roots bruised, boiled in posset drink, and drink half a drachm of it at night going to bed. Seed of wild navew beaten to powder, and a drachm of it taken in the morning in white wine, also is very good; but if it answers not, she must be let blood in the legs. And be sure you administer your medicines a little before the full of the moon, by no means in the wane of the moon; if you do, you will find them ineffectual.

If barrenness proceed from the overflowing of the menstrua, then strengthen the womb as you were taught before; afterwards anoint the veins of the back with oil of roses, oil of myrtle and oil of quinces every night, and then wrap a piece of white baise about your veins, the cotton side next to the skin and keep the same always to it. But above all, I recommend this medicine to you. Take comfrey-leaves or roots, and clown woundwort, of each a handful; bruise them well, and boil them in ale, and drink a good draught of it now and then. Or take cinnamon, cassia lignea, opium, of each two drachms; myrrh, white pepper, galbanum, of each one drachm; dissolve the gum and opium in white wine; beat the rest into powder and make pills, mixing them together exactly, and let the patient take two each night going to bed; but let the pills not exceed fifteen grains.

If barrenness proceed from a flux in the womb, the cure must be according to the cause producing it, or which the flux proceeds from, which may be known by signs; for a flux of the womb, being a continual distillation from it for a long time together, the colour of what is voided shows what humour it is that offends; in some it is red, and that proceeds from blood putrified, in some it is yellow, and that denotes choler; in others white and pale, and denotes phlegm. If pure blood comes out, as if a vein were opened, some

corrosion or gnawing of the womb is to be feared. All these are known by the following signs:

The place of conception is continually moist with the humours, the face ill-coloured, the party loathes meat and breathes with difficulty, the eyes are much swollen, which is sometimes without pain. If the offending humour be pure blood, then you must let blood in the arm, and the cephalic vein is fittest to draw back the blood; then let the juice of plantain and comfrey be injected into the womb. If phlegm be a cause, let cinnamon be a spice used in all her meats and drinks, and let her take a little Venice treacle or mithridate every morning. Let her boil burnet, mugwort, feverfew and vervain in all her broths. Also, half a drachm of myrrh, taken every morning, is an excellent remedy against this malady. If choler be the cause, let her take burrage, buglos, red roses, endive and succory roots, lettuce and white poppy-seed, of each a handful; boil these in white wine until one half be wasted; let her drink half a pint every morning to which half pint add syrup of chicory and syrup of peach-flowers, of each an ounce, with a little rhubarb, and this will gently purge her. If it proceed from putrified blood, let her be bled in the foot, and then strengthen the womb, as I have directed in stopping the menstrua.

If barrenness be occasioned by the falling out of the womb, as sometimes it happens, let her apply sweet scents to the nose, such as civet, galbanum, storax, calamitis, wood of aloes; and such other things as are of that nature; and let her lay stinking things to the womb, such as asafoetida, oil of amber, or the smoke of her own hair, being burnt; for this is a certain truth, that the womb flies from all stinking, and to all sweet things. But the most infallible cure in this case is; take a common burdock leaf (which you may keep dry, if you please, all the year), apply this to her head and it will draw the womb upwards. In fits of the mother, apply it to the soles of the feet, and it will draw the womb downwards. But seed beaten into a powder, draws the womb which way you please, accordingly as it is applied.

If barrenness in the woman proceed from a hot cause, let her take whey and clarify it; then boil plantain leaves and roots in it, and drink it for her ordinary drink. Let her inject plantain juice into her womb with a syringe. If it be in the winter, when you cannot get the juice, make a strong decoction of the leaves and roots in water, and inject that up with a syringe, but let it

be blood warm, and you will find this medicine of great efficacy. And further, to take away barrenness proceeding from hot causes, take of conserve of roses, cold lozenges, make a tragacanth, the confections of trincatelia; and use, to smell to, camphor, rosewater and saunders. It is also good to bleed the basilica or liver vein, and take four or five ounces of blood, and then take this purge; take electuarium de epithymo de succo rosarum, of each two drachms and a half; clarified whey, four ounces; mix them well together, and take it in the morning fasting; sleep after it about an hour and a half, and fast for four hours after; and about an hour before you eat anything, drink a good draught of whey. Also take lilywater, four ounces; mandragore water, one ounce; saffron, half a scruple; beat the saffron to a powder, and mix it with waters, drink them warm in the morning; use these eight days together.

Some apparent Remedy against Barrenness and to cause Fruitfulness.

Take broom flowers, smallage, parsley seed, cummin, mugwort, feverfew, of each half a scruple; aloes, half an ounce; Indian salt, saffron, of each half a drachm; beat and mix them together, and put it to five ounces of feverfew water warm; stop it up, and let it stand and dry in a warm place, and this do, two or three times, one after the other; then make each drachm into six pills, and take one of them every night before supper.

For a purging medicine against barrenness, take conserve of benedicta lax, a quarter of an ounce; depsillo three drachms, electuary de rosarum, one drachm; mix them together with feverfew water, and drink it in the morning betimes. About three days after the patient hath taken this purge, let her be bled, taking four or five ounces from the median, or common black vein in the foot; and then give for five successive days, filed ivory, a drachm and a half, in feverfew water; and during the time let her sit in the following bath an hour together, morning and night. Take mild yellow sapes, daucas, balsam wood and fruit, ash-keys, of each two handfuls, red and white behen, broom flowers, of each a handful; musk, three grains; amber, saffron, of each a scruple; boiled in water sufficiently; but the musk, saffron, amber and broom flowers must be put into the decoction, after it is boiled and strained.

A Confection very good against Barrenness.

Take pistachia, eringoes, of each half an ounce; saffron, one drachm; lignum aloes, galengal, mace, coriophilla, balm flowers, red and white behen, of each four scruples; syrup of confected ginger, twelve ounces; white sugar, six ounces, decoct all these in twelve ounces of balm water, and stir them well together; then put in it musk and amber, of each a scruple; take thereof the quantity of a nutmeg three times a day; in the morning, an hour before noon and an hour after supper.

But if the cause of barrenness, either in man or woman, be through scarcity or diminution of the natural seed, then such things are to be taken as do increase the seed, and incite to stir up to venery, and further conception; which I shall here set down, and then conclude the chapter concerning barrenness.

For this, yellow rape seed baked in bread is very good; also young, fat flesh, not too much salted; also saffron, the tails of stincus, and long pepper prepared in wine. But let such persons eschew all sour, sharp, doughy and slimy meats, long sleep after meat, surfeiting and drunkenness, and so much as they can, keep themselves from sorrow, grief, vexation and anxious care.

These things following increase the natural seed, stir up the venery and recover the seed again when it is lost, viz., eggs, milk, rice, boiled in milk, sparrows' brains, flesh, bones and all; the stones and pizzles of bulls, bucks, rams and bears, also cocks' stones, lambs' stones, partridges', quails' and pheasants' eggs. And this is an undeniable aphorism, that whatever any creature is addicted unto, they move or incite the man or the woman that eats them, to the like, and therefore partridges, quails, sparrows, etc., being extremely addicted to venery, they work the same effect on those men and women that eat them. Also, take notice, that in what part of the body the faculty that you would strengthen, lies, take that same part of the body of another creature, in whom the faculty is strong, as a medicine. As for instance, the procreative faculty lies in the testicles; therefore, cocks' stones, lambs' stones, etc., are proper to stir up venery. I will also give you another general rule; all creatures that are fruitful being eaten, make them fruitful that eat them, as crabs, lobsters, prawns, pigeons, etc. The stones of a fox, dried and beaten to a powder, and a drachm taken in the morning in sheep's

milk, and the stones of a boar taken in like manner, are very good. The heart of a male quail carried about a man, and the heart of a female quail carried about a woman, causes natural love and fruitfulness. Let them, also, that would increase their seed, eat and drink of the best, as much as they can; for *sine Cerere el Libero, friget Venus*, is an old proverb, which is, "without good meat and drink, Venus will be frozen to death."

Pottages are good to increase the seed; such as are made of beans, peas, and lupins, mixed with sugar. French beans, wheat sodden in broth, aniseed, also onions, stewed garlic, leeks, yellow rapes, fresh mugwort roots, eringo roots confected, ginger connected, etc. Of fruits, hazel nuts, cyprus nuts, pistachio, almonds and marchpanes thereof. Spices good to increase seed are cinnamon, galengal, long pepper, cloves, ginger, saffron and asafoetida, a drachm and a half taken in good wine, is very good for this purpose.

The weakness and debility of a man's yard, being a great hindrance to procreation let him use the following ointment to strengthen it: Take wax, oil of beaver-cod, marjoram, gentle and oil of costus, of each a like quantity, mix them into an ointment, and put it to a little musk, and with it anoint the yard, cods, etc. Take of house emmets, three drachms, oil of white safannum, oil of lilies, of each an ounce; pound and bruise the ants, and put them to the oil and let them stand in the sun six days; then strain out the oil and add to it euphorbium one scruple, pepper and rue, of each one drachm, mustard seed half a drachm, set this altogether in the sun two or three days, then anoint the instrument of generation therewith.

CHAPTER II

The Diseases of the Womb.

I have already said, that the womb is the field of generation; and if this field be corrupted, it is vain to expect any fruit, although it be ever so well sown. It is, therefore, not without reason that I intend in this chapter to set down the several distempers to which the womb is obnoxious, with proper and safe remedies against them.

SECTION I.—*Of the Hot Distemper of the Womb.*

The distemper consists in excess of heat; for as heat of the womb is necessary for conception, so if it be too much, it nourisheth not the seed, but it disperseth its heat, and hinders the conception. This preternatural heat is sometimes from the birth, and causeth barrenness, but if it be accidental, it is from hot causes, that bring the heat and the blood to the womb; it arises also from internal and external medicines, and from too much hot meat, drink and exercise. Those that are troubled with this distemper have but few courses, and those are yellow, black, burnt or sharp, have hair betimes on their privities, are very prone to lust, subject to headache, and abound with choler, and when the distemper is strong upon them, they have but few terms, which are out of order, being bad and hard to flow, and in time they become hypochondriacal, and for the most part barren, having sometimes a phrenzy of the womb.

Cure. The remedy is to use coolers, so that they offend not the vessels that most open for the flux of the terms. Therefore, take the following inwardly; succory, endive, violets, water lilies, sorrel, lettuce, saunders and syrups and conserve made thereof. Also take a conserve of succory, violets, water-lilies, burrage, each an ounce; conserve of roses, half an ounce, diamargation frigid, diatriascantal, each half a drachm; and with syrup of

violets, or juice of citrons, make an electuary. For outward applications, make use of ointment of roses, violets, water-lilies, gourd, Venus navel, applied to the back and loins.

Let the air be cool, her garments thin, and her food endive, lettuce, succory and barley. Give her no hot meats, nor strong wine, unless mixed with water. Rest is good for her, but she must abstain from copulation, though she may sleep as long as she pleases.

SECT. II.—*Of the Cold Distempers of the Womb.*

This distemper is the reverse of the foregoing, and equally an enemy to generation, being caused by a cold quality abounding to excess, and proceeds from a too cold air, rest, idleness and cooling medicines. It may be known by an aversion to venery, and taking no pleasure in the act of copulation when the seed is spent; the terms are phlegmatic, thick and slimy, and do not flow as they should; the womb is windy and the seed crude and waterish. It is the cause of obstructions and barrenness, and is hard to be cured.

Cure. Take galengal, cinnamon, nutmeg mace, cloves, ginger, cububs, cardamom, grains of paradise, each an ounce and a half, galengal, six drachms, long pepper, half an ounce, Zedoary five drachms; bruise them and add six quarts of wine, put them into a cellar nine days, daily stirring them; then add of mint two handfuls, and let them stand fourteen days, pour off the wine and bruise them, and then pour on the wine again, and distil them. Also anoint with oil of lilies, rue, angelica, cinnamon, cloves, mace and nutmeg. Let her diet and air be warm, her meat of easy concoction, seasoned with ant-seed, fennel and thyme; and let her avoid raw fruits and milk diets.

SECT. III.—*Of the Inflation of the Womb.*

The inflation of the womb is a stretching of it by wind, called by some a windy mole; the wind proceeds from a cold matter, whether thick or thin, contained in the veins of the womb, by which the heat thereof is overcome, and which either flows thither from other parts, or is gathered there by cold meats and drinks. Cold air may be a producing cause of it also, as women that lie in are exposed to it. The wind is contained either in the cavity of the vessels of the womb, or between the tumicle, and may be known by a swelling in the region of the womb, which sometimes reaches to the navel, loins and diaphragm, and rises and abates as the wind increaseth or decreaseth. It differs from the dropsy, in that it never swells so high. That neither physician nor midwife may take it for dropsy, let them observe the signs of the woman with the child laid down in a former part of this work; and if any sign be wanting, they may suspect it to be an inflation; of which it is a further sign, that in conception the swelling is invariable; also if you strike upon the belly, in an inflation, there will be noise, but not so in case there be a conception. It also differs from a mole, because in that there is a weight and hardness of the belly, and when the patient moves from one side to the other she feels a great weight which moveth, but not so in this. If the inflation continue without the cavity of the womb, the pain is greater and more extensive, nor is there any noise, because the wind is more pent up.

Cure. This distemper is neither of a long continuance nor dangerous, if looked after in time; and if it be in the cavity of the womb it is more easily expelled. To which purpose give her diaphnicon, with a little castor and sharp clysters that expel the wind. If this distemper happen to a woman in travail let her not purge after delivery, nor bleed, because it is from a cold matter; but if it come after child-bearing, and her terms come down sufficiently, and she has fullness of blood, let the saphoena vein be opened, after which, let her take the following electuary: take conserve of betony and rosemary, of each an ounce and a half; candied eringoes, citron peel candied, each half an ounce; diacimium, diagenel, each a drachm; oil of aniseed, six drops, and with syrup of citrons make an electuary. For outward application make a cataplasm of rue, mugwort, camomile, dill, calamint, new pennyroyal, thyme, with oil of rue, keir and camomile. And let the following clyster to expel the wind be put into the womb: Take agnus castus, cinnamon, each two drachms, boil them in wine to half a pint. She

may likewise use sulphur, Bath and Spa waters, both inward and outward, because they expel the wind.

SECT. IV.—*Of the Straitness of the Womb and its Vessels.*

This is another effect of the womb, which is a very great obstruction to the bearing of children, hindering both the flow of the menses and conception, and is seated in the vessel of the womb, and the neck thereof. The causes of this straitness are thick and rough humours, that stop the mouths of the veins and arteries. These humours are bred either by gross or too much nourishment, when the heat of the womb is so weak that it cannot attenuate the humours, which by reason thereof, either flow from the whole body, or are gathered into the womb. Now the vessels are made straiter or closer several ways; sometimes by inflammation, scirrhous or other tumours; sometimes by compressions, scars, or by flesh or membranes that grow after a wound. The signs by which this is known are, the stoppage of the terms, not conceiving, and condities abounding in the body which are all shown by particular signs, for if there is a wound, or the secundine be pulled out by force phlegm comes from the wound; if stoppage of the terms be from an old obstruction of humours, it is hard to be cured; if it be only from the disorderly use of astringents, it is more curable; if it be from a scirrhous, or other tumours that compress or close the vessel, the disease is incurable.

Cure. For the cure of that which is curable, obstructions must be taken away, phlegm must be purged, and she must be let blood, as will be hereafter directed in the stoppage of the terms. Then use the following medicines: Take of aniseed and fennel seed, each a drachm; rosemary, pennyroyal, calamint, betony flowers, each an ounce; castus, cinnamon, galengal, each half an ounce; saffron half a drachm, with wine. Or take asparagus roots, parsley roots, each an ounce; pennyroyal, calamint, each a handful; wallflowers, gilly-flowers, each two handfuls; boil, strain and add syrup of mugwort, an ounce and a half. For a fomentation, take pennyroyal, mercury, calamint, marjoram, mugwort, each two handfuls, sage, rosemary bays, camomile-flowers, each a handful, boil them in water and foment the

groin and the bottom of the belly; or let her sit up to the navel in a bath, and then anoint about the groin with oil of rue, lilies, dill, etc.

SECT. V.—*Of the falling of the Womb*.

This is another evil effect of the womb which is both very troublesome, and also a hindrance to conception. Sometimes the womb falleth to the middle of the thighs, nay, almost to the knees, and may be known then by its hanging out. Now, that which causeth the womb to change its place is, that the ligaments by which it is bound to the other parts, are not in order; for there are four ligaments, two above, broad and membranous, round and hollow; it is also bound to the great vessels by veins and arteries, and to the back by nerves; but the place is changed when it is drawn another way, or when the ligaments are loose, and it falls down by its own weight. It is drawn on one side when the menses are hindered from flowing, and the veins and arteries are full, namely, those that go to the womb. If it be a mole on one side, the liver and spleen cause it; by the liver vein on the right side, and the spleen on the left, as they are more or less filled. Others are of opinion, it comes from the solution of the connexion of the fibrous neck and the parts adjacent; and that it is from the weight of the womb descending; this we deny not, but the ligaments must be loose or broken. But women with a dropsy could not be said to have the womb fallen down, if it came only from looseness; but in them it is caused by the saltness of the water, which dries more than it moistens. Now, if there be a little tumour, within or without the privities, it is nothing else but a descent of the womb, but if there be a tumour like a goose's egg and a hole at the bottom and there is at first a great pain in the parts to which the womb is fastened, as the loins, the bottom of the belly, and the os sacrum, it proceeds from the breaking or stretching of the ligaments; and a little after the pain is abated, and there is an impediment in walking, and sometimes blood comes from the breach of the vessels, and the excrements and urine are stopped, and then a fever and convulsion ensueth, oftentimes proving mortal, especially if it happen to women with child.

Cure. For the cure of this distemper, first put up the womb before the air alter it, or it be swollen or inflamed; and for this purpose give a clyster to

remove the excrements, and lay her upon her back, with her legs abroad, and her thighs lifted up and her head down; then take the tumour in your hand and thrust it in without violence; if it be swelled by alteration and cold, foment it with the decoction of mallows, althoea, lime, fenugreek, camomile flowers, bay-berries, and anoint it with oil of lilies, and hen's grease. If there be an inflammation, do not put it up, but fright it in, by putting a red-hot iron before it and making a show as if you intended to burn it; but first sprinkle upon it the powder of mastich, frankincense and the like; thus, take frankincense, mastich, each two drachms; sarcocol steeped in milk, drachm; mummy, pomegranate flowers, sanguisdraconis, each half a drachm. When it is put up, let her lie with her legs stretched, and one upon the other, for eight or ten days, and make a pessary in the form of a pear, with cork or sponge, and put it into the womb, dipped in sharp wine, or juice of acacia, with powder of sanguis, with galbanum and bdellium. Apply also a cupping-glass, with a great flame, under the navel or paps, or both kidneys, and lay this plaster to the back; take opopanax, two ounces, storax liquid, half an ounce; mastich, frankincense, pitch, bole, each two drachms; then with wax make a plaster; or take laudanum, a drachm and a half; mastich, and frankincense, each half a drachm, wood aloes, cloves, spike, each a drachm; ash-coloured ambergris, four grains: musk, half a scruple; make two round plasters to be laid on each side of the navel; make a fume of snails' skins salted, or of garlic, and let it be taken in by the funnel. Use also astringent fomentations of bramble leaves, plantain, horse-tails, myrtles, each two handfuls; wormseed, two handfuls; pomegranate flowers, half an ounce; boil them in wine and water. For an injection take comfrey root, an ounce; rupturewort, two drachms; yarrow, mugwort, each half an ounce; boil them in red wine, and inject with a syringe. To strengthen the womb, take hartshorn, bays, of each half a drachm; myrrh half a drachm; make a powder of two doses, and give it with sharp wine. Or you may take Zedoary, parsnip seed, crabs' eyes prepared, each a drachm, nutmeg, half a drachm; and give a drachm, in powder; but astringents must be used with great caution, lest by stopping the courses a worse mischief follow. To keep in its place, make rollers and ligatures as for a rupture; and put pessaries into the bottom of the womb, that may force it to remain. Let the diet be such as has drying, astringent and glueing qualities, as rice, starch, quinces, pears and green cheese; but let the summer fruits be avoided; and let her wine be astringent and red.

CHAPTER III

Of Diseases Relating to Women's Monthly Courses.

SECTION I.—*Of Women's Monthly Courses in General.*

That divine Providence, which, with a wisdom peculiar to itself, has appointed woman to conceive by coition with man, and to bear and bring forth children, has provided for nourishment of children during their recess in the womb of their mother, by that redundancy of the blood which is natural to all women; and which, flowing out at certain periods of time (when they are not pregnant) are from thence called *terms* and *menses*, from their monthly flux of excrementitious and unprofitable blood. Now, that the matter flowing forth is excrementitious, is to be understood only with respect to the redundancy and overplus thereof, being an excrement only with respect to its quantity; for as to its quality, it is as pure and incorrupt as any blood in the veins; and this appears from the final cause of it, which is the propagation and conservation of mankind, and also from the generation of it, being superfluity of the last aliment of the fleshy parts. If any ask, if the menses be not of hurtful quality, how can they cause such venomous effects; if they fall upon trees and herbs, they make the one barren and mortify the other: I answer, this malignity is contracted in the womb, for the woman, wanting native heat to digest the superfluity, sends it to the matrix, where seating itself till the mouth of the womb be dilated, it becomes corrupt and mortified; which may easily be, considering the heat and moistness of the place; and so this blood being out of its proper vessels, offends in quality.

SECT. II.—*Of the Terms coming out of order, either before or after the usual Time.*

Having, in the former part of this work, treated, of the suppression and overflowing of the monthly terms, I shall content myself with referring the reader thereto, and proceed to speak of their coming out of order, either before or after the usual time.

Both these proceed from an ill constitution of body. Everything is beautiful in its order, in nature as well as in morality; and if the order of nature be broken, it shows the body to be out of order. Of each of these effects briefly.

When the monthly courses come before their time, showing a depraved excretion, and flowing sometimes twice a month, the cause is in the blood, which stirs up the expulsive faculty of the womb, or else in the whole body, and is frequently occasioned by the person's diet, which increases the blood too much, making it too sharp or too hot. If the retentive faculty of the womb be weak, and the expulsive faculty strong, and of a quick sense, it brings them forth the sooner. Sometimes they flow sooner by reason of a fall, stroke or some violent passion, which the parties themselves can best relate. If it be from heat, thin and sharp humours, it is known by the distemper of the whole body. The looseness of the vessels and the weakness of the retentive faculty, is known from a moist and loose habit of the body. It is more troublesome than dangerous, but hinders conception, and therefore the cure is necessary for all, but especially such as desire children. If it proceeds from a sharp blood, let her temper it by a good diet and medicines. To which purpose, let her use baths of iron water, that correct the distemper of the bowels, and then evacuate. If it proceeds from the retentive faculty, and looseness of the vessels, it is to be corrected with gentle astringents.

As to the courses flowing after the usual time, the causes are, thickness of the blood, and the smallness of its quantity, with the stoutness of the passage, and weakness of the expulsive faculties. Either of these singly may stop the courses, but if they all concur, they render the distemper worse. If the blood abounds not in such a quantity as may stir up nature to expel it, its purging must necessarily be deferred, till there be enough. And if the blood be thick, the passage stopped, and the expulsive faculty weak, the menses must needs be out of order and the purging of them retarded.

For the cure of this, if the quantity of blood be small, let her use a larger diet, and a very little exercise. If the blood be thick and foul, let it be made thin, and the humours mixed therewith, evacuated. It is good to purge, after the courses have done flowing, and to use calamint, and, indeed, the oftener she purges, the better. She may also use fumes and pessaries, apply cupping glasses without scarification to the inside of the thighs, and rub the legs and scarify the ankles, and hold the feet in warm water four or five days before the courses come down. Let her also anoint the bottom of her belly with things proper to provoke the terms.

Remedies for Diseases in Women's Paps.

Make a cataplasm of bean meal and salad oil, and lay it to the place afflicted. Or anoint with the juice of papilaris. This must be done when the papa are very sore.

If the paps be hard and swollen, take a handful of rue, colewort roots, horehound and mint; if you cannot get all these conveniently, any two will do; pound the handful in honey, and apply it once every day till healed.

If the nipples be stiff and sore, anoint twice a day with Florence oil, till healed. If the paps be flabby and hanging, bruise a little hemlock, and apply it to the breast for three days; but let it not stand above seven hours. Or, which is safer, rusae juice, well boiled, with a little sinapios added thereto, and anoint.

If the paps be hard and dead, make a plate of lead pretty thin, to answer the breasts; let this stand nine hours each day, for three days. Or sassafras bruised, and used in like manner.

Receipt for Procuring Milk.

Drink arpleui, drawn as tea, for twenty-one days. Or eat of aniseeds. Also the juice of arbor vitae, a glassful once a day for eleven days, is very good, for it quickens the memory, strengthens the body, and causeth milk to flow in abundance.

Directions for Drawing of Blood.

Drawing of blood was first invented for good and salutary purposes, although often abused and misapplied. To bleed in the left arm removes long continued pains and headaches. It is also good for those who have got falls and bruises.

Bleeding is good for many disorders, and generally proves a cure, except in some extraordinary cases, and in those cases bleeding is hurtful. If a woman be pregnant, to draw a little blood will give her ease, good health, and a lusty child.

Bleeding is a most certain cure for no less than twenty-one disorders, without any outward or inward applications; and for many more with application of drugs, herbs and flowers.

When the moon is on the increase, you may let blood at any time day or night; but when she is on the decline, you must bleed only in the morning.

Bleeding may be performed from the month of March to November. No bleeding in December, January or February, unless an occasion require it. The months of March, April and November, are the three chief months of the year for bleeding in; but it may be performed with safety from the ninth of March to the nineteenth of November.

To prevent the dangers that may arise from she unskilful drawing of blood, let none open a but a person of experience and practice.

There are three sorts of people you must not let draw blood; first ignorant and inexperienced persons. Secondly, those who have bad sight and trembling hands, whether skilful or unskilled. For when the hand trembles, the lance is apt to start from the vein, and the flesh be thereby damaged, which may hurt, canker, and very much torment the patient. Thirdly, let no woman bleed, but such as have gone through a course of midwifery at college, for those who are unskilful may cut an artery, to the great damage of the patient. Besides, what is still worse, those pretended bleeders, who take it up at their own hand, generally keep unedged and rusty lancets, which prove hurtful, even in a skilful hand. Accordingly you ought to be cautious in choosing your physician; a man of learning knows what vein to

open for each disorder; he knows how much blood to take as soon as he sees the patient, and he can give you suitable advice concerning your disorder.

PART III

ARISTOTLE'S BOOK OF PROBLEMS WITH OTHER ASTROMER, ASTROLOGERS AND PHYSICIANS, CONCERNING THE STATE OF MAN'S BODY.

Q. Among all living creatures, why hath man only his countenance lifted up towards Heaven. A. 1. From the will of the Creator. But although this answer be true, yet it seemeth not to be of force, because that so all questions might be easily resolved. Therefore, 2. I answer that, for the most part, every workman doth make his first work worse, and then his second better! so God creating all other animals before man gave them their face looking down to the earth; and then secondly he created man, unto whom he gave an upright shape, lifted unto heaven, because it is drawn from divinity, and it is derived from the goodness of God, who maketh all his works both perfect and good. 3. Man only, among all living creatures, is ordained to the kingdom of heaven, and therefore hath his face elevated and lifted up to heaven, because that despising earthly and worldly things, he

ought often to contemplate on heavenly things. 4. That the reasonable man is like unto angels, and finally ordained towards God; and therefore he hath a figure looking upward. 5. Man is a microcosm, that is, a little world, and therefore he doth command all other living creatures and they obey him. 6. Naturally there is unto everything and every work, that form and figure given which is fit and proper for its motion; as unto the heavens, roundness, to the fire a pyramidical form, that is, broad beneath and sharp towards the top, which form is most apt to ascend; and so man has his face towards heaven to behold the wonders of God's works.

Q. Why are the heads of men hairy? A. The hair is the ornament of the head, and the brain is purged of gross humours by the growing of the hair, from the highest to the lowest, which pass through the pores of the exterior flesh, become dry, and are converted into hair. This appears to be the case, from the circumstance that in all man's body there is nothing drier than the hair, for it is drier than the bones; and it is well known that some beasts are nourished with bones, as dogs, but they cannot digest feathers or hair, but void them undigested, being too hot for nourishment. 2. It is answered, that the brain is purged in three different ways; of superfluous watery humours by the eyes, of choler by the nose, and of phlegm by the hair, which is the opinion of the best physicians.

Q. Why have men longer hair on their heads than any other living creature? A. Arist. de Generat. Anim. says, that men have the moistest brain of all living creatures from which the seed proceedeth which is converted into the long hair of the head. 2. The humours of men are fat, and do not become dry easily; and therefore the hair groweth long on them. In beasts, the humours easily dry, and therefore the hair groweth not so long.

Q. Why doth the hair take deeper root in man's skin than in that of any other living creatures? A. Because it has greater store of nourishment in man, and therefore grows more in the inward parts of man. And this is the reason why in other creatures the hair doth alter and change with the skin, and not in man, unless by a scar or wound.

Q. Why have women longer hair than men? A. Because women are moister and more phlegmatic than men, and therefore there is more matter for hair to them, and, by consequence, the length also of their hair. And,

furthermore, this matter is more increased in women than men from their interior parts, and especially in the time of their monthly terms, because the matter doth then ascend, whereby the humour that breedeth the hair, doth increase. 2. Because women want beards; so the matter of the beard doth go into that of the hair.

Q. Why have some women soft hair and some hard? A. 1. The hair hath proportion with the skin; of which some is hard, some thick, some subtle and soft, some gross; therefore, the hair which grows out of thick, gross skin, is thick and gross; that which groweth out of a subtle and fine skin, is fine and soft; when the pores are open, then cometh forth much humour, and therefore hard hair is engendered; and when the pores are strait, then there doth grow soft and fine hair. This doth evidently appear in men, because women have softer hair than they; for in women the pores are shut and strait, by reason of their coldness. 2. Because for the most part, choleric men have harder and thicker hair than others, by reason of their heat, and because their pores are always open, and therefore they have beards sooner than others. For this reason also, beasts that have hard hair are boldest, because such have proceeded from heat and choler, examples of which we have in the bear and the boar; and contrariwise, those beasts that have soft hair are fearful, because they are cold, as the hare and the hart. 3. From the climate where a man is born; because in hot regions hard and gross hair is engendered, as appears in the Ethiopians, and the contrary is the case is cold countries toward the north.

Q. Why have some men curled hair, and some smooth? A. From the superior degree of heat in some men, which makes the hair curl and grow upward; this is proved by a man's having smooth hair when he goes into a hot bath, and it afterwards becomes curled. Therefore keepers of baths have often curled hair, as also Ethiopians and choleric men. But the cause of this smoothness, is the abundance of moist humours.

Q. Why do women show ripeness by hair in their privy parts, and not elsewhere, but men in their breasts? A. Because in men and women there is abundance of humidity in that place, but most in women, as men have the mouth of the bladder in that place, where the urine is contained, of which the hair in the breast is engendered, and especially that about the navel. But of women in general, it is said, that the humidity of the bladder of the

matrix, or womb, is joined and meeteth in that lower secret place, and therefore is dissolved and separated in that place into vapours and fumes, which are the cause of hair. And the like doth happen in other places, as in the hair under the arms.

Q. Why have not women beards? A. Because they want heat; which is the case with some effeminate men, who are beardless from the same cause, to have complexions like women.

Q. Why doth the hair grow on those that are hanged? A. Because their bodies are exposed to the sun, which, by its heat doth dissolve all moisture into the fume or vapour of which the hair doth grow.

Q. Why is the hair of the beard thicker and grosser than elsewhere; and the more men are shaven, the harder and thicker it groweth? A. Because by so much as the humours or vapours of a liquid are dissolved and taken away, so much the more doth the humour remaining draw to the same; and therefore the more the hair is shaven, the thicker the humours gather which engender the hair, and cause it to wax hard.

Q. Why are women smooth and fairer than men? A. Because in women much of the humidity and superfluity, which are the matter and cause of the hair of the body, is expelled with their monthly terms; which superfluity, remaining in men, through vapours passes into hair.

Q. Why doth man, above all other creatures, wax hoary and gray? A. Because man hath the hottest heart of all living creatures; and therefore, nature being most wise, lest a man should be suffocated through the heat of his heart, hath placed the heart, which is most hot, under the brain, which is most cold; to the end that the heat of the heart may be tempered by the coldness of the brain; and contrariwise, that the coldness of the brain may be qualified by the heat of the heart; and thereby there might be a temperature in both. A proof of this is, that of all living creatures man hath the worst breath when he comes to full age. Furthermore, man doth consume nearly half his time in sleep, which doth proceed from the great excess of coldness and moisture in the brain, and from his wanting natural heat to digest and consume that moisture, which heat he hath in his youth, and therefore, in that age is not gray, but in old age, when heat faileth; because then the vapours ascending from the stomach remain undigested

and unconsumed for want of natural heat, and thus putrefy, on which putrefaction of humours that the whiteness doth follow, which is called grayness or hoariness. Whereby it doth appear, that hoariness is nothing but a whiteness of hair, caused by a putrefaction of the humours about the roots of the hair, through the want of natural heat in old age. Sometimes all grayness is caused by the naughtiness of the complexion, which may happen in youth: sometimes through over great fear and care as appeareth in merchants, sailors and thieves.

Q. Why doth red hair grow white sooner than hair of any other colour? A. Because redness is an infirmity of the hair; for it is engendered of a weak and infirm matter, that is, of matter corrupted with the flowers of the woman; and therefore it waxes white sooner than any other colour.

Q. Why do wolves grow grisly? A. To understand this question, note the difference between grayness and grisliness; grayness is caused through defect of natural heat, but grisliness through devouring and heat. The wolf being a devouring beast, he eateth gluttonously without chewing, and enough at once for three days; in consequence of which, gross vapours engendered in the wolf's body, which cause grisliness. Grayness and grisliness have this difference; grayness is only in the head, but grisliness all over the body.

Q. Why do horses grow grisly and gray? A. Because they are for the most part in the sun, and heat naturally causes putrefaction; therefore the matter of hair doth putrefy, and in consequence they are quickly peeled.

Q. Why do men get bald, and trees let fall their leaves in winter? A. The want of moisture is the cause in both, which is proved by a man's becoming bald through venery, because by that he lets forth his natural humidity and heat; and by that excess in carnal pleasure the moisture is consumed which is the nutriment of the hair. Thus, eunuchs and women do not grow bald, because they do not part from this moisture; and therefore eunuchs are of the complexion of women.

Q. Why are not women bald? A. Because they are cold and moist, which are the causes that the hair remaineth; for moistness doth give nutriment to the hair, and coldness doth bind the pores.

Q. Why are not blind men naturally bald? A. Because the eye hath moisture in it, and that moisture which should pass through by the substance of the eyes, doth become a sufficient nutriment for the hair and therefore they are seldom bald.

Q. Why doth the hair stand on end when men are afraid? A. Because in time of fear the heat doth go from the outward parts of the body into the inward to help the heart, and so the pores in which the hair is fastened are shut up, after which stopping and shutting up of the pores, the standing up of the hair doth follow.

Of the Head.

Q. Why is a man's head round? A. Because it contains in it the moistest parts of the living creature: and also that the brain may be defended thereby, as with a shield.

Q. Why is the head not absolutely long but somewhat round? A. To the end that the three creeks and cells of the brain might the better be distinguished; that is, the fancy in the forehead, the discoursing or reasonable part in the middle, and memory in the hinder-most part.

Q. Why doth a man lift up his head towards the heavens when he doth imagine? A. Because the imagination is in the fore part of the head or brain, and therefore it lifteth up itself, that the creeks or cells of the imagination may be opened, and that the spirits which help the imagination, and are fit for that purpose, having their concourse thither, may help the imagination.

Q. Why doth a man, when he museth or thinketh of things past, look towards the earth? A. Because the cell or creek which is behind, is the creek or chamber of the memory; and therefore, that looketh towards heaven when the head is bowed down, and so the cell is open, to the end that the spirits which perfect the memory should enter it.

Q. Why is not the head fleshy, like other parts of the body? A. Because the head would be too heavy, and would not stand steadily. Also, a head loaded with flesh, betokens an evil complexion.

Q. Why is the head subject to aches and griefs? A. By reason that evil humours, which proceed from the stomach, ascend up to the head and disturb the brain, and so cause pain in the head; sometimes it proceeds from overmuch filling the stomach, because two great sinews pass from the brain to the mouth of the stomach, and therefore these two parts do always suffer grief together.

Q. Why have women the headache oftener than men? A. By reason of their monthly terms, which men are not troubled with, and by which a moist, unclean and venomous fume is produced, that seeks passage upwards, and so causes the headache.

Q. Why is the brain white? A. 1. Because it is cold, and coldness is the mother of white. 2. Because it may receive the similitude and likeness of all colours, which the white colour can best do, because it is most simple.

Q. Why are all the senses in the head? A. Because the brain is there, on which all the senses depend, and are directed by it; and, consequently, it maketh all the spirits to feel, and governeth all the membranes.

Q. Why cannot a person escape death if the brain or heart be hurt? A. Because the brain and heart are the two principal parts which concern life; and, therefore, if they be hurt, there is no remedy left for cure.

Q. Why is the brain moist? A. Because it may easily receive an impression, which moisture can best do, as it appeareth in wax, which doth easily receive the print of the seal when soft.

Q. Why is the brain cold? A. 1. Because that by this coldness it may clear the understanding of man and make it subtle. 2. That by the coldness of the brain, the heat of the heart may be tempered.

Of the Eyes.

Q. Why have you one nose and two eyes? A. Because light is more necessary to us than smelling; and therefore it doth proceed from the

goodness of Nature, that if we receive any hurt or loss of one eye, the other should remain.

Q. Why have children great eyes in their youth, which become small as they grow up? A. It proceeds from the want of fire, and from the assemblage and meeting together of the light and humour; the eyes, being lightened by the sun, which doth lighten the easy humour thereof and purge them: and, in the absence of the sun, those humours become dark and black, and the sight not so good.

Q. Why does the blueish grey eye see badly in the day-time and well in the night? A. Because greyness is light and shining in itself, and the spirits with which we see are weakened in the day-time and strengthened in the night.

Q. Why are men's eyes of diverse colours? A. By reason of diversity of humours. The eye hath four coverings and three humours. The first covering is called consolidative, which is the outermost, strong and fat. The second is called a horny skin or covering, of the likeness of a horn; which is a clear covering. The third, uvea, of the likeness of a black grape. The fourth is called a cobweb. The first humour is called *albuginous*, from its likeness unto the white of an egg. The second glarial; that is, clear, like unto crystalline. The third vitreous, that is, clear as glass. And the diversity of humours causeth the diversity of the eyes.

Q. Why are men that have but one eye, good archers? and why do good archers commonly shut one? And why do such as behold the stars look through a trunk with one eye? A. This matter is handled in the perspective arts; and the reason is, as it doth appear in *The Book of Causes*, because that every virtue and strength united and knit together, is stronger than when dispersed and scattered. Therefore, all the force of seeing dispersed in two eyes, the one being shut, is gathered into the other, and so the light is fortified in him; and by consequence he doth see better and more certainly with one eye being shut, than when both are open.

Q. Why do those that drink and laugh much, shed most tears? A. Because that while they drink and laugh without measure the air which is drawn in doth not pass out through the windpipe, and so with force is directed and sent to the eyes, and by their pores passing out, doth expel the humours of the eyes; which humour being expelled, brings tears.

Q. Why do such as weep much, urine but little? A. Because the radical humidity of a tear and of urine are of one and the same nature, and, therefore, where weeping doth increase, urine diminishes. And that they are of one nature is plain to the taste, because they are both salt.

Q. Why do some that have clear eyes see nothing? A. By reason of the oppilation and naughtiness of the sinews with which we see; for the temples being destroyed, the strength of the light cannot be carried from the brain to the eye.

Q. Why is the eye clear and smooth like glass? A. 1. Because the things which may be seen are better beaten back from a smooth thing than otherwise, that thereby the sight should strengthen. 2. Because the eye is moist above all parts of the body, and of a waterish nature; and as the water is clear and smooth, so likewise is the eye.

Q. Why do men and beasts who have their eyes deep in their head best see far off? A. Because the force and power by which we see is dispersed in them, and both go directly to the thing which is seen. Thus, when a man doth stand in a deep ditch or well, he doth see in the daytime the stars of the firmament; because then the power of the night and of the beams are not scattered.

Q. Wherefore do those men who have eyes far out in their head not see far distant? A. Because the beams of the sight which pass from the eye, are scattered on every side, and go not directly unto the thing that is seen, and therefore the sight is weakened.

Q. Why are so many beasts born blind, as lions' whelps and dogs' whelps. A. Because such beasts are not yet of perfect ripeness and maturity, and the course of nutriment doth not work in them. Thus the swallow, whose eyes, if they were taken out when they are young in their nest, would grow in again. And this is the case in many beasts who are brought forth before their time as it were dead, as bear's whelps.

Q. Why do the eyes of a woman that hath her flowers, stain new glass? And why doth a basilisk kill a man with his sight? A. When the flowers do run from a woman, then a most venomous air is distilled from them, which doth ascend into a woman's head; and she, having pain in her head, doth wrap it

up with a cloth or handkerchief; and because the eyes are full of insensible holes, which are called pores, there the air seeketh a passage, and infects the eyes, which are full of blood. The eyes also appear dropping and full of tears, by reason of the evil vapour that is in them; and these vapours are incorporated and multiplied till they come to the glass before them; and by reason that such a glass is round, clear and smooth, it doth easily receive that which is unclean. 2. The basilisk is a very venomous and infectious animal, and there pass from his eyes vapours which are multiplied upon the thing which is seen by him, and even unto the eye of man; the which venomous vapours or humours entering into the body, do infect him, and so in the end the man dieth. And this is also the reason why the basilisk, looking upon a shield perfectly well made with fast clammy pitch, or any hard smooth thing, doth kill itself, because the humours are beaten back from the hard smooth thing unto the basilisk, by which beating back he is killed.

Q. Why is the sparkling in cats' eyes and wolves' eyes seen in the dark and not in the light? A. Because that the greater light doth darken the lesser; and therefore, in a greater light the sparkling cannot be seen; but the greater the darkness, the easier it is seen, and is more strong and shining.

Q. Why is the sight recreated and refreshed by a green colour? A. Because green doth merely move the sight, and therefore doth comfort it; but this doth not, in black or white colours, because these colours do vehemently stir and alter the organ and instrument of the sight, and therefore make the greater violence; and by how much the more violent the thing is which is felt or seen the more it doth destroy and weaken the sense.

Of the Nose.

Q. Why doth the nose stand out further than any other part of the body. A. 1. Because the nose is, as it were, the sink of the brain, by which the phlegm of the brain is purged; and therefore it doth stand forth, lest the other parts should be defiled. 2. Because the nose is the beauty of the face, and doth smell.

Q. Why hath a man the worst smell of all creatures? A. Because man hath most brains of all creatures; and, therefore, by exceeding coldness and moisture, the brain wanteth a good disposition, and by consequence, the smelling instrument is not good, yea, some men have no smell.

Q. Why have vultures and cormorants a keen smell? A. Because they have a very dry brain; and, therefore, the air carrying the smell, is not hindered by the humidity of the brain, but doth presently touch its instrument; and, therefore, vultures, tigers and other ravenous beasts, have been known to come five hundred miles after dead bodies.

Q. Why did nature make the nostrils? A. 1. Because the mouth being shut we draw breath in by the nostrils, to refresh the heart. 2. Because the air which proceedeth from the mouth doth savour badly, because of the vapours which rise from the stomach, but that which we breathe from the nose is not noisome. 3. Because the phlegm which doth proceed from the brain is purged by them.

Q. Why do men sneeze? A. That the expulsive virtue and power of the sight should thereby be purged, and the brain also from superfluities; because, as the lungs are purged by coughing, so is the sight and brain by sneezing; and therefore physicians give sneezing medicaments to purge the brain; and thus it is, such sick persons as cannot sneeze, die quickly, because it is a sign their brain is wholly stuffed with evil humours, which cannot be purged.

Q. Why do such as are apoplectic sneeze, that is, such as are subject easily to bleed? A. Because the passages, or ventricles of the brain are stopped, and if they could sneeze, their apoplexy would be loosed.

Q. Why does the heat of the sun provoke sneezing, and not the heat of the fire? A. Because the heat of the sun doth dissolve, but not consume, and therefore the vapour dissolved is expelled by sneezing; but the heat of the fire doth dissolve and consume, and therefore doth rather hinder sneezing than provoke it.

Of the Ears.

Q. Why do beasts move their ears, and not men? A. Because there is a certain muscle near the under jaw which doth cause motion in the ear; and therefore, that muscle being extended and stretched, men do not move their ears, as it hath been seen in divers men; but all beasts do use that muscle or fleshy sinew, and therefore do move their ears.

Q. Why is rain prognosticated by the pricking up of asses' ears? A. Because the ass is of a melancholic constitution, and the approach of rain produceth that effect on such a constitution. In the time of rain all beasts prick up their ears, but the ass before it comes.

Q. Why have some animals no ears? A. Nature giveth unto everything that which is fit for it, but if she had given birds ears, their flying would have been hindered by them. Likewise fish want ears, because they would hinder their swimming, and have only certain little holes through which they hear.

Q. Why have bats ears, although of the bird kind? A. Because they are partly birds in nature, in that they fly, by reason whereof they have wings; and partly they are hairy and seem to be of the nature of mice, therefore nature hath given them ears.

Q. Why have men only round ears? A. Because the shape of the whole and of the parts should be proportionable, and especially in all things of one nature; for as a drop of water is round, so the whole water: and so, because a man's head is round, the ears incline towards the same figure; but the heads of beasts are somewhat long, and so the ears are drawn into length likewise.

Q. Why hath nature given all living creatures ears? A. 1. Because with them they should hear. 2. Because by the ear choleric superfluity is purged; for as the head is purged of phlegmatic superfluity by the nose, so from choleric, by the ears.

Of the Mouth.

Q. Why hath the mouth lips to compass it? A. Because the lips cover and defend the teeth; for it would be unseemly if the teeth were always seen.

Also, the teeth being of a cold nature, would be soon hurt if they were not covered with lips.

Q. Why has a man two eyes and but one mouth? A. Because a man should speak but little, and hear and see much. And by hearing and the light we see difference of things.

Q. Why hath a man a mouth? A. 1. Because the mouth is the gate and door of the stomach. 2. Because the meat is chewed in the mouth, and prepared and made ready for the first digestion. 3. Because the air drawn into the hollow of the mouth for the refreshing of the heart, is made pure and subtle.

Q. Why are the lips moveable? A. For the purpose of forming the voice and words which cannot be perfectly done without them. For as without *a, b, c*, there is no writing, so without the lips no voice can well be formed.

Q. What causes men to yawn or gape? A. It proceeds from the thick fume and vapours that fill the jaws; by the expulsion of which is caused the stretching out and expansion of the jaws, and opening of the mouth.

Q. Why doth a man gape when he seeth another do the same? A. It proceeds from the imagination. And this is proved by the similitude of the ass, who by reason of his melancholy, doth retain his superfluity for a long time, and would neither eat nor piss unless he should hear another doing the like.

Of the Teeth.

Q. Why do the teeth only, amongst all ether bones, experience the sense of feeling? A. That they may discern heat and cold, that hurt them, which other bones need not.

Q. Why have men more teeth than women? A. By reason of the abundance of heat and cold which is more in men than in women.

Q. Why do the teeth grow to the end of our life, and not the other bones? A. Because otherwise they would be consumed with chewing and grinding.

Q. Why do the teeth only come again when they fall, or be taken out, and other bones being taken away, grow no more? A. Because other bones are engendered of the humidity which is called radical, and so they breed in the womb of the mother, but the teeth are engendered of nutritive humidity, which is renewed and increased from day to day.

Q. Why do the fore-teeth fall in youth, and grow again, and not the cheek teeth? A. From the defect of matter, and from the figure; because the fore-teeth are sharp, and the others broad. Also, it is the office of the fore-teeth to cut the meat, and therefore they are sharp; and the office of the others to chew the meat, and therefore they are broad in fashion, which is fittest for that purpose.

Q. Why do the fore-teeth grow soonest? A. Because we want them sooner in cutting than the others in chewing.

Q. Why do the teeth grow black in human creatures in their old age? A. It is occasioned by the corruption of the meat, and the corruption of phlegm with a choleric humour.

Q. Why are colts' teeth yellow, and of the colour of saffron, when they are young, and become white when they grow up? A. Because horses have abundance of watery humours in them, which in their youth are digested and converted into grossness; but in old age heat diminishes, and the watery humours remain, whose proper colour is white.

Q. Why did nature give living creatures teeth? A. To some to fight with, and for defence of their lives, as unto wolves and bears, unto some to eat with, as unto horses, unto some for the forming of the voices, as unto men.

Q. Why do horned beasts want their upper teeth? A. Horns and teeth are caused by the same matter, that is, nutrimental humidity, and therefore the matter which passeth into the horns turneth not into teeth, consequently they want the upper teeth. And such beasts cannot chew well; therefore, to supply the want of teeth, they have two stomachs, from whence it returns and they chew it again, then it goes into the other to be digested.

Q. Why are some creatures brought forth with teeth, as kids and lambs; and some without, as men? A. Nature doth not want in necessary things, nor abound in things superfluous; and therefore, because these beasts, not long

after they are fallen, do need teeth, they are fallen with teeth; but men, being nourished by their mother, for a long time do not stand in need of teeth.

Of the Tongue.

Q. Why is the tongue full of pores? A. Because the tongue is the means whereby which we taste; and through the mouth, in the pores of the tongue, doth proceed the sense of tasting. Again, it is observed, that frothy spittle is sent into the mouth by the tongue from the lungs, moistening the meat and making it ready for digestion.

Q. Why do the tongues of such as are sick of agues judge all things bitter? A. Because the stomachs of such persons are filled with choleric humours; and choler is very bitter, as appeareth by the gall; therefore this bitter fume doth infect their tongues; and so the tongue, being full of these tastes, doth judge everything bitter.

Q. Why doth the tongue water when we hear sour and sharp things spoken of? A. Because the imaginative virtue or power is of greater force than the power or faculty of tasting; and when we imagine a taste, we conceive the power of tasting as a swan; there is nothing felt by the taste, but by means of the spittle the tongue doth water.

Q. Why do some persons stammer and lisp? A. Sometimes through the moistness of the tongue and brain, as in children, who cannot speak plainly nor pronounce many letters. Sometimes it happeneth by reason of the shrinking of certain sinews which go to the tongue, which are corrupted with phlegm.

Q. Why are the tongues of serpents and mad dogs venomous? A. Because of the malignity and tumosity of the venomous humour which predominates in them.

Q. Why is a dog's tongue good for medicine, and a horse's tongue pestiferous? A. By reason of some secret property, or that the tongue of a dog is full of pores, and so doth draw and take away the viscosity of the

wound. It is observed that a dog hath some humour in his tongue, with which, by licking he doth heal; but the contrary effect is the lick of a horse's tongue.

Q. Why is spittle white? A. By reason of the continual moving of the tongue, whereof heat is engendered, which doth make this superfluity white; as seen in the froth of water.

Q. Why is spittle unsavoury and without taste? A. If it had a certain determinate taste, then the tongue would not taste at all, but only have the taste of spittle, and could not distinguish others.

Q. Why doth the spittle of one that is fasting heal an imposthume? A. Because it is well digested and made subtle.

Q. Why do some abound in spittle more than others? A. This doth proceed of a phlegmatic complexion, which doth predominate in them; and such are liable to a quotidian ague, which ariseth from the predominance of phlegm; the contrary in those that spit little, because heat abounds in them, which consumes the humidity of the spittle; and so the defect of spittle is a sign of fever.

Q. Why is the spittle of a man that is fasting more subtle than of one that is full? A. Because the spittle is without the viscosity of meat, which is wont to make the spittle of one who is full, gross and thick.

Q. From whence proceeds the spittle of a man? A. From the froth of the lungs, which according to the physicians, is the seat of the phlegm.

Q. Why are beasts when going together for generation very full of froth and foam? A. Because then the lights and heart are in greater motion of lust; therefore there is engendered in them much frothy matter.

Q. Why have not birds spittle? A. Because they have very dry lungs.

Q. Why doth the tongue sometimes lose the use of speaking? A. It is occasioned by a palsy or apoplexy, which is a sudden effusion of blood, and by gross humours; and sometimes also by infection of *spiritus animates* in the middle cell of the brain which hinders the spirits from being carried to the tongue.

Of the Roof of the Mouth.

Q. Why are fruits, before they are ripe, of a bitter and sour relish, and afterward sweet? A. A sour relish or taste proceeds from coldness and want of heat in gross and thick humidity; but a sweet taste is produced by sufficient heat; therefore in the ripe fruit humidity is subtle through the heat of the sun, and such fruit is commonly sweet; but before it is ripe, as humidity is gross or subtle for want of heat, the fruit is bitter or sour.

Q. Why are we better delighted with sweet tastes than with bitter or any other? A. Because a sweet thing is hot and moist, and through its heat dissolves and consumes superfluous humidities, and by this humidity immundicity is washed away; but a sharp, eager taste, by reason of the cold which predominates in it, doth bind overmuch, and prick and offend the parts of the body in purging, and therefore we do not delight in that taste.

Q. Why doth a sharp taste, as that of vinegar, provoke appetite rather than any other? A. Because it is cold, and doth cool. For it is the nature of cold to desire to draw, and therefore it is the cause of appetite.

Q. Why do we draw in more air than we breathe out? A. Because much air is drawn in that is converted into nutriment, and with the vital spirits is contained in the lungs. Therefore a beast is not suffocated as long as it receives air with its lungs, in which some part of the air remaineth also.

Q. Why doth the air seem to be expelled and put forth, seeing the air is invisible, by reason of its variety and thinness? A. Because the air which is received in us, is mingled with vapours and fumes from the heart, by reason whereof it is made thick, and so is seen. And this is proved by experience, because that in winter, we see our breath, for the coldness of the air doth bind the air mixed with fume, and so it is thickened and made gross, and by consequence is seen.

Q. Why have some persons stinking breath? A. Because of the evil fumes that arise from the stomach. And sometimes it doth proceed from the corruption of the airy parts of the body, as the lungs. The breath of lepers is

so infected that it would poison birds if near them, because the inward parts are very corrupt.

Q. Why are lepers hoarse? A. Because the vocal instruments are corrupted, that is, the lights.

Q. Why do persons become hoarse? A. Because of the rheum descending from the brain, filling the conduit of the lights; and sometimes through imposthumes of the throat, or rheum gathering in the neck.

Q. Why have the females of all living creatures the shrillest voices, the crow only excepted, and a woman a shriller and smaller voice than a man? A. By reason of the composition of the veins and vocal arteries the voice is formed, as appears by this similitude, that a small pipe sounds shriller than a great. Also in women, because the passage where the voice is formed is made narrow and strait, by reason of cold, it being the nature of cold to bind; but in men, the passage is open and wider through heat, because it is the property of heat to open and dissolve. It proceedeth in women through the moistness of the lungs, and weakness of the heat. Young and diseased men have sharp and shrill voices from the same cause.

Q. Why doth the voice change in men at fourteen, and in women at twelve; in men they begin to yield seed, in women when their breasts begin to grow? A. Because then the beginning of the voice is slackened and loosened; and this is proved by the similitude of the string of an instrument let down or loosened, which gives a great sound, and also because creatures that are gelded, as eunuchs, capons., etc., have softer and slenderer voices than others, by the want of their stones.

Q. Why do small birds sing more and louder than great ones, as appears in the lark and nightingale? A. Because the spirits of small birds are subtle and soft, and the organ conduit strait, as appeareth in a pipe; therefore their notes following easily at desire, they sing very soft.

Q. Why do bees, wasps, locusts and many other such like insects, make a noise, seeing they have no lungs, nor instruments of music? A. Because in them there is a certain small skin, which, when struck by the air, causeth a sound.

Q. Why do not fish make a sound? A. Because they have no lungs, but only gills, nor yet a heart, and therefore they need not the drawing in of the air, and by consequence they make no noise, because a voice is a percussion of the air which is drawing.

Of the Neck.

Q. Why hath a living creature a neck? A. Because the neck is the supporter of the head, and therefore the neck is in the middle between the head and the body, to the intent that by it, and by its sinews, motion and sense of the body might be conveyed through all the body; and that by means of the neck, the heart, which is very hot, might be separated from the brain.

Q. Why do some creatures want necks, as serpents and fishes? A. Because they want hearts, and therefore want that assistance which we have spoken of; or else they have a neck in some inward part of them, which is not distinguished outwardly.

Q. Why is the neck full of bones and joints? A. That it may bear and sustain the head the better. Also, because the back bone is joined to the brain in the neck, and from thence it receives marrow, which is of the substance of the brain.

Q. Why have some creatures long necks, as cranes, storks and such like? A. Because such birds seek their food at the bottom of waters. And some creatures have short necks, as sparrows, hawks, etc., because such are ravenous, and therefore for strength have short necks, as appeareth in the ox, who has a short neck and strong.

Q. Why is the neck hollow, and especially before, about the tongue? A. Because there are two passages, whereof the one doth carry the meat to the nutritive instrument, or stomach and liver, which is called by the Greeks *Aesophagus;* and the other is the windpipe.

Q. Why is the artery made with rings and circle? A. The better to bow and give a good sounding.

Of the Shoulders and Arms.

Q. Why hath a man shoulders and arms? A. To lift and carry burdens.

Q. Why are the arms round? A. For the swifter and speedier work.

Q. Why are the arms thick? A. That they may be strong to lift and bear burdens, and thrust and give a strong blow; so their bones are thick, because they contain much marrow, or they would be easily corrupted and injured.

Q. Why do the arms become small and slender in some diseases, as in mad men, and such as are sick of the dropsy? A. Because all the parts of the body do suffer the one with the other; and therefore one member being in grief, all the humours do concur and run thicker to give succour and help to the aforesaid grief.

Q. Why have brute beasts no arms? A. Their fore feet are instead of arms, and in their place.

Of the Hands.

Q. For what use hath a man hands, and an ape also, like unto a man? A. The hand is an instrument a man doth especially make use of, because many things are done by the hands, and not by any other part.

Q. Why are some men ambo-dexter, that is, they use the left hand as the right? A. By reason of the great heat of the heart, and for the hot bowing of the same, for it is that which makes a man as nimble of the left hand as of the right.

Q. Why are the fingers full of joints? A. To be more fit and apt to receive and keep what is put in them.

Q. Why hath every finger three joints, and the thumb but two? A. The thumb hath three, but the third is joined to the arm, therefore is stronger

than the other fingers; and is called pollex or polico, that is, to excel in strength.

Q. Why are the fingers of the right hand nimbler than the fingers of the left? A. It proceedeth from the heat that predominates in those parts, and causeth great agility.

Of the Nails.

Q. From whence do nails proceed? A. Of the tumosity and humours, which are resolved and go into the extremities of the fingers; and they are dried through the power of the external air, and brought to the hardness of horn.

Q. Why do the nails of old men grow black and pale? A. Because the heat of the heart decaying causeth their beauty to decay also.

Q. Why are men judged to be good or evil complexioned by the colour of the nails? A. Because they give witness of the goodness or badness of their heart, and therefore of the complexion, for if they be somewhat red, they betoken choler well tempered; but if they be yellowish or black, they signify melancholy.

Q. Why do white spots appear in the nails? A. Through mixture of phlegm with nutriment.

Of the Paps and Dugs.

Q. Why are the paps placed upon the breasts? A. Because the breast is the seat of the heart, which is most hot; and therefore the paps grow there, to the end that the menses being conveyed thither as being near the heat of the heart, should the sooner be digested, perfected and converted with the matter and substance of the milk.

Q. Why are the paps below the breasts in beasts, and above the breast in women? A. Because woman goes upright, and has two legs only; and

therefore if her paps were below her breasts, they would hinder her going; but beasts having four feet prevents that inconveniency.

Q. Whether are great, small or middle-sized paps best for children to suck? A. In great ones the heat is dispersed, there is no good digestion of the milk; but in small ones the power and force is strong, because a virtue united is strongest; and by consequence there is a good digestion for the milk.

Q. Why have not men as great paps and breasts as women? A. Because men have not monthly terms, and therefore have no vessel deputed for them.

Q. Why do the paps of young women begin to grow about thirteen or fifteen years of age? A. Because then the flowers have no course to the teats, by which the young one is nourished, but follow their ordinary course and therefore wax soft.

Q. Why hath a woman who is with child of a boy, the right pap harder than the left? A. Because the male child is conceived in the right side of the mother; and therefore the flowers do run to the right pap, and make it hard.

Q. Why doth it show weakness of the child, when the milk doth drop out of the paps before the woman is delivered? A. Because the milk is the proper nutriment of the child in the womb of its mother, therefore if the milk run out, it is a token that the child is not nourished, and consequently is weak.

Q. Why do the hardness of the paps betoken the health of the child in the womb? A. Because the flowers are converted into milk, and thereby strength is signified.

Q. Why are women's paps hard when they be with child, and soft at other times? A. Because they swell then, and are puffed, and the great moisture which proceeds from the flowers doth run into the paps, which at other seasons remaineth in the matrix and womb, and is expelled by the place deputed for that end.

Q. By what means doth the milk of the paps come to the matrix or womb? A. There is a certain knitting and coupling of the paps with the womb, and there are certain veins which the midwives do cut in the time of the birth of the child, and by those veins the milk flows in at the navel of the child, and so it receives nourishment by the navel.

Q. Why is it a sign of a male child in the womb when the milk that runneth out of a woman's breast is thick, and not much, and of a female when it is thin? A. Because a woman that goeth with a boy hath a great heat in her, which doth perfect the milk and make it thick; but she who goes with a girl hath not so much heat, and therefore the milk is undigested, imperfect, watery and thin, and will swim above the water if it be put into it.

Q. Why is the milk white, seeing the flowers are red, of which it is engendered? A. Because blood which is well purged and concocted becomes white, as appeareth in flesh whose proper colour is white, and being boiled, is white. Also, because every humour which is engendered of the body, is made like unto that part in colour where it is engendered as near as it can be; but because the flesh of the paps is white, therefore the colour of the milk is white.

Q. Why doth a cow give milk more abundantly than other beasts? A. Because she is a great eating beast, where there is much monthly superfluity engendered, there is much milk; because it is nothing else but the blood purged and tried.

Q. Why is not milk wholesome? A. 1. Because it curdeth in the stomach, whereof an evil breath is bred. 2. Because the milk doth grow sour in the stomach, where evil humours are bred, and infect the breath.

Q. Why is milk bad for such as have the headache? A. Because it is easily turned into great fumosities, and hath much terrestrial substance in it, the which ascending, doth cause the headache.

Q. Why is milk fit nutriment for infants? A. Because it is a natural and usual food, and they were nourished by the same in the womb.

Q. Why are the white-meats made of a newly milked cow good? A. Because milk at that time is very springy, expels fumosities, and, as it were, purges at that time.

Q. Why is the milk naught for the child, if the woman giving suck uses carnal copulation? A. Because in time of carnal copulation, the best part of the milk goes to the seed vessels, and to the womb, and the worst remain in the paps, which hurts the child.

Q. Why do physicians forbid the eating of fish and milk at the same time? A. Because they produce a leprosy, and because they are phlegmatic.

Q. Why have not birds and fish milk and paps? A. Because paps would hinder the flight of birds. And although fish have neither paps nor milk, the females cast much spawn, which the male touches with a small gut, and causes their kind to continue in succession.

Of the Back.

Q. Why have beasts a back? A. 1. Because the back is the way and mien of the body from which are extended and spread throughout, all the sinews of the backbone. 2. Because it should be a guard and defence for the soft parts of the body, as for the stomach, liver, lights and such like. 3. Because it is the foundation of all the bones, as the ribs, fastened to the back bone.

Q. Why hath the back bone so many joints or knots, called *spondyli*? A. Because the moving and bending it, without such joints, could not be done; and therefore they are wrong who say that elephants have no such joints, for without them they could not move.

Q. Why do fish die after their back bones are broken? A. Because in fish the back bone is instead of the heart; now the heart is the first thing that lives and the last that dies; and when that bone is broken, fish can live no longer.

Q. Why doth a man die soon after the marrow is hurt or perished? A. Because the marrow proceeds from the brain, which is the principal part of a man.

Q. Why have some men the piles? A. Those men are cold and melancholy, which melancholy first passes to the spleen, its proper seat, but there cannot be retained, for the abundancy of blood; for which reason it is conveyed to the back bone, where there are certain veins which terminate in the back, and receive the blood. When those veins are full of the melancholy blood, then the conduits of nature are opened, and the blood issues out once a month, like women's terms. Those men who have this course of blood, are kept from many infirmities, such as dropsy, plague, etc.

Q. Why are the Jews much subject to this disease? A. Because they eat much phlegmatic and cold meats, which breed melancholy blood, which is purged with the flux. Another reason is, motion causes heat and heat digestion; but strict Jews neither move, labour nor converse much, which breeds a coldness in them, and hinders digestion, causing melancholic blood, which is by this means purged out.

Of the Heart.

Q. Why are the lungs light, spongy and full of holes? A. That the air may be received into them for cooling the heart, and expelling humours, because the lungs are the fan of the heart; and as a pair of bellows is raised up by taking in the air, and shrunk by blowing it out, so likewise the lungs draw the air to cool the heart, and cast it out, lest through too much air drawn in, the heart should be suffocated.

Q. Why is the flesh of the lungs white? A. Because they are in continual motion.

Q. Why have those beasts only lungs that have hearts? A. Because the lungs be no part for themselves, but for the heart, and therefore, it were superfluous for those creatures to have lungs that have no hearts.

Q. Why do such creatures as have no lungs want a bladder? A. Because such drink no water to make their meat digest and need no bladder for urine; as appears in such birds as do not drink at all, viz., the falcon and sparrow hawk.

Q. Why is the heart in the midst of the body? A. That it may import life to all, parts of the body, and therefore it is compared to the sun, which is placed in the midst of the planets, to give light to them all.

Q. Why only in men is the heart on the left side? A. To the end that the heat of the heart may mitigate the coldness of the spleen; for the spleen is the seat of melancholy, which is on the left side also.

Q. Why is the heart first engendered; for the heart doth live first and die last? A. Because the heart is the beginning and original of life, and without it no part can live. For of the seed retained in the matrix, there is first engendered a little small skin, which compasses the seed; whereof first the heart is made of the purest blood; then of blood not so pure, the liver; and of thick and cold blood the marrow and brain.

Q. Why are beasts bold that have little hearts? A. Because in a little heart the heat is well united and vehement, and the blood touching it, doth quickly heat it and is speedily carried to the other parts of the body, which give courage and boldness.

Q. Why are creatures with a large heart timorous, as the hare? A. The heart is dispersed in such a one, and not able to heat the blood which cometh to it; by which means fear is bred.

Q. How is it that the heart is continually moving? A. Because in it there is a certain spirit which is more subtle than air, and by reason of its thickness and rarefaction, seeks a larger space, filling the hollow room of the heart; hence the dilating and opening of the heart, and because the heart is earthly the thrusting and moving ceasing, its parts are at rest, tending downwards. As a proof of this, take an acorn, which, if put into the fire, the heat doth dissolve its humidity, therefore occupies a greater space, so that the rind cannot contain it, but puffs up, and throws it into the fire. The like of the heart. Therefore the heart of a living creature is triangular, having its least part towards its left side, and the greater towards the right; and doth also open and shut in the least part, by which means it is in continual motion; the first motion is called *diastole*, that is extending the heart or breast; the other *systole*, that is, shutting of the heart; and from these all the motions of the body proceed, and that of the pulse which the physicians feel.

Q. How comes it that the flesh of the heart is so compact and knit together? A. Because in thick compacted substances heat is commonly received and united. And because the heart with its heat should moderate the coldness of the brain, it is made of that fat flesh apt to keep a strong heat.

Q. How comes the heart to be the hottest part of all living creatures? A. It is so compacted as to receive the heat best, and because it should mitigate the coldness of the brain.

Q. Why is the heart the beginning of life? A. It is plain that in it the vital spirit is bred, which is the heat of life; and therefore the heart having two receptacles, viz., the right and the left the right hath more blood than spirits; which spirit is engendered to give life and vivify the body.

Q. Why is the heart long and sharp like a pyramid? A. The round figure hath an angle, therefore the heart is round, for fear any poison or hurtful matter should be retained in it; and because that figure is fittest for motion.

Q. How comes the blood chiefly to be in the heart? A. The blood in the heart has its proper or efficient place, which some attribute to the liver; and therefore the heart doth not receive blood from any other parts but all other parts of it.

Q. How happens it that some creatures want a heart? A. Although they have no heart, yet they have somewhat that answers for it, as appears in eels and fish that have the back bone instead of the heart.

Q. Why does the heart beat in some creatures after the head is cut off, as in birds and hens? A. Because the heart lives first and dies last, and therefore beats longer than other parts.

Q. Why doth the heat of the heart sometimes fail of a sudden, and in those who have the falling sickness? A. This proceeds from the defect of the heart itself, and of certain small skins with which it is covered, which, being infected and corrupted, the heart faileth on a sudden; sometimes only by reason of the parts adjoining; and therefore, when any venomous humour goes out of the stomach that turns the heart and parts adjoining, that causeth this fainting.

Of the Stomach.

Q. For what reason is the stomach large and wide? A. Because in it the food is first concocted or digested as it were in a pot, to the end that which is pure should be separated from that which is not; and therefore, according to the quantity of food, the stomach is enlarged.

Q. How comes it that the stomach is round? A. Because if it had angles and corners, food would remain in them and breed ill-humours, so that a man would never want agues, which humours are evacuated and consumed, and not hid in any such corners, by the roundness of the stomach.

Q. How comes the stomach to be full of sinews? A. Because the sinews can be extended and enlarged, and so is the stomach when it is full; but when empty it is drawn together, and therefore nature provides the sinews.

Q. How comes the stomach to digest? A. Because of the heat which is in it, and comes from the parts adjoining, that is, the liver and the heart. For as we see in metals the heat of the fire takes away the rust and dross from iron, the silver from tin, and gold from copper; so also by digestion the pure is separated from the impure.

Q. For what reason doth the stomach join the liver? A. Because the liver is very hot, and with its heat helps digestion, and provokes appetite.

Q. Why are we commonly cold after dinner? A. Because then the heat goes to the stomach to further digestion, and so the other parts grow cold.

Q. Why is it hurtful to study soon after dinner? A. Because when the heat labours to help the imagination in study, it ceases from digesting the food, which remains undigested; therefore people should walk sometimes after meals.

Q. How cometh the stomach slowly to digest meat? A. Because it swims in the stomach. Now, the best digestion is in the bottom of the stomach, because the fat descends not there; such as eat fat meat are very sleepy by reason that digestion is hindered.

Q. Why is all the body wrong when the stomach is uneasy? A. Because the stomach is knit with the brain, heart and liver, which are the principal parts in man; and when it is not well, the others are indisposed. Again, if the first digestion be hindered, the others are also hindered; for in the first digestion is the beginning of the infirmity in the stomach.

Q. Why are young men sooner hungry than old men? A. Young men do digest for three causes; 1. For growing; 2. For restoring life; and 3. For

conservation of life. Also, young men are hot and dry, and therefore the heat doth digest more, and by consequence they desire more.

Q. Why do physicians prescribe that men should eat when they have an appetite? A. Because much hunger and emptiness will fill the stomach with naughty rotten humours, which are drawn in instead of meat; for, if we fast over night we have an appetite to meat, but none in the morning; as then the stomach is filled with naughty humours, and especially its mouth, which is no true filling, but a deceitful one. And, therefore, after we have eaten a little, our stomach comes to us again; for the first morsel, having made clean the mouth of the stomach, doth provoke the appetite.

Q. Why do physicians prescribe that we should not eat too much at a time, but little by little? A. Because when the stomach is full, the meat doth swim in it, which is a dangerous thing. Another reason is, that as very green wood doth put out the fire, so much meat chokes the natural heat and puts it out; and therefore the best physic is to use temperance in eating and drinking.

Q. Why do we desire change of meals according to the change of times; as in winter, beef, mutton; in summer light meats, as veal, lamb, etc.? A. Because the complexion of the body is altered and changed according to the time of year. Another reason is, that this proceeds from the quality of the season: because the cold in winter doth cause a better digestion.

Q. Why should not the meat we eat be as hot as pepper and ginger? A. Because as hot meat doth inflame the blood, and dispose it to a leprosy, so, on the contrary, meat too cold doth mortify and chill the blood. Our meat should not be over sharp, because it wastes the constitution; too much sauce doth burn the entrails, and inclineth to too often drinking; raw meat doth the same; and over sweet meats to constipate and cling the veins together.

Q. Why is it a good custom to eat cheese after dinner, and pears after all meat? A. Because, by reason of its earthliness and thickness it tendeth down towards the bottom of the stomach, and so put down the meat; and the like of pears. Note, that new cheese is better than old, and that old soft cheese is very bad, and causeth the headache and stopping of the liver; and the older the worse. Whereof it is said that cheese digesteth all things but itself.

Q. Why are nuts good after cheese, as the proverb is, "After fish nuts, and after flesh cheese?" A. Because fish is of hard digestion, and doth easily putrefy and corrupt; and nuts are a remedy against poison.

Q. Why is it unwholesome to wait long for one dish after another, and to eat of divers kinds of meat? A. Because the first begins to digest when the last is eaten, and so digestion is not equally made. But yet this rule is to be noted; dishes light of digestion, as chickens, kids, veal, soft eggs and such like, should be first eaten; because, if they should be first served and eaten and were digested, they would hinder the digestion of the others; and the light meats not digested would be corrupted in the stomach and kept in the stomach violently, whereof would follow belching, loathing, headache, bellyache and great thirst. It is very hurtful too, at the same meal to drink wine and milk, because they are productive of leprosy.

Q. Whether is meat or drink best for the stomach? A. Drink is sooner digested than meat, because meat is of greater substance, and more material than drink, and therefore meat is harder to digest.

Q. Why is it good to drink after dinner? A. Because the drink will make the meat readier to digest. The stomach is like unto a pot which doth boil meat, and therefore physicians do counsel to drink at meals.

Q. Why is it good to forbear a late supper? A. Because there is little moving or stirring after supper, and so the meat is not sent down to the bottom of the stomach, but remaineth undigested, and so breeds hurts; therefore a light supper is best.

Of the Blood.

Q. Why is it necessary that every living creature that hath blood have also a liver? A. Because the blood is first made in the liver, its seat, being drawn from the stomach by certain principal veins, and so engendered.

Q. Why is the blood red? A. 1. It is like the part in which it is made, viz., the liver, which is red. 2. It is likewise sweet, because it is well digested and concocted; but if it hath a little earthly matter mixed with it, that makes it somewhat salt.

Q. How is women's blood thicker than men's? Their coldness thickens, binds, congeals, and joins together.

Q. How comes the blood to all parts of the body through the liver, and by what means? A. Through the principal veins, as the veins of the head, liver, etc., to nourish the body.

Of the Urine.

Q. How doth the urine come into the bladder, seeing the bladder is shut? A. Some say sweatings; others, by a small skin in the bladder, which opens and lets in the urine. Urine is a certain and not deceitful messenger of the health or infirmity of man. Men make white urine in the morning, and before dinner red, but after dinner pale, and also after supper.

Q. Why is it hurtful to drink much cold water? A. Because one contrary doth hinder and expel another; water is very cold, and lying so in the stomach, doth hinder digestion.

Q. Why is it unwholesome to drink new wine? A. 1. It cannot be digested; therefore it causeth the belly to swell, and a kind of bloody flux. 2. It hinders making water.

Q. Why do physicians forbid us to labour presently after dinner? A. 1. Because the motion hinders the virtue and power of digestion. 2. Because stirring immediately after dinner causes the different parts of the body to draw the meat to them, which often breeds sickness. 3. Because motion makes the food descend before it is digested. And after supper it is good to walk a little, that the food may go to the bottom of the stomach.

Q. Why is it good to walk after dinner? A. Because it makes a man well disposed, and fortifies and strengthens the natural heat, causing the superfluity of the stomach to descend.

Q. Why is it wholesome to vomit? A. It purges the stomach of all naughty humours, expelling them, which would breed again if they should remain in it; and purges the eyes and head, clearing the brain.

Q. How comes sleep to strengthen the stomach and the digestive faculty? A. Because in sleep the heat draws inwards, and helps digestion; but when we awake, the heat returns, and is dispersed through the body.

Of the Gall and Spleen.

Q. How come living creatures to have a gall? A. Because choleric humours are received into it, which through their acidity helps the guts to expel superfluities; also it helps digestion.

Q. How comes the jaundice to proceed from the gall? A. The humour of the gall is bluish and yellow; therefore when its pores are stopped the humour cannot go into the sack thereof, but are mingled with the blood, wandering throughout all the body and infecting the skin.

Q. Why hath a horse, mule, ass or cow a gall? A. Though these creatures have no gall in one place, as in a purse or vessel, yet they have one dispersed in small veins.

Q. How comes the spleen to be black? A. It is occasioned by terrestrial and earthy matter of a black colour. According to physicians, the spleen is the receptacle of melancholy, and that is black.

Q. Why is he lean who hath a large spleen? A. Because the spleen draws much water to itself, which would turn to fat; therefore, men that have a small spleen are fat.

Q. Why does the spleen cause men to laugh, as says Isidorus; "We laugh with the spleen, we are angry with the gall, we are wise with the heart, we love with the liver, we feel with the brain, and speak with the lungs"? A. The reason is, the spleen draws much melancholy to it, being its proper seat, the which melancholy proceeds from sadness, and is there consumed; and the cause failing, the effect doth so likewise. And by the same reason the gall causes anger, for choleric men are often angry, because they have much gall.

Of Carnal Copulation.

Q. Why do living creatures use carnal copulation? A. Because it is most natural in them to get their like.

Q. What is carnal copulation? A. It is a mutual action of male and female, with instruments ordained for that purpose to propagate their kind.

Q. Why is this action good in those that use it lawfully and moderately? A. Because it eases and lightens the body, clears the mind, comforts the head and senses, and expels melancholy.

Q. Why is immoderate carnal copulation hurtful? A. Because it destroys the sight, dries the body, and impairs the brain, often causes fevers and shortens life also.

Q. Why doth carnal copulation injure melancholic or choleric men, especially thin men? A. Because it dries the bones much which are naturally so. On the contrary, it is good for the phlegmatic and sanguine, because they abound with that substance which by nature, is necessarily expelled.

Q. Why should not the act be used when the body is full? A. Because it hinders digestion; and it is not good for a hungry belly, because it weakens.

Q. Why is it not good soon after a bath? A. Because then the pores are open, and the heat dispersed through the body: for after bathing, it cools the body too much.

Q. Why is it not proper after vomiting or looseness? A. Because it is dangerous to purge twice a day; for in this act the veins are purged, and the guts by the vomit.

Q. Why is there such delight in the act of venery? A. Because this act is such a contemptible thing in itself, that all creatures would naturally abhor it were there no pleasure in it; and therefore nature readily uses it, that all kinds of living things should be maintained and kept up.

Q. Why do such as use it often take less delight in it than those who come to it seldom? A. 1. The passages of the seed are over large and wide; and therefore it makes no stay there, which would cause the delight. 2. Through often evacuation there is little seed left, and therefore no delight. 3. Because such, instead of seed there is cast out blood, undigested and raw, or some other watery substance, which is not hot, and therefore affords no delight.

Of the Seed of Man and Beasts.

Q. How, and of what cometh the seed of man? A. Some philosophers and physicians say, it is superfluous humours; others say, that the seed is pure blood, flowing from the brain, concocted and whitened in the testicles; but sweat, urine, spittle, phlegm, choler, and the like, and blood dispersed throughout the whole body, come chiefly from the heart, liver and brain, because those parts are greatly weakened by casting seed; and therefore it appears that frequent carnal copulation is not good.

Q. Why is a man's seed white, and a woman's red? A. It is white in men by reason of great heat and quick digestion, because it is rarefied in the testicles; but a woman's is red, because her terms corrupt the undigested blood, and it hath its colour.

Q. How come females to have monthly courses? A. Because they are cold in respect of men, and because all their nourishment cannot be converted

into blood, a great part of which turns to menses, which are monthly expelled.

Q. For what reason do the menses not come down in females before the age of thirteen? A. Because young women are hot, and digest all their nourishment.

Q. For what reason do they leave off at about fifty? A. Because nature is then so exhausted, they cannot expel them by reason of weakness.

Q. Why have not breeding women the menses? A. Because that then they turn into milk, and into the nourishment of the child: for if a woman with child have them, it is a sign that she will miscarry.

Q. Why are they termed *menstrua*, from the word *mensis*, a month? A. Because it is a space of time that measures the moon, as she ends her course in twenty-nine days, and fourteen hours.

Q. Why do they continue longer with some than others, as with some six or seven, but commonly with all three days? A. The first are cold, therefore they increase most in them, and consequently are longer expelling; other women are hot, and therefore have fewer and are sooner expelled.

Q. Are the menses which are expelled, and those by which the child is engendered, all one? A. No, because the one are unclean, and unfit for that purpose; but the other very pure and clear, therefore the fittest for generation.

Q. Why have not women their menses all one and the same time, but some in the new moon, some in the full, and others at the wane? A. From their several complexions, and though all women (in respect of men) are phlegmatic, yet some are more sanguine than others, some more choleric; and as the moon hath her quarters, so have women their complexions; the first sanguine, the second choleric.

Q. Why do women easily conceive after their menses? A. Because the womb being cleansed, they are better prepared for conception.

Q. Why do women look pale when they first have their menses upon them? A. Because the heat goes from the outward parts of the body to the inward,

to help nature to expel their terms, which deprivation of heat doth cause a paleness in the face. Or, because that flux is caused of raw humours, which, when they run, make the face colourless.

Q. Why do they at that time abhor their meat? A. Because nature labours more to expel their terms than digest; and, therefore, if they should eat, their food would remain raw in the stomach.

Q. Why are some women barren and do not conceive? A. 1. It proceeds sometimes from the man who may be of a cold nature, so that his seed is unfit for generation. 2. Because it is waterish, and so doth not stay in the womb. 3. By reason that the seed of them both hath not a like proportion, as if the man be melancholy and the woman sanguine, or the man choleric and the woman phlegmatic.

Q. Why do fat women seldom conceive? A. Because they have a slippery womb, and the seed will not stay in it. Or, because the mouth of the matrix is very strait, and the seed cannot enter it, or, if it does, it is so very slowly that it grows cold and unfit for generation.

Q. Why do those of a hot constitution seldom conceive? A. Because the seed in them is extinguished or put out, as water cast into fire; whereof we find that women who vehemently desire the flesh seldom conceive.

Q. Why are whores never with child? A. By reason of divers seeds, which corrupt and spoil the instruments of conception, for it makes them so slippery, that they cannot retain seed. Or, else, it is because one man's seed destroys another's, so neither is good for generation.

Q. Why do women conceive twins? A. Because there are seven cells or receptacles in the womb; wherefore they may naturally have so many children at once as there falls seed into these cells.

Q. Why are twins but half men, and not so strong as others? A. The seed that should have been for one, is divided into two and therefore they are weakly and seldom live long.

Of Hermaphrodites.

Q. How are hermaphrodites begotten? A. Nature doth always tend to that which is best, and always intendeth to beget the male and not the female, because the female is only for the male's mate. Therefore the male is sometimes begotten in all its principal parts; and, yet, through the indisposition of the womb and object, and inequality of the seeds, when nature cannot perfect the male, she brings forth the female too. And therefore natural philosophers say, that an hermaphrodite is impotent in the privy parts of a man, as appears by experience.

Q. Is an hermaphrodite accounted a man or a woman? A. It is to be considered in which member he is fittest for copulation; if he be fittest in the woman's, then he is a woman; if in a man's, then he is a man.

Q. Should he be baptized in the name of a man or a woman? A. In the name of a man, because names are given *ad placitum*, and therefore he should be baptized, according to the worthiest name, because every agent is worthier than its patient.

Of Monsters.

Q. Doth nature make any monsters? A. She doth; if she did not, then would she be deprived of her end. For of things possible, she doth always propose to bring forth that which is most perfect and best; but in the end, through the evil disposition of the matter, not being able to bring forth that which she intended, she brings forth that which she can. As it happened in Albertus's time, when in a certain village, a cow brought forth a calf, half a man; then the countrymen suspecting a shepherd, would have burnt him with the cow; but Albertus, being skilled in astronomy, said that this did proceed from a certain constellation, and so delivered the shepherd from their hands.

Q. Are they one or two? A. To find out, you must look into the heart, if there be two hearts, there be two men.

Q. Why are some children like their father, some like their mother, some to both and some to neither? A. If the seed of the father wholly overcome that of the mother the child doth resemble the father; but if the mother's

predominate, then it is like the mother; but if he be like neither, that doth sometimes happen through the four qualities, sometimes through the influence of some heavenly constellation.

Q. Why are children oftener like the father than the mother? A. It proceeds from the imagination of the mother in the act of copulation, as appeared in a queen who had her imagination on a blackamoor; and in the Ethiopian queen who brought forth a white child, because her imagination was upon a white colour; as is seen in Jacob's skill in casting rods of divers colours into the water, when his sheep went to ram.

Q. Why do children born in the eighth month for the most part die quickly, and why are they called the children of the moon? A. Because the moon is a cold planet, which has dominion over the child, and therefore doth bind it with coldness, which is the cause of its death.

Q. Why doth a child cry as soon as it is born? A. Because of the sudden change from heat to cold: which cold doth affect its tenderness. Another reason is, because the child's soft and tender body is wringed and put together coming out of the narrow and strait passage of the matrix, and especially, the brain being moist, and the head being pressed and wrinkled together, is the cause that some humours distil by the eyes, which are the cause of tears and weeping.

Q. Why doth the child put its fingers into its mouth as soon as it cometh into the world? A. Because that coming out of the womb it cometh out of a hot bath, and entering into the cold, puts them into its mouth for want of heat.

Of the Child in the Womb.

Q. How is the child engendered in the womb? A. The first six days the seed hath this colour of milk, but in the six following a red colour, which is near unto the disposition of the flesh; and then it is changed into a thick substance of blood. But in the twelve days following, this substance becomes so thick and round that it is capable of receiving shape and form.

Q. Doth the child in the womb void excrements or make water? No. Because it hath not the first digestion which is in the stomach. It receives no food by the mouth, but by the navel; therefore, makes no urine but sweats, which is but little, and is received in a skin in the matrix, which at the birth is cast out.

Of Abortion and Untimely Birth.

Q. Why do women that eat unwholesome meats, easily miscarry? A. Because they breed putrefied seed, which the mind abhorring doth cast it out of the womb as unfit for the shape which is adapted to receive the soul.

Q. Why doth wrestling and leaping cause the casting of the child, as some subtle women do on purpose? A. The vapour is burning, and doth easily hurt the tender substance of the child, entering in at the pores of the matrix.

Q. Why doth much joy cause a woman to miscarry? A. Because in the time of joy, a woman is destitute of heat, and so a miscarriage doth follow.

Q. Why do women easily miscarry when they are first with child, viz., the first, second or third month? A. As apples and pears easily fall at first, because the knots and ligaments are weak, so it is with a child in the womb.

Q. Why is it hard to miscarry in the third, fourth, fifth and sixth month? A. Because the ligaments are stronger and well fortified.

Of Divers Matters.

Q. Why has not a man a tail like a beast? A. Because man is a noble creature, whose property is to sit; which a beast, having a tail, cannot.

Q. Why does hot water freeze sooner than cold? A. Hot water is thinner, and gives better entrance to the frost.

Q. Why is every living creature dull after copulation? A. By reason that the act is filthy and unclean; and so every living creature abhors it. When men

do think upon it, they are ashamed and sad.

Q. Why cannot drunken men judge of taste as well as sober men? A. Because the tongue, being full of pores and spongy, receives more moisture into it, and more in drunken men than in sober; therefore, the tongue, through often drinking, is full of bad humours, and so the faculty of tasting is rendered out of order; also, through the thickening of the taste itself, drink taken by drunkards is not presently felt. And by this may also be understood why drunkards have not a perfect speech.

Q. Why have melancholy beasts long ears? A. The ears proceed from a dry and cold substance, called gristle, which is apt to become bone; and because melancholy beasts do abound with this kind of substance, they have long ears.

Q. Why do hares sleep with their eyes open? A. 1. They have their eyes standing out, and their eyelids short, therefore, never quite shut. 2. They are timorous, and as a safe-guard to themselves, sleep with their eyes open.

Q. Why do not crows feed their young till they be nine days old? A. Because seeing them of another colour, they think they are of another kind.

Q. Why are sheep and pigeons mild? A. They want galls, the cause of anger.

Q. Why have birds their stones inward? A. Because if outward, they would hinder their flying and lightness.

Q. How comes it that birds do not piss? A. Because that superfluity which would be converted into urine, is turned into feathers.

Q. Why do we hear better in the night than by day? A. Because there is a greater quietness in the night than in the day, for the sun doth not exhale the vapours by night, but it doth in the day, therefore the moon is more fit than in the day; and the moon being fit, the motion is better received, which is said to be caused by a sound.

Q. For what reason doth a man laugh sooner when touched in the armpits than in any other part of the body? A. Because there is in that place a meeting of many sinews, and the mean we touch, which is the flesh, is more subtle than in other parts, and therefore of finer feeling. When a man is

moderately and gently touched there the spirits that are dispersed run into the face and causes laughter.

Q. Why do some women love white men and some black men? A. 1. Some have weak sight, and such delight in black, because white doth hurt the sight more than black. 2. Because like delight in like; but some women are of a hot nature, and such are delighted with black, because blackness followeth heat; and others are of a cold nature, and those are delighted with white, because cold produces white.

Q. Why do men incline to sleep after labour? A. Because, through continual moving, the heat is dispersed to the external parts of the body, which, after labour, is gathered together in the internal parts, there to digest; and from digestion, vapours arise from the heart to the brain, which stop the passage by which the natural heat should be dispersed to the external part; and then, the external parts being cold and thick, by reason of the coldness of the brain sleep is easily procured. By this it appeareth that such as eat and drink too much, do sleep much and long, because there are great store of humours and vapours bred in such persons which cannot be consumed and digested by the natural heat.

Q. Why are such as sleep much, evil disposed and ill-coloured? A. Because in too much sleep moisture is gathered together, which cannot be consumed, and so it doth covet to go out through the superficial parts of the body, and especially it resorts to the face, and therefore is the cause of bad colours, as appeareth in such as are phlegmatic and who desire more sleep than others.

Q. Why do some imagine in their sleep that they eat and drink sweet things? A. Because the phlegm drawn up by the jaws doth distil and drop to the throat; and this phlegm is sweet after a sore sweat, and that seemeth so to them.

Q. Why do some dream in their sleep that they are in the water and drowned, and some that they were in the water and not drowned; especially such as are phlegmatic? A. Because when the phlegmatic substance doth turn to the high parts of the body, then many think they are in the water and drowned; but when that substance draweth into the internal parts, then they think they escape. Another reason may be, overmuch repletion and drunkenness: and therefore, when men are overmuch filled with meat, the

fumes and vapours ascend and gather together, and they think they are drowned and strangled; but if they cannot ascend so high then they seem to escape.

Q. May a man procure a dream by an external cause? A. It may be done. If a man speak softly in another man's ear and awake him not, then of his stirring of the spirits there are thunderings and buzzings in the head, which cause dreamings.

Q. How many humours are there in a man's body? A. Four, whereof every one hath its proper place. The first is choler, called by physicians *flava bilis*, which is placed in the liver. The second is melancholy, called *atra bilis*, whose seat is in the spleen. The third is phlegm, whose place is in the head. The fourth is blood, whose place is in the heart.

Q. What condition and quality hath a man of a sanguine complexion? A. It is fair and beautiful; hath his hair for the most part smooth; is bold; retaineth that which he hath conceived; is shame-faced, given to music, a lover of sciences, liberal, courteous, and not desirous of revenge.

Q. What properties do follow those of a phlegmatic complexion? A. They are dull of wit, their hair never curls, they are seldom very thirsty, much given to sleep, dream of things belonging to water, are fearful, covetous, given to heap up riches, and are weak in the act of venery.

Q. What are the properties of a choleric man? A. He is brown in complexion, unquiet, his veins hidden, eateth little and digesteth less, dreameth of dark and confused things, is sad, fearful, exceedingly covetous, and incontinent.

Q. What dreams do follow these complexions? A. Pleasant, merry dreams do follow the sanguine; fearful dreams, the melancholic; the choleric dream of children fighting and fire; the phlegmatic dream of water. This is the reason why a man's complexion is said to be known by his dreams.

Q. What is the reason that if you cover an egg over with salt, and let it lie in it a few days, all the meat within is consumed? A. A great dryness of the salt consumes the substance of the egg.

Q. Why is the melancholic complexion the worst? A. Because it proceeds from the dregs of the blood, is an enemy to mirth and bringeth on aged appearance and death, being cold and dry.

Q. What is the cause that some men die joyful, and some in extreme grief? A. Over-great joy doth overmuch heat the internal parts of the body; and overmuch grief doth drown and suffocate the heart, which failing, a man dieth.

Q. Why hath a man so much hair on his head? A. The hair on his head proceeds from the vapours which arise from the stomach, and ascend to the head, and also of the superfluities which are in the brain; and those two passing through the pores of the head are converted into hair, by reason of the heat and dryness of the head. And because man's body is full of humours, and he hath more brains than any other living creatures.

Q. How many ways is the brain purged and other hidden places of the body? A. Four; the watery and gross humours are purged by the eyes, melancholy by the ears, choler by the nose, and phlegm by the hair.

Q. What is the reason that such as are very fat in their youth, are in danger of dying on a sudden? A. Such have very small and close veins, by reason of their fatness, so that the air and the breath can hardly have free course in them; and thereupon the natural heat wanting the refreshment of air, is put out, and as it were, quenched.

Q. Why do garlic and onions grow after they are gathered? A. It proceedeth from the humidity that is in them.

Q. Why do men feel cold sooner than women? A. Because men, being more hot than women, have their pores more open, and therefore it doth sooner enter into them than women.

Q. Why are not old men so subject to the plague as young men and children? A. They are cold, and their pores are not so open as in youth; and therefore the infecting air doth not penetrate so soon by reason of their coldness.

Q. Why do we cast water in a man's face when he swooneth? A. Because through the coldness of water the heat may run to the heart, and so give

strength.

Q. Why are those waters best and most delicate which run towards the rising sun? A. Because they are soonest stricken with the sunbeams, and made pure and subtle, the sun having them under it, and by that means taking off the coldness and gross vapours which they gather from the ground they run through.

Q. Why have women such weak and small voices? A. Because their instruments and organs of speaking, by reason of their coldness, are small and narrow; and therefore, receiving but little air, cause the voice to be effeminate.

Q. Whereof doth it proceed that want of sleep doth weaken the brain and body? A. Much watching doth engender choler, the which being hot both dry up and lessen the humours which serve the brain, the head, and other parts of the body.

Q. Wherefore doth vinegar so readily staunch blood? A. From its cold virtue, for all cold is naturally binding, and vinegar being cold, hath the like property.

Q. Why is sea-water salter in summer than in winter? A. From the heat of the sun, seeing by experiment that a salt thing being heated becometh more salt.

Q. Why do men live longer in hot regions than in cold? A. Because they may be more dry, and by that means the natural heat is better preserved in them than in cold countries.

Q. Why is well-water seldom or ever good? A. All water which standeth still in the spring and is never heated by the sunbeams, is very heavy, and hath much matter in it, and therefore wanting the heat of the sun, is naught.

Q. Why do men sleep better and more at ease on the right side than on the left? A. Because when they be on the left side, the lungs do lie upon and cover the heart, which is on that side under the pap; now the heart, the fountain of life, being thus occupied and hindered with the lungs, cannot exercise its own proper operation, as being overmuch heated with the lungs lying upon it, and therefore wanting the refreshment of the air which the

lungs do give it, like the blowing of a pair of bellows, is choked and suffocated, but by lying on the right side, those inconveniences are avoided.

Q. What is the reason that old men sneeze with great difficulty? A. Because that through their coldness their arteries are very narrow and close, and therefore the heat is not of force to expel the cold.

Q. Why doth a drunken man think that all things about him do turn round? A. Because the spirits which serve the sight are mingled with vapours and fumes, arising from the liquors he has drunk; the overmuch heat causeth the eye to be in continual motion, and the eye being round, causeth all things about it to seem to go round.

Q. Wherefore doth it proceed, that bread which is made with salt is lighter than that which is made without it, considering that salt is very heavy of itself? A. Although bread is very heavy of itself, yet the salt dries it and makes it light, by reason of the heat which it hath; and the more heat there is in it, the better the bread is, and the lighter and more wholesome for the body.

Q. Why is not new bread good for the stomach? A. Because it is full of moistness, and thick, hot vapours, which do corrupt the blood, and hot bread is blacker than cold, because heat is the mother of blackness, and because the vapours are not gone out of it.

Q. Why do lettuces make a man sleep? A. Because they engender gross vapours.

Q. Why do the dregs of wine and oil go to the bottom, and those of honey swim uppermost? A. Because the dregs of wine and oil are earthly, and therefore go to the bottom; but honey is a liquid that cometh from the stomach and belly of the bee; and is there in some sort putrefied and made subtle; on which account the dregs are most light and hot, and therefore go uppermost.

Q. Why do cats' and wolves' eyes shine in the night, and not in the day? A. The eyes of these beasts are by nature more crystalline than the eyes of other beasts, and therefore do so shine in darkness; but the brightness of the sun doth hinder them from being seen in the day-time.

Q. What is the reason that some men, if they see others dance, do the like with their hands and feet, or by other gestures of the body? A. Because the sight having carried and represented unto the mind that action, and judging the same to be pleasant and delightful, and therefore the imagination draweth the like of it in conceit and stirs up the body by the gestures.

Q. Why does much sleep cause some to grow fat and some lean? A. Those who are of ill complexion, when they sleep, do consume and digest the superfluities of what they have eaten, and therefore become fat. But such as are of good complexion, when they sleep are more cold, and digest less.

Q. How much, and from what cause do we suffer hunger better than thirst? A. When the stomach hath nothing else to consume, it consumeth the phlegm and humours which it findeth most ready and most at hand; and therefore we suffer hunger better than thirst, because the heat hath nothing to refresh itself with.

Q. Why doth the hair fall after a great sickness? A. Where the sickness is long, as in the ague, the humours of the head are dried up through overmuch heat, and, therefore, wanting nourishment, the hair falls.

Q. Why doth the hair of the eyebrows grow long in old men? A. Because through their age the bones are thin through want of heat, and therefore the hair doth grow there, by reason of the rheum of the eye.

Q. Whereof proceedeth gaping? A. Of gross vapours, which occupy the vital spirits of the head, and of the coldness of the senses causing sleepiness.

Q. What is the reason that some flowers do open with the sun rising, and shut with the sun setting? A. Cold doth close and shut, as hath been said, but the heat of the sun doth open and enlarge. Some compare the sun to the soul of the body; for as the soul giveth life, so the sun doth give life, and vivificate all things; but cold bringeth death, withering and decaying all things.

Q. Why doth grief cause men to grow old and grey? A. Age is nothing else but dryness and want of humours in the body; grief then causeth alteration, and heat dryness; age and greyness follow immediately.

Q. Why are gelded beasts weaker than such as are not gelded? A. Because they have less heat, and by that means less force and strength.

THE PROBLEMS OF MARCUS ANTONINUS SANCTIPERTIAS

Q. Why is it esteemed, in the judgment of the most wise, the hardest thing to know a man's self? A. Because nothing can be known that is of so great importance to man for the regulation of his conduct in life. Without this knowledge, man is like the ship without either compass or rudder to conduct her to port, and is tossed by every passion and prejudice to which his natural constitution is subjected. To know the form and perfection of man's self, according to the philosophers, is a task too hard; and a man, says Plato, is nothing, or if he be anything, he is nothing, but his soul.

Q. Why is a man, though endowed with reason, the most unjust of all living creatures? A. Because only man is desirous of honour; and so it happens that every one covets to seem good, and yet naturally shuns labour, though he attain no virtue by it.

Q. Why doth immoderate copulation do more hurt than immoderate letting of blood? A. The seed is full of nutriment, and better prepared for the nurture of the body, than the blood; for the blood is nourished by the seed.

Q. What is the reason that those that have long yards cannot beget children? A. The seed, in going a long distance, doth lose the spirit, and therefore becomes cold and unfit.

Q. Why do such as are corpulent cast forth but little seed in the act of copulation, and are often barren? A. Because the seed of such goeth to nourish the body. For the same reason corpulent women have but few menses.

Q. How come women to be prone to venery in the summer time and men in the winter? A. In summer the man's testicles hang down and are feebler than in winter, or because hot natures become more lively in the cold season; for a man is hot and dry, and a woman cold and moist; and therefore in summer

the strength of men decays, and that of women increases, and they grow livelier by the benefit of the contrary quality.

Q. Why is man the proudest of all living creatures? A. By reason of his great knowledge; or, as philosophers say, all intelligent beings having understanding, nothing remains that escapes man's knowledge in particular; or it is because he hath rule over all earthly creatures, and all things seem to be brought under his dominion.

Q. Why have beasts their hearts in the middle of their breasts, and man his inclining to the left? A. To moderate the cold on that side.

Q. Why doth the woman love the man best who has got her maidenhead? A. By reason of shame-facedness; Plato saith, shame-facedness doth follow love, or, because it is the beginning of great pleasure, which doth bring a great alteration in the whole body, whereby the powers of the mind are much delighted, and stick and rest immoveable in the same.

Q. How come hairy people to be more lustful than any other? A. Because they are said to have greater store of excrements and seed as philosophers assert.

Q. What is the cause that the suffocation of the matrix, which happens to women through strife and contention, is more dangerous than the detaining of the flowers? A. Because the more perfect an excrement is in its natural disposition, the worse it is when it is altered from that disposition, and drawn to the contrary quality; as is seen in vinegar, which is sharpest when it is made of the best wine. And so it happens that the more men love one another the more they fall into variance and discord.

Q. How come women's bodies to be looser, softer and less than man's; and why do they want hair? A. By reason of their menses; for with them their superfluities go away, which would produce hair; and thereby the flesh is filled, consequently the veins are more hid in women than in men.

Q. What is the reason that when we think upon a horrible thing, we are stricken with fear? A. Because the conceit or imagination of things has force and virtue. For Plato saith, the fancy of things has some affinity with things themselves; for the image and representation of cold and heat is such as the nature of things are. Or it is this, because when we comprehend any

dreadful matter, the blood runneth to the internal parts; and therefore the external parts are cold and shake with fear.

Q. Why doth a radish root help digestion and yet itself remaineth undigested? A. Because the substance consisteth of divers parts; for there are some thin parts in it, which are fit to digest meat, the which being dissolved, there doth remain some thick and close substance in it, which the heat cannot digest.

Q. Why do such as cleave wood, cleave it easier in the length than athwart? A. Because in the wood there is a grain, whereby, if it be cut in length, in the very cutting, one part naturally separateth from another.

Q. What is the reason, that if a spear be stricken on the end, the sound cometh sooner to one who standeth near, than to him who striketh? A. Because, as hath been said, there is a certain long grain in wood, directly forward, filled with air, but on the other side there is none, and therefore a beam or spear being stricken on the end, the air which is hidden receiveth a sound in the aforesaid grain which serveth for its passage; and, seeing the sound cannot go easily out of it is carried into the ear of him who is opposite; as those passages do not go from side to side, a sound cannot be distinctly heard there.

Q. Why are the thighs and calves of the legs of men flesh, seeing the legs of beasts are not so? A. Because men only go upright; and therefore nature hath given the lower parts corpulency, and taken it away from the upper; and thus she hath made the buttocks, the thighs, and calves of the legs fleshy.

Q. Why are the sensible powers in the heart; yet if the hinder part of the brain be hurt, the memory suffereth by it; if the forepart, the imagination; if the middle, the cogitative part? A. It is because the brain is appointed by nature to cool the blood of the heart; whereof it is, that in divers of its parts it serveth the powers and instruments with their heart, for every action of the soul doth not proceed from one measure of heat.

THE PROBLEMS OF ALEXANDER APHRODISEUS

Q. Why doth the sun make a man black and dirt white, wax soft and dirt hard? A. By reason of the disposition of the substance that doth suffer. All humours, phlegm excepted, when heated above measure, do seem black about the skin; and dirt, being full either of saltpetre, or salt liquor, when the sun hath consumed its dregs and filth, doth become white again. When the sun hath stirred up and drawn the humidity of the wax, it is softened; but in the dirt, the sun doth consume the humidity, which is very much and makes it hard.

Q. Why are round ulcers hard to be cured? A. Because they are bred of a sharp choler, which eats and gnaws; and because it doth run, dropping and gnawing, it makes a round ulcer; for which reason it requires dry medicines, as physicians assert.

Q. Why is honey sweet to all men, but to such as have jaundice? A. Because they have much bitter choler all over their bodies, which abounds in the tongue; whence it happens when they eat honey the humours are stirred, and the taste itself, by the bitterness of choler, causes an imagination that the honey is bitter.

Q. Why doth water cast on serpents, cause them to fly? A. Because they are dry and cold by nature, having but little blood, and therefore fly from excessive coldness.

Q. Why doth an egg break if roasted, and not if boiled? A. When moisture comes near the fire, it is heated very much, and so breeds wind, which being put up in little room, forces its way out, and breaks the shell: the like happens in tubs or earthen vessels when new wine is put into them; too much phlegm breaks the shell of an egg in roasting; it is the same with earthen pots too much heated; wherefore some people wet an egg when they intend to roast it. Hot water, by its softness, doth dissipate its humidity

by little and little, and dissolves it through the thinness and passages of the shell.

Q. Why do men wink in the act of copulation, and find a little alteration in all other senses? A. Because, being overcome by the effect of that pleasure, they do comprehend it the better.

Q. Why have children gravel breeding in their bladders, and old men in their kidneys and veins? A. Because children have straight passages in their kidneys, and an earthly thick humour is thrust with violence by the urine to the bladder, which hath wide conduits or passages, that give room for the urine and humour whereof gravel is engendered, which waxes thick, and seats itself, as the manner of it is. In old men it is the reverse, for they have wide passages of the veins, back and kidneys, that the urine may pass away, and the earthly humour congeal and sink down; the colour of the gravel shows the humour whereof the stone comes.

Q. Why is it, if the stone do congeal and wax hard through heat, we use not contrary things to dissolve it by coldness, but light things, as parsley, fennel and the like? A. It is thought, to fall out by an excessive scorching heat, by which the stones do crumble into sand, as in the manner of earthen vessels, which, when they are overheated or roasted, turn to sand. And by this means it happens that small stones are avoided, together with sand, in making water. Sometimes cold drink thrusts out the stone, the kidneys being stretched and casting it out by a great effort; thus easing the belly of its burden. Besides, it often happens that immoderate heat of the kidneys, or of the veins of the back (through which the stone doth grow) is quenched with coldness.

Q. Why is the curing of an ulcer or bile in the kidneys or bladder very hard? A. Because the urine being sharp, doth ulcerate the sore. Ulcers are worse to cure in the bladder than in the kidneys, because urine stays in the former, but runs away from the latter.

Q. Why do chaff and straw keep water hot, but make snow cold? A. Because the nature of chaff wants a manifest quantity; seeing, therefore that of its own nature, it can easily be mingled, and consumed by that which it is annexed onto, it easily assumes the same nature, and being put into hot

things, it is easily hot, heats again, and keeps hot; and on the contrary, being made cold by the snow, and making the snow cold it keeps in its coldness.

Q. Why have we oftentimes a pain in making water? A. Because sharp choler issuing out, and pricking the bladder of the urine, doth provoke and stir up the whole body to ease the part offended, and to expel the humour moderately. This doth happen most of all unto children, because they have moist excrements by reason of their often drinking.

Q. Why have some medicines of one kind contrary effects, as experience proves; for mastich doth expel, dissolve and also knit; and vinegar cools and heats? A. Because there are some small invisible bodies in them, not in confusion, but by interposition; as sand moistened doth clog together and seem to be but one body, though indeed there are many small bodies in sand. And since this is so, it is not absurd that the contrary qualities and virtues should be hidden in mastich, and that nature hath given that virtue to these bodies.

Q. Why do nurses rock and move their children when they would rock them to sleep? A. To the end that the humours being scattered by moving, may move the brains; but those of more years cannot endure this.

Q. Why doth oil, being drunk, cause one to vomit, and especially yellow choler? A. Because being light, and ascending upwards it provoketh the nutriment in the stomach, and lifteth it up; and so, the stomach being grieved, summoneth the ejective virtue to vomit, and especially choler, because that is light and consisteth of subtle parts, and therefore the sooner carried upward; for when it is mingled with any moist thing, it runneth into the highest room.

Q. Why doth not oil mingle with moist things? A. Because, being pliant, soft and thick in itself, it cannot be divided into parts, and so cannot be mingled; neither if it be put on the earth can it enter into it.

Q. Why are water and oil frozen in cold weather, and wine and vinegar not? A. Because that oil being without quality, and fit to be compounded with anything, is cold quickly and so extremely that it is most cold. Water being cold of nature, doth easily freeze when it is made colder than its own nature. Wine being hot, and of subtle parts, suffereth no freezing.

Q. Why do contrary things in quality bring forth the same effect? A. That which is moist is hardened and bound alike by heat and cold. Snow and liquid do freeze with cold; a plaster and gravel in the bladder are made dry with heat. The effect indeed is the same, but by two divers actions; the heat doth consume and eat the abundance of moisture; but the cold stopping and shutting with its over much thickness, doth wring out the filthy humidity, like as a sponge wrung with the hand doth cast out the water which it hath in the pores and small passages.

Q. Why doth a shaking or quivering seize us oftentimes when any fearful matter doth happen, as a great noise or a crack made, the sudden downfall of water, or the fall of a large tree? A. Because that oftentimes the humours being digested and consumed by time and made thin and weak, all the heat vehemently, suddenly and sharply flying into the inward part of the body, consumeth the humours which cause the disease. So treacle hath this effect, and many such like, which are hot and dry when taken after connexion.

Q. Why do steel glasses shine so clearly? A. Because they are lined in the inside with white lead, whose nature is shining, and being put to glass, which is lucid and transparent, doth shine much more; and casts its beams through its passages, and without the body of the glass; and by that means the glass is very shining and clear.

Q. Why do we see ourselves in glasses and clear water? A. Because the quality of the sight, passing into the bright bodies by reflection, doth return again on the beam of the eyes, as the image of him who looketh on it.

Q. What is the reason that if you cast a stone in standing water which is near the surface of the earth, it causes many circles, and not if the water be deep in the earth? A. Because the stone, with the vehemence of the cast, doth agitate the water in every part of it, until it come to the bottom; and if there be a very great vehemence in the throw, the circle is still greater, the stone going down to the bottom causing many circles. For, first of all, it doth divide the outermost and superficial parts of the water in many parts, and so, always going down to the bottom, again dividing the water, it maketh another circle, and this is done successively until the stone resteth; and because the vehemence of the stone is slackened, still as it goes down,

of necessity the last circle is less than the first, because by that and also by its force the water is divided.

Q. Why are such as are deaf by nature, dumb? A. Because they cannot speak and express that which they never hear. Some physicians do say, that there is one knitting and uniting of sinews belonging to the like disposition. But such as are dumb by accident are not deaf at all, for then there ariseth a local passion.

Q. Why doth itching arise when an ulcer doth wax whole and phlegm ceases? A. Because the part which is healed and made sound doth pursue the relic of the humours which remained there against nature, and which was the cause of the bile, and so going out through the skin, and dissolving itself, doth originally cause the itch.

Q. How comes a man to sneeze oftener and more vehemently than a beast? A. Because he uses more meats and drinks, and of more different sorts, and that more than is requisite; the which, when he cannot digest as he would, he doth gather together much air and spirit, by reason of much humidity; the spirits then very subtle, ascending into the head, often force a man to void them, and so provoke sneezing. The noise caused thereby proceeds from a vehement spirit or breath passing through the conduit of the nostrils, as belching doth from the stomach or farting by the fundament, the voice by the throat, and a sound by the ear.

Q. How come the hair and nails of dead people to grow? A. Because the flesh rotting, withering and falling away, that which was hidden about the root of the hair doth now appear as growing. Some say that it grows indeed, because carcasses are dissolved in the beginning to many excrements and superfluities by putrefaction. These going out at the uppermost parts of the body by some passages, do increase the growth of the hair.

Q. Why does not the hair of the feet soon grow grey? A. For this reason, because that through great motion they disperse and dissolve the superfluous phlegm that breeds greyness. The hair of the secrets grows very late, because of the place, and because that in carnal copulation it dissolves the phlegm also.

Q. Why, if you put hot burnt barley upon a horse's sore, is the hair which grows upon the sore not white, but like the other hair? A. Because it hath the force of expelling; and doth drive away and dissolve the phlegm, as well as all other unprofitable matter that is gathered together through the weakness of the parts, or condity of the sore.

Q. Why doth the hair never grow on an ulcer or bile? A. Because man hath a thick skin, as is seen by the thickness of his hair; and if the scar be thicker than the skin itself, it stops the passages from whence the hair should grow. Horses have thinner skins, as is plain by their hair; therefore all passages are not stopped in their wounds and sores; and after the excrements which were gathered together have broken a passage through those small pores the hair doth grow.

Q. Why is Fortune painted with a double forehead, the one side bald and the other hairy? A. The baldness signifies adversity, and hairiness prosperity, which we enjoy when it pleaseth her.

Q. Why have some commended flattery? A. Because flattery setteth forth before our eyes what we ought to be, though not what we are.

Q. Wherefore should virtue be painted girded? A. To show that virtuous men should not be slothful, but diligent and always in action.

Q. Why did the ancients say it was better to fall into the hands of a raven than a flatterer? A. Because ravens do not eat us till we be dead, but flatterers devour us alive.

Q. Why have choleric men beards before others? A. Because they are hot, and their pores large.

Q. How comes it that such as have the hiccups do ease themselves by holding their breath? A. The breath retained doth heat the interior parts of the body, and the hiccups proceeds from cold.

Q. How comes it that old men remember well what they have seen and done in their youth, and forget such things as they see and do in their old age? A. Things learned in youth take deep root and habitude in a person, but those learned in age are forgotten because the senses are then weakened.

Q. What kind of covetousness is best? A. That of time when employed as it ought to be.

Q. Why is our life compared to a play? A. Because the dishonest do occupy the place of the honest, and the worst sort the room of the good.

Q. Why do dolphins, when they appear above the water, denote a storm or tempest approaching? A. Because at the beginning of a tempest there do arise from the bottom of the sea, certain hot exhalations and vapours which heat the dolphins, causing them to rise up for cold air.

Q. Why did the Romans call Fabius Maximus the target of the people, and Marcellus the sword? A. Because the one adapted himself to the service of the commonwealth, and the other was very eager to revenge the injuries of his country; and yet they were in the senate joined together, because the gravity of the one would moderate the courage and boldness of the other.

Q. Why doth the shining of the moon hurt the head? A. Because it moves the humours of the brain, and cannot afterwards dissolve them.

Q. If water do not nourish, why do men drink it? A. Because water causeth the nutriment to spread through the body.

Q. Why is sneezing good? A. Because it purgeth the brain as milk is purged by the cough.

Q. Why is hot water lighter than cold? A. Because boiling water has less ventosity and is more light and subtle, the earthly and heavy substance being separated from it.

Q. How comes marsh and pond water to be bad? A. By reason they are phlegmatic, and do corrupt in summer; the fineness of water is turned into vapours, and the earthiness doth remain.

Q. Why are studious and learned men soonest bald? A. It proceeds from a weakness of the spirits, or because warmth of digestion cause phlegm to abound in them.

Q. Why doth much watching make the brain feeble? A. Because it increases choler, which dries and extenuates the body.

Q. Why are boys apt to change their voices about fourteen years of age? A. Because that then nature doth cause a great and sudden change of voice; experience proves this to be true; for at that time we may see that women's paps do grow great, do hold and gather milk, and also those places that are above their hips, in which the young fruit would remain. Likewise men's breasts and shoulders, which then can bear great and heavy burdens; also their stones in which their seed may increase and abide, and in their privy members, to let out the seed with ease. Further all the body is made bigger and dilated, as the alteration and change of every part doth testify, and the harshness of the voice and hoarseness; for the rough artery, the wind pipe, being made wide in the beginning, and the exterior and outward part being unequal to the throat, the air going out the rough, unequal and uneven pipe doth then become unequal and sharp, and after, hoarse, something like unto the voice of a goat, wherefore it has its name called Bronchus. The same doth also happen to them unto whose rough artery distillation doth follow; it happens by reason of the drooping humidity that a slight small skin filled unequally causes the uneven going forth of the spirit and air. Understand, that the windpipe of goats is such by reason of the abundance of humidity. The like doth happen unto all such as nature hath given a rough artery, as unto cranes. After the age of fourteen they leave off that voice, because the artery is made wider and reacheth its natural evenness and quality.

Q. Why do hard dens, hollow and high places, send back the likeness and sound of the voice? A. Because that in such places also by reflection do return back the image of a sound, for the voice doth beat the air, and the air the place, which the more it is beaten the more it doth bear, and therefore doth cause the more vehement sound of the voice; moist places, and as it were, soft, yielding to the stroke, and dissolving it, give no sound again; for according to the quantity of the stroke, the quality and quantity of the voice is given, which is called an echo. Some do idly fable that she is a goddess; some say that Pan was in love with her, which without doubt is false. He was some wise man, who did first desire to search out the cause of the voice, and as they who love, and cannot enjoy that love, are grieved, so in like manner was he very sorry until he found out the solution of that cause; as Endymion also, who first found out the course of the moon, watching all night, and observing her course, and searching her motion, did sleep in the daytime, and that she came to him when he was asleep, because she did

give the philosopher the solution of the course herself. They say also that he was a shepherd, because that in the desert and high places, he did mark the course of the moon. And they gave him also the pipe because that the high places are blown with wind, or else because he sought out the consonancy of figures. Prometheus also, being a wise man, sought the course of the star, which is called the eagle in the firmament, his nature and place; and when he was, as it were, wasted with the desire of learning, then at last he rested, when Hercules did resolve unto him all doubts with his wisdom.

Q. Why do not swine cry when they are carried with their snouts upwards? A. Because that of all other beasts they bend more to the earth. They delight in filth, and that they seek, and therefore in the sudden change of their face, they be as it were strangers, and being amazed with so much light do keep that silence; some say the windpipe doth close together by reason of the straitness of it.

Q. Why do swine delight in dirt? A. As physicians do say, they are naturally delighted with it, because they have a great liver, in which desire it, as Aristotle saith, the wideness of their snout is the case, for he that hath smelling which doth dissolve itself, and as it were strive with stench.

Q. Why do many beasts when they see their friends, and a lion and a bull beat their sides when they are angry? A. Because they have the marrow of their backs reaching to the tail, which hath the force of motion in it, the imagination acknowledging that which is known to them, as it were with the hand, as happens to men, doth force them to move their tails. This doth manifestly show some secret force to be within them, which doth acknowledge what they ought. In the anger of lions and bulls, nature doth consent to the mind, and causeth it to be greatly moved, as men do sometimes when they are angry, beating their hands on other parts; when the mind cannot be revenged on that which doth hurt, it presently seeks out some other source, and cures the malady with a stroke or blow.

Q. How come steel glasses to be better for the sight than any other kind? A. Because steel is hard, and doth present unto us more substantially the air that receiveth the light.

Q. How doth love show its greater force by making the fool to become wise, or the wise to become a fool? A. In attributing wisdom to him that has

it not; for it is harder to build than to pull down; and ordinarily love and folly are but an alteration of the mind.

Q. How comes much labour and fatigue to be bad for the sight? A. Because it dries the blood too much.

Q. Why is goat's milk reckoned best for the stomach? A. Because it is thick, not slimy, and they feed on wood and boughs rather than on grass.

Q. Why do grief and vexation bring grey hairs? A. Because they dry, which bringeth on greyness.

Q. How come those to have most mercy who have the thickest blood? A. Because the blood which is fat and thick makes the spirits firm and constant, wherein consists the force of all creatures.

Q. Whether it is hardest, to obtain a person's love, or to keep it when obtained? A. It is hardest to keep it, by reason of the inconstancy of man, who is quickly angry, and soon weary of a thing; hard to be gained and slippery to keep.

Q. Why do serpents shun the herb rue? A. Because they are cold, dry and full of sinews, and that herb is of a contrary nature.

Q. Why is a capon better to eat than a cock? A. Because a capon loses not his moisture by treading of the hens.

Q. Why is our smell less in winter than in summer? A. Because the air is thick, and less moveable.

Q. Why does hair burn so quickly? A. Because it is dry and cold.

Q. Why is love compared to a labyrinth? A. Because the entry and coming in is easy, and the going out almost impossible or hard.

PART IV
DISPLAYING THE SECRETS OF NATURE RELATING TO PHYSIOGNOMY

CHAPTER I

SECTION 1.—*Of Physiognomy, showing what it is, and whence it is derived.*

Physiognomy is an ingenious science, or knowledge of nature, by which the inclinations and dispositions of every creature are understood, and because some of the members are uncompounded, and entire of themselves, as the tongue, the heart, etc., and some are of a mixed nature, as the eyes, the nose and others, we therefore say that there are signs which agree and live together, which inform a wise man how to make his judgment before he be too rash to deliver it to the world.

Nor is it to be esteemed a foolish or idle art, seeing it is derived from the superior bodies; for there is no part of the face of man but what is under the peculiar influence or government, not only of the seven planets but also of the twelve signs of Zodiac; and the dispositions, vices, virtues and fatality, either of a man or woman are plainly foretold, if the person pretending to the knowledge thereof be an artist, which, that my readers may hereby attain it I shall set these things in a clearer light.

The reader should remember that the forehead is governed by Mars; the right eye is under the domination of Sol; the left is ruled by the Moon; the right ear is under Jupiter; the left, Saturn, the rule of the nose is claimed by Venus, which, by the way, is one reason that in all unlawful venereal encounters, the nose is too subject to bear the scars that are gotten in those wars; and nimble Mercury, the significator of eloquence claims the dominion of the mouth, and that very justly.

Thus have the seven planets divided the face among them, but not with so absolute a way but that the twelve signs of the Zodiac do also come in with a part (see the engraving) and therefore the sign Cancer presides in the upper part of the forehead, and Leo attends upon the right eyebrow, as

Saggittarius does upon the right eye, and Libra upon the right ear, upon the left eyebrow you will find Aquarius; and Gemini and Aries taking care of the left ear; Taurus rules in the middle of the forehead, and Capricorn the chin; Scorpio takes upon him the protection of the nose; Virgo claims the precedence of the right cheek, Pisces the left. And thus the face of man is cantoned out amongst the signs and planets; which being carefully attended to, will sufficiently inform the artist how to pass a judgment. For according to the sign or planet ruling so also is the judgment to be of the part ruled, which all those that have understanding know easily how to apply.

In the judgment that is to be made from physiognomy, there is a great difference betwixt a man and a woman; the reason is, because in respect of the whole composition men more fully comprehend it than women do, as may evidently appear by the manner and method we shall give. Wherefore the judgments which we shall pass in every chapter do properly concern a man, as comprehending the whole species, and but improperly the woman, as being but a part thereof, and derived from the man, and therefore, whoever is called to give judgment on such a face, ought to be wary about all the lines and marks that belong to it, respect being also had to the sex, for when we behold a man whose face is like unto a woman's and we pass a judgment upon it, having diligently observed it, and not on the face only, but on other parts of the body, as hands, etc., in like manner we also behold the face of a woman, who in respect to her flesh and blood is like unto a man, and in the disposure also of the greatest part of the body. But does physiognomy give the same judgment on her, as it does of a man that is like

unto her? By no means, but far otherwise, in regard that the conception of the woman is much different from that of a man, even in those respects which are said to be common. Now in those common respects two parts are attributed to a man, and a third part to a woman.

Wherefore it being our intention to give you an exact account, according to the rule of physiognomy of all and every part of the members of the body, we will begin with the head, as it hath relation only to man and woman, and not to any other creature, that the work may be more obvious to every reader.

CHAPTER II

Of the Judgment of Physiognomy.

Hair that hangs down without curling, if it be of a fair complexion, thin and soft withal, signifies a man to be naturally faint-hearted, and of a weak body, but of a quiet and harmless disposition. Hair that is big, and thick and short withal, denotes a man to be of a strong constitution, secure, bold, deceitful and for the most part, unquiet and vain, lusting after beauty, and more foolish than wise, though fortune may favour him. He whose hair is partly curled and partly hanging down, is commonly wise or a very great fool, or else as very a knave as he is a fool. He whose hair grows thick on his temples and his brow, one may certainly at first sight conclude that such a man is by nature simple, vain, luxurious, lustful, credulous, clownish in his speech and conversation and dull in his apprehension. He whose hair not only curls very much, but bushes out, and stands on end, if the hair be white or of a yellowish colour, he is by nature proud and bold, dull of apprehension, soon angry, and a lover of venery, and given to lying, malicious and ready to do any mischief. He whose hair arises in the corners of the temples, and is gross and rough withal, is a man highly conceited of himself, inclined to malice, but cunningly conceals it, is very courtly and a lover of new fashions. He who hath much hair, that is to say, whose hair is thick all over his head, is naturally vain and very luxurious, of a good digestion, easy of belief, and slow of performance, of a weak memory and for the most part unfortunate. He whose hair is of a reddish complexion, is for the most part, if not always, proud, deceitful, detracting and full of envy. He whose hair is extraordinarily fair, is for the most part a man fit for the most praiseworthy enterprises, a lover of honour, and much more inclined to do good than evil; laborious and careful to perform whatsoever is committed to his care, secret in carrying on any business, and fortunate. Hair of a yellowish colour shows a man to be good conditioned, and willing to do anything, fearful, shamefaced and weak of body, but strong in the abilities of the mind, and more apt to remember, than to avenge an injury.

He whose hair is of a brownish colour, and curled not too much nor too little, is a well-disposed man, inclined to that which is good, a lover of peace, cleanliness and good manners. He whose hair turns grey or hoary in the time of his youth, is generally given to women, vain, false, unstable, and talkative. [Note. That whatever signification the hair has in men, it has the same in women also.]

The forehead that riseth in a round, signifies a man liberally merry, of a good understanding, and generally inclined to virtue. He whose forehead is fleshy, and the bone of the brow jutting out, and without wrinkles, is a man much inclined to suits of law, contentious, vain, deceitful, and addicted to follow ill courses. He whose forehead is very low and little, is of a good understanding, magnanimous, but extremely bold and confident, and a great pretender to love and honour. He whose forehead seems sharp, and pointed up in the corners of his temples, so that the bone seems to jut forth a little, is a man naturally weak and fickle, and weak in the intellectuals. He whose brow upon the temples is full of flesh, is a man of a great spirit, proud, watchful and of a gross understanding. He whose brow is full of wrinkles, and has as it were a seam coming down the middle of the forehead, so that a man may think he has two foreheads, is one that is of a great spirit, a great wit, void of deceit, and yet of a hard fortune. He who has a full, large forehead, and a little round withal, destitute of hair, or at least that has little on it is bold, malicious, full of choler and apt to transgress beyond all bounds, and yet of a good wit and very apprehensive. He whose forehead is long and high and jutting forth, and whose face is figured, almost sharp and peaked towards the chin, is one reasonably honest, but weak and simple, and of a hard fortune.

Those eyebrows that are much arched, whether in man or woman, and which by frequent motion elevate themselves, show the person to be proud, high-spirited, vain-glorious, bold and threatening, a lover of beauty, and indifferently inclined to either good or evil. He whose eyelids bend down when he speaks to another or when he looks upon him, and who has a kind of skulking look, is by nature a penurious wretch, close in all his actions, of a very few words, but full of malice in his heart. He whose eyebrows are thick, and have but little hair upon them, is but weak in his intellectuals, and too credulous, very sincere, sociable, and desirous of good company. He whose eyebrows are folded, and the hair thick and bending downwards, is

one that is clownish and unlearned, heavy, suspicious, miserable, envious, and one that will cheat and cozen you if he can. He whose eyebrows have but short hair and of a whitish colour is fearful and very easy of belief, and apt to undertake anything. Those, on the other side, whose eyebrows are black, and the hair of them thin, will do nothing without great consideration, and are bold and confident of the performance of what they undertake; neither are they apt to believe anything without reason for so doing.

If the space between the eyebrows be of more than the ordinary distance, it shows the person to be hard-hearted, envious, close, cunning, apprehensive, greedy of novelties, of a vain fortune, addicted to cruelty more than love. But those men whose eyebrows are at a lesser distance from each other, are for the most part of a dull understanding; yet subtle enough in their dealings, and of an uncommon boldness, which is often attended with great felicity; but that which is most commendable in them is, that they are most sure and constant in their friendship.

Great and full eyes in either man or woman, show the person to be for the most part slothful, bold, envious, a bad concealer of secrets, miserable, vain, given to lying, and yet a bad memory, slow in invention, weak in his intellectuals, and yet very much conceited of that little knack of wisdom he thinks himself master of. He whose eyes are hollow in his head, and therefore discerns well at a great distance, is one that is suspicious, malicious, furious, perverse in his conversation, of an extraordinary memory, bold, cruel, and false, both in words and deeds, threatening, vicious, luxurious, proud, envious and treacherous; but he whose eyes are, as it were, starting out of his head, is a simple, foolish person, shameless, very fertile and easy to be persuaded either to vice or virtue. He who looks studiously and acutely, with his eyes and eyelids downwards, denotes thereby to be of a malicious nature, very treacherous, false, unfaithful, envious, miserable, impious towards God, and dishonest towards men. He whose eyes are small and conveniently round, is bashful and weak, very credulous, liberal to others, and even in his conversation. He whose eyes look asquint, is thereby denoted to be a deceitful person, unjust, envious, furious, a great liar, and as the effect of all that is miserable. He who hath a wandering eye and which is rolling up and down, is for the most part a vain, simple, deceitful, lustful, treacherous, or high-minded man, an admirer of

the fair sex, and one easy to be persuaded to virtue or vice. He or she whose eyes are twinkling, and which move forward or backward, show the person to be luxurious, unfaithful and treacherous, presumptuous, and hard to believe anything that is spoken. If a person has any greenness mingled with the white of his eye, such is commonly silly, and often very false, vain and deceitful, unkind to his friends, a great concealer of his own secrets, and very choleric. Those whose eyes are every way rolling up and down, or they who seldom move their eyes, and when they do, as it were, draw their eyes inwardly and accurately fasten them upon some object, such are by their inclinations very malicious, vain-glorious, slothful, unfaithful, envious, false and contentious. They whose eyes are addicted to blood-shot, are naturally proud, disdainful, cruel, without shame, perfidious and much inclined to superstition. But he whose eyes are neither too little nor too big, and inclined to black, do signify a man mild, peaceable, honest, witty, and of a good understanding; and one that, when need requires, will be serviceable to his friends.

A long and thin nose, denotes a man bold, furious, angry, vain, easy to be persuaded either to good or evil, weak and credulous. A long nose extended, the tip of it bending downwards, shows the person to be wise, discreet, secret and officious, honest, faithful and one that will not be over-reached in bargaining.

A bottle-nose is what denotes a man to be impetuous in the obtaining of his desires, also a vain, false, luxurious, weak and uncertain man; apt to believe and easy to be persuaded. A broad nose in the middle, and less towards the end, denotes a vain, talkative person, a liar, and one of hard fortune. He who hath a long and great nose is an admirer of the fair sex, and well accomplished for the wars of Venus, but ignorant of the knowledge of anything that is good, extremely addicted to vice; assiduous in the obtaining what he desires, and very secret in the prosecution of it; and though very ignorant, would fain be thought very knowing.

A nose very sharp on the tip of it, and neither too long nor too short, too thick nor too thin, denotes the person, if a man, to be of a fretful disposition, always pining and peevish; and if a woman, a scold, or contentious, wedded to her own humours, of a morose and dogged carriage, and if married, a plague to her husband. A nose very round at the end of it, and having but

little nostrils, shows the person to be munificent and liberal, true to his trust, but withal, very proud, credulous and vain. A nose very long and thin at the end of it, and something round, withal, signifies one bold in his discourse, honest in his dealings, patient in receiving, and slow in offering injuries, but yet privately malicious. He whose nose is naturally more red than any other part of his face, is thereby denoted to be covetous, impious, luxurious, and an enemy to goodness. A nose that turns up again, and is long and full at the tip of it, shows the person that has it to be bold, proud, covetous, envious, luxurious, a liar and deceiver, vain, glorious, unfortunate and contentious. He whose nose riseth high in the middle, is prudent and polite, and of great courage, honourable in his actions, and true to his word. A nose big at the end shows a person to be of a peaceable disposition, industrious and faithful, and of a good understanding. A very wide nose, with wide nostrils, denotes a man dull of apprehension, and inclined more to simplicity than wisdom, and withal vain, contentious and a liar.

When the nostrils are close and thin, they denote a man to have but little testicles, and to be very desirous of the enjoyment of women, but modest in his conversation. But he whose nostrils are great and wide, is usually well hung and lustful; but withal of an envious, bold and treacherous disposition and though dull of understanding, yet confident enough.

A great and wide mouth shows a man to be bold, warlike, shameless and stout, a great liar and as great a talker, also a great eater, but as to his intellectuals, he is very dull, being for the most part very simple.

A little mouth shows the person to be of a quiet and pacific temper, somewhat reticent, but faithful, secret, modest, bountiful, and but a little eater.

He whose mouth smells of a bad breath, is one of a corrupted liver and lungs, is oftentimes vain, wanton, deceitful, of indifferent intellect, envious, covetous, and a promise-breaker. He that has a sweet breath, is the contrary.

The lips, when they are very big and blubbering, show a person to be credulous, foolish, dull and stupid, and apt to be enticed to anything. Lips of a different size denote a person to be discreet, secret in all things, judicious and of a good wit, but somewhat hasty. To have lips, well coloured and more thin than thick, shows a person to be good-humoured in all things and

more easily persuaded to good than evil. To have one lip bigger than the other, shows a variety of fortunes, and denotes the party to be of a dull, sluggish temper, but of a very indifferent understanding, as being much addicted to folly.

When the teeth are small, and but weak in performing their office, and especially if they are short and few, though they show the person to be of a weak constitution, yet they denote him to be of a meek disposition, honest, faithful and secret in whatsoever he is intrusted with. To have some teeth longer and shorter than others, denotes a person to be of a good apprehension, but bold, disdainful, envious and proud. To have the teeth very long, and growing sharp towards the end, if they are long in chewing, and thin, denotes the person to be envious, gluttonous, bold, shameless, unfaithful and suspicious. When the teeth look very brown or yellowish, whether they be long or short, it shows the person to be of a suspicious temper, envious, deceitful and turbulent. To have teeth strong and close together, shows the person to be of a long life, a desirer of novelties, and things that are fair and beautiful, but of a high spirit, and one that will have his humour in all things; he loves to hear news, and to repeat it afterwards, and is apt to entertain anything on his behalf. To have teeth thin and weak, shows a weak, feeble man, and one of a short life, and of a weak apprehension; but chaste, shame-faced, tractable and honest.

A tongue to be too swift of speech shows a man to be downright foolish, or at best but a very vain wit. A stammering tongue, or one that stumbles in the mouth, signifies a man of a weak understanding, and of a wavering mind, quickly in a rage, and soon pacified. A very thick and rough tongue denotes a man to be apprehensive, subtle and full of compliments, yet vain and deceitful, treacherous, and prone to impiety. A thin tongue shows a man of wisdom and sound judgment, very ingenious and of an affable disposition, yet somewhat timorous and too credulous.

A great and full voice in either sex shows them to be of a great spirit, confident, proud and wilful. A faint and weak voice, attended with but little breath, shows a person to be of good understanding, a nimble fancy, a little eater, but weak of body, and of a timorous disposition. A loud and shrill voice, which sounds clearly denotes a person provident, sagacious, true and ingenious, but withal capricious, vain, glorious and too credulous. A strong

voice when a man sings denotes him to be of a strong constitution, and of a good understanding, a nimble fancy, a little eater, but weak of body, and of a timorous disposition.

A strong voice when a man sings, denotes him to be of a strong constitution, and of a good understanding, neither too penurious nor too prodigal, also ingenious and an admirer of the fair sex. A weak and trembling voice shows the owner of it to be envious, suspicious, slow in business, feeble and fearful. A loud, shrill and unpleasant voice, signifies one bold and valiant, but quarrelsome and injurious and altogether wedded to his own humours, and governed by his own counsels. A rough and hoarse voice, whether in speaking or singing, declares one to be a dull and heavy person, of much guts and little brains. A full and yet mild voice, and pleasing to the hearer, shows the person to be of a quiet and peaceable disposition (which is a great virtue and rare to be found in a woman), and also very thrifty and secret, not prone to anger, but of a yielding temper. A voice beginning low or in the bass, and ending high in the treble, denotes a person to be violent, angry, bold and secure.

A thick and full chin abounding with too much flesh, shows a man inclined to peace, honest and true to his trust, but slow in invention, and easy to be drawn either to good or evil. A peaked chin and reasonably full of flesh, shows a person to be of a good understanding, a high spirit and laudable conversation. A double chin shows a peaceable disposition, but dull of apprehension, vain, credulous, a great supplanter, and secret in all his actions. A crooked chin, bending upwards, and peaked for want of flesh, is by the rules of physiognomy, according to nature, a very bad man, being proud, imprudent, envious, threatening, deceitful, prone to anger and treachery, and a great thief.

The hair of young men usually begins to grow down upon their chins at fifteen years of age, and sometimes sooner. These hairs proceed from the superfluity of heat, the fumes whereof ascend to their chin, like smoke to the funnel of a chimney; and because it cannot find an open passage by which it may ascend higher, it vents itself forth in the hairs which are called the beard. There are very few, or almost no women at all, that have hairs on their cheeks; and the reason is, that those humours which cause hair to grow on the cheeks of a man are by a woman evacuated in the monthly courses,

which they have more or less, according to the heat or coldness of their constitution, and the age and motion of the moon, of which we have spoken at large in the first part of this book. Yet sometimes women of a hot constitution have hair to be seen on their cheeks, but more commonly on their lips, or near their mouths, where the heat most aboundeth. And where this happens, such women are much addicted to the company of men, and of a strong and manly constitution. A woman who hath little hair on her cheeks, or about her mouth and lips, is of a good complexion, weak constitution, shamefaced, mild and obedient, whereas a woman of a more hot constitution is quite otherwise. But in a man, a beard well composed and thick of hair, signifies a man of good nature, honest, loving, sociable and full of humanity; on the contrary, he that hath but a little beard, is for the most part proud, pining, peevish and unsociable. They who have no beards, have always shrill and a strange kind of squeaking voices, and are of a weak constitution, which is apparent in the case of eunuchs, who, after they are deprived of their virility are transformed from the nature of men into the condition of women.

Great and thick ears are a certain sign of a foolish person, or a bad memory and worse understanding. But small and thin ears show a person to be of a good wit, grave, sweet, thrifty, modest, resolute, of a good memory, and one willing to serve his friend. He whose ears are longer than ordinary, is thereby signified to be a bold man, uncivil, vain, foolish, serviceable to another more than to himself, and a man of small industry, but of a great stomach.

A face apt to sweat on every motion, shows a person to be of a very hot constitution, vain and luxurious, of a good stomach, but of a bad understanding, and a worse conversation. A very fleshy face shows the person to be of a fearful disposition, but a merry heart, and withal bountiful and discreet, easy to be entreated, and apt to believe everything. A lean face, by the rules of physiognomy, denotes the person to be of a good understanding, but somewhat capricious and disdainful in his conversation. A little and round face, shows a person to be simple, very fearful, of a bad memory, and a clownish disposition. A plump face, full of carbuncles, shows a man to be a great drinker of wine, vain, daring, and soon intoxicated. A face red or high coloured, shows a man much inclined to choler, and one that will be soon angry and not easily pacified. A long and

lean face, shows a man to be both bold, injurious and deceitful. A face every way of a due proportion, denotes an ingenious person, one fit for anything and very much inclined to what is good. One of a broad, full, fat face is, by the rules of physiognomy, of a dull, lumpish, heavy constitution, and that for one virtue has three vices. A plain, flat face, without any rising shows a person to be very wise, loving and courtly in his carriage, faithful to his friend and patient in adversity. A face sinking down a little, with crosses in it, inclining to leanness, denotes a person to be very laborious, but envious, deceitful, false, quarrelsome, vain and silly, and of a dull and clownish behaviour. A face of a handsome proportion, and more inclining to fat than lean, shows a person just in his actions, true to his word, civil, and respectful in his behaviour, of an indifferent understanding, and of an extraordinary memory. A crooked face, long and lean, denotes a man endued with as bad qualities as the face is with ill features. A face broad about the brows, and sharper and less as it grows towards the chin, shows a man simple and foolish in managing his affairs, vain in his discourse, envious in his nature, deceitful, quarrelsome and rude in his conversation. A face well-coloured, full of good features, and of an exact symmetry, and a just proportion in all its parts, and which is delightful to look upon, is commonly the index of a fairer mind and shows a person to be well disposed; but withal declares that virtue is not so impregnably seated there, but that by strong temptations (especially by the fair sex) it may be supplanted and overcome by vice. A pale complexion, shows the person not only to be fickle, but very malicious, treacherous, false, proud, presumptuous, and extremely unfaithful. A face well-coloured, shows the person to be of a praiseworthy disposition and a sound complexion, easy of belief, and respectful to his friend, ready to do a courtesy, and very easy to be drawn to anything.

A great head, and round, withal, denotes the person to be secret, and of great application in carrying on business, and also ingenious and of a large imaginative faculty and invention; and likewise laborious, constant and honest. The head whose gullet stands forth and inclines towards the earth, signifies a person thrifty, wise, peaceable, secret, of a retired temper, and constant in the management of his affairs. A long head and face, and great, withal, denotes a vain, foolish, idle and weak person, credulous and very envious. To have one's head always shaking and moving from side to side,

denotes a shallow, weak person, unstable in all his actions, given to lying, a great deceiver, a great talker, and prodigal in all his fortunes. A big head and broad face, shows a man to be very courageous, a great hunter after women, very suspicious, bold and shameless. He who hath a very big head, but not so proportionate as it ought to be to the body, if he hath a short neck and crooked gullet is generally a man of apprehension, wise, secret, ingenious, of sound judgment, faithful, true and courteous to all. He who hath a little head, and long, slender throat, is for the most part a man very weak, yet apt to learn, but unfortunate in his actions. And so much shall suffice with respect to judgment from the head and face.

CHAPTER III

Of Judgments drawn from several other parts of Man's Body.

In the body of man the head and feet are the principal parts, being the index which heaven has laid open to every one's view to make a judgment therefrom, therefore I have been the larger in my judgment from the several parts thereof. But as to the other parts, I shall be much more brief as not being so obvious to the eyes of men; yet I would proceed in order.

The throat, if it be white, whether it be fat or lean, shows a man to be vain-glorious, timorous, wanton, and very much subject to choler. If the throat be so thin and lean that the veins appear, it shows a man to be weak, slow, and a dull and heavy constitution.

A long neck shows one to have a long and slender foot, and that the person is stiff and inflexible either to good or evil. A short neck shows one to be witty and ingenious, but deceitful and inconstant, well skilled in the use of arms, and yet cares not to use them, but is a great lover of peace and quietness.

A lean shoulder bone, signifies a man to be weak, timorous, peaceful, not laborious, and yet fit for any employment. He whose shoulder bones are of a great bigness is commonly, by the rule of physiognomy, a strong man, faithful but unfortunate; somewhat dull of understanding, very laborious, a great eater and drinker, and one equally contented in all conditions. He whose shoulder bone seems to be smooth, is by the rule of nature, modest in his look, and temperate in all his actions, both at bed and board. He whose shoulder bone bends, and is crooked inwardly, is commonly a dull person and deceitful.

Long arms, hanging down and touching the knees, though such arms are rarely seen, denotes a man liberal, but withal vain-glorious, proud and

inconstant. He whose arms are very short in respect to the stature of his body, is thereby signified to be a man of high and gallant spirit, of a graceful temper, bold and warlike. He whose arms are full of bones, sinews and flesh, is a great desirer of novelties and beauties, and one that is very credulous and apt to believe anything. He whose arms are very hairy, whether they be lean or fat, is for the most part a luxurious person, weak in body and mind, very suspicious and malicious withal. He whose arms have no hair on them at all, is of a weak judgment, very angry, vain, wanton, credulous, easily deceived himself, yet a great deceiver of others, no fighter, and very apt to betray his dearest friends.

CHAPTER IV

Of Palmistry, showing the various Judgments drawn from the Hand.

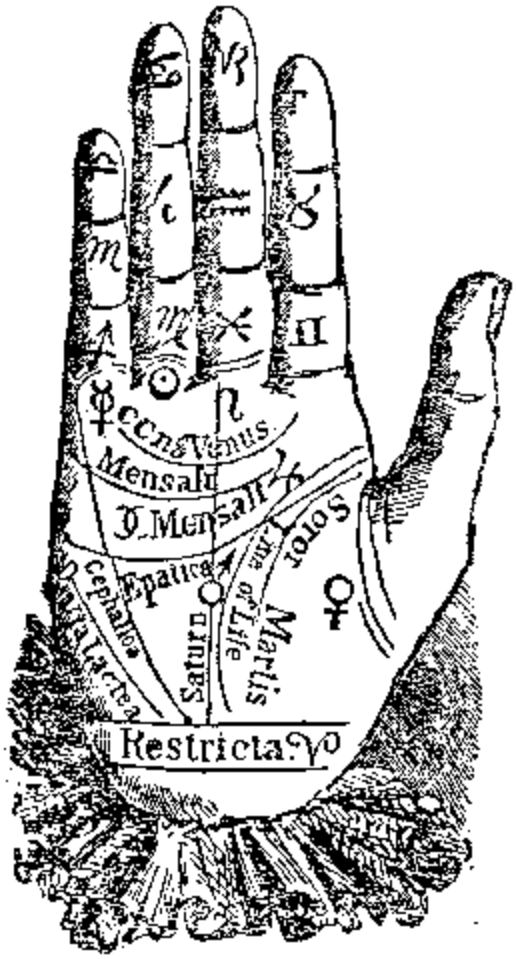
Being engaged in this fourth part to show what judgment may be drawn, according to physiognomy, from the several parts of the body, and coming in order to speak of the hands, it has put me under the necessity of saying something about palmistry, which is a judgment made of the conditions, inclinations, and fortunes of men and women, from the various lines and characters nature has imprinted in their hands, which are almost as serious as the hands that have them.

The reader should remember that one of the lines of the hand, and which indeed is reckoned the principal, is called the line of life; this line encloses the thumb, separating it from the hollow of the hand. The next to it, which is called the natural line, takes its beginning from the rising of the forefinger, near the line of life, and reaches to the table line, and generally makes a triangle. The table line, commonly called the line of fortune, begins under the little finger, and ends near the middle finger. The girdle of Venus, which is another line so called begins near the first joint of the little finger, and ends between the fore-finger and the middle finger. The line of death is that which plainly appears in a counter line to that of life, and is called the sister line, ending usually as the other ends; for when the line of life is ended, death comes, and it can go no farther. There are lines in the fleshy parts, as in the ball of the thumb, which is called the mount of Venus; under each of the fingers are also mounts, which are governed by several planets; and the hollow of the hand is called the plain of Mars.

I proceed to give judgment from these several lines:—In palmistry, the left hand is chiefly to be regarded, because therein the lines are most visible, and have the strictest communication with the heart and brain. In the next place, observe the line of life, and if it be fair, extended to its full length, and not broken with an intermixture of cross lines, it shows long life and

health, and it is the same if a double line appears, as there sometimes does. When the stars appear in this line, it is a signification of great losses and calamities; if on it there be the figures of two O's or a Q, it threatens the person with blindness; if it wraps itself about the table line, then does it promise wealth and honour to be attended by prudence and industry. If the line be cut and jagged at the upper end, it denotes much sickness; if this line be cut by any lines coming from the mount of Venus, it declares the person to be unfortunate in love and business also, and threatens him with sudden death. A cross below the line of life and the table line, shows the person to be very liberal and charitable, one of a noble spirit. Let us now see the signification of the table line.

The table line, when broad and of a lively colour, shows a healthful constitution, and a quiet contented mind, and a courageous spirit, but if it has crosses towards the little finger, it threatens the party with much affliction by sickness. If the line be double, or divided into three parts at any of the extremities, it shows the person to be of a generous temper, and of a good fortune to support it; but if this line be forked at the end, it threatens the person shall suffer by jealousies and doubts, and loss of riches gotten by deceit. If three points such as these ⁂ are found in it, they denote the person prudent and liberal, a lover of learning, and of a good temper, if it spreads towards the fore and middle finger and ends blunt, it denotes preferment. Let us now see what is signified by the middle line. This line has in it oftentimes (for there is scarce a hand in which it varies not) divers very significant characters. Many small lines between this and the table line threaten the party with sickness, and also gives him hopes of recovery. A half cross branching into this line, declares the person shall have honour, riches, and good success in all his undertakings. A half moon denotes cold and watery distempers; but a sun or star upon this line, denotes prosperity and riches; this line, double in a woman, shows she will have several husbands, but no children.



The line of Venus, if it happens to be cut or divided near the forefinger, threatens ruin to the party, and that it shall befall him by means of lascivious women and bad company. Two crosses upon the line, one being on the forefinger and the other bending towards the little finger, show the party to be weak, and inclined to modesty and virtue, indeed it generally denotes modesty in women; and therefore those who desire such, usually choose them by this standard.

The liver line, if it be straight and crossed by other lines, shows the person to be of a sound judgment, and a piercing understanding, but if it be winding, crooked and bending outward, it draws deceit and flattery, and the party is not to be trusted. If it makes a triangle or quadrangle, it shows the person to be of a noble descent, and ambitious of honour and promotion. If it happens that this line and the middle line begin near each other, it denotes

a person to be weak in his judgment, if a man; but if a woman, in danger by hard labour.

The plain of Mars being in the hollow of the hand, most of the lines pass through it, which renders it very significant. This plain being crooked and distorted, threatens the party to fall by his enemies. When the lines beginning at the wrist are long within the plain, reaching to the brawn of the hand, that shows the person to be much given to quarrelling, often in broils and of a hot and fiery spirit, by which he suffers much damage. If deep and long crosses be in the middle of the plain, it shows the party shall obtain honour by martial exploits; but if it be a woman, she shall have several husbands and easy labour with her children.

The line of Death is fatal, when crosses or broken lines appear in it; for they threaten the person with sickness and a short life. A clouded moon appearing therein, threatens a child-bed woman with death. A bloody spot in the line, denotes a violent death. A star like a comet, threatens ruin by war, and death by pestilence. But if a bright sun appears therein, it promises long life and prosperity.

As for the lines of the wrist being fair, they denote good fortune; but if crossed and broken, the contrary.

CHAPTER V

Judgments according to Physiognomy, drawn from the several parts of the Body, from the Hands to the Feet.

A large and full breast, shows a man valiant and courageous, but withal proud and hard to deal with, quickly angry, and very apprehensive of an injury; he whose breast is narrow, and which riseth a little in the middle of it, is, by the best rule of physiognomy, of a clear spirit, of a great understanding, good in counsel, very faithful, clean both in mind and body, yet as an enemy to this, he is soon angry, and inclined long to keep it. He whose breast is somewhat hairy, is very luxurious, and serviceable to another. He who hath no hair upon his breast, is a man weak by nature, of a slender capacity and very timorous, but of a laudable life and conversation, inclined to peace, and much retired to himself.

The back of the chin bone, if the flesh be anything hairy and lean, and higher than any other part that is behind, signifies a man shameless, beastly and withal malicious. He whose back is large, big and fat, is thereby denoted to be a strong and stout man, but of a heavy disposition, vain, slow and full of deceit.

He or she whose belly is soft over all the body, is weak, lustful, and fearful upon little or no occasion, of a good understanding, and an excellent invention, but little eaters, faithful, but of various fortune, and meet with more adversity than prosperity. He whose flesh is rough and hard, is a man of strong constitution and very bold, but vain, proud and of a cruel temper. A person whose skin is smooth, fat and white, is a person, curious, vain-glorious, timorous, shame-faced, malicious, false, and too wise to believe all he hears.

A thigh, full of strong, bristly hair, and the hair inclined to curl, signifies one lustful, licentious, and fit for copulation. Thighs with but little hair, and

those soft and slender, show the person to be reasonably chaste, and one that has no great desire to coition, and who will have but few children.

The legs of both men and women have a fleshy substance behind, which are called calves, which nature hath given them (as in our book of living creatures we have observed), in lieu of those long tails which other creatures have pendant behind. Now a great calf, and he whose legs are of great bone, and hair withal, denotes the person to be strong, bold, secure, dull in understanding and slow in business, inclined to procreation, and for the most part fortunate in his undertakings. Little legs, and but little hair on them, show the person to be weak, fearful, of a quick understanding, and neither luxurious at bed nor board. He whose legs do much abound with hair, shows he has great store in another place, and that he is lustful and luxurious, strong, but unstable in his resolution, and abounding with ill humours.

The feet of either men or women, if broad and thick with flesh, and long in figure, especially if the skin feels hard, they are by nature of a strong constitution, and gross nutriment, but of weak intellect, which renders the understanding vain. But feet that are thin and lean, and of a soft skin, show the person to be but weak of body, but of a strong understanding and an excellent wit.

The soles of the feet do administer plain and evident signs, whereby the disposition and constitution of men and women may be known, as do the palms of their hands, as being full of lines, by which lines all the fortunes and misfortunes of men and women may be known, and their manners and inclinations made plainly to appear. But this in general we may take notice, as that many long lines and strokes do presage great affliction, and a very troublesome life, attended with much grief and toil, care, poverty, and misery; but short lines, if they are thick and full of cross lines, are yet worse in every degree. Those, the skin of whose soles is very thick and gross, are, for the most part, able, strong and venturous. Whereas, on the contrary, those the skin of whose soles of their feet is thin, are generally weak and timorous.

I shall now, before I conclude (having given an account of what judgments may be made by observing the several parts of the body, from the crown of

the head to the soles of the feet), give an account of what judgments may be drawn by the rule of physiognomy from things extraneous which are found upon many, and which indeed to them are parts of the body, but are so far from being necessary parts that they are the deformity and burden of it, and speak of the habits of the body, as they distinguish persons.

Of Crooked and Deformed Persons.

A crooked breast and shoulder, or the exuberance of flesh in the body either of man or woman, signifies the person to be extremely parsimonious and ingenious, and of a great understanding, but very covetous and scraping after the things of the world, attended also with a very bad memory, being also very deceitful and malicious; they are seldom in a medium, but either virtuous or extremely vicious. But if the person deformed hath an excrescence on his breast instead of on the back, he is for the most part of a double heart, and very mischievous.

Of the divers Manners of going, and particular Posture both of Men and Women.

He or she that goes slowly, making great steps as they go, are generally persons of bad memory, and dull of apprehension, given to loitering, and not apt to believe what is told them. He who goes apace, and makes short steps, is most successful in all his undertakings, swift in his imagination, and humble in the disposition of his affairs. He who makes wide and uneven steps, and sidelong withal, is one of a greedy, sordid nature, subtle, malicious, and willing to do evil.

Of the Gait or Motion in Men and Women.

Every man hath a certain gait or motion, and so in like manner hath every woman; for a man to be shaking his head, or using any light motion with his

hands or feet, whether he stands or sits, or speaks, is always accompanied with an extravagant motion, unnecessary, superfluous and unhandsome. Such a man, by the rule of physiognomy is vain, unwise, unchaste, a detractor, unstable and unfaithful. He or she whose motion is not much when discoursing with any one, is for the most part wise and well bred, and fit for any employment, ingenious and apprehensive, frugal, faithful and industrious in business. He whose posture is forwards and backwards, or, as it were, whisking up and down, mimical, is thereby denoted to be a vain, silly person, of a heavy and dull wit, and very malicious. He whose motion is lame and limping, or otherwise imperfect, or that counterfeits an imperfection is denoted to be envious, malicious, false and detracting.

Judgment drawn from the Stature of Man.

Physiognomy draws several judgments also from the stature of man, which take as followeth; if a man be upright and straight, inclined rather to leanness than fat, it shows him to be bold, cruel, proud, clamorous, hard to please, and harder to be reconciled when displeased, very frugal, deceitful, and in many things malicious. To be of tall stature and corpulent with it, denotes him to be not only handsome but valiant also, but of no extraordinary understanding, and which is worst of all, ungrateful and trepanning. He who is extremely tall and very lean and thin is a projecting man, that designs no good to himself, and suspects every one to be as bad as himself, importunate to obtain what he desires, and extremely wedded to his own humour. He who is thick and short, is vain, envious, suspicious, and very shallow of apprehension, easy of belief, but very long before he will forget an injury. He who is lean and short but upright withal, is, by the rules of physiognomy, wise and ingenious, bold and confident, and of a good understanding, but of a deceitful heart. He who stoops as he goes, not so much by age as custom, is very laborious, a retainer of secrets, but very incredulous and not easy to believe every vain report he hears. He that goes with his belly stretching forth, is sociable, merry, and easy to be persuaded.

CHAPTER VI

Of the Power of the Celestial Bodies over Men and Women.

Having spoken thus largely of Physiognomy, and the judgment given thereby concerning the dispositions and inclinations of men and women, it will be convenient here to show how all these things come to pass; and how it is that the secret inclinations and future fate of men and women may be known from the consideration of the several parts of the bodies. They arise from the power and dominion of superior powers to understand the twelve signs of the Zodiac, whose signs, characters and significations are as follows:—

Aries, the Ram, which governs the head and face.

Taurus, the Bull, which governs the neck.

Gemini, the Twins, which governs the hands and arms.

Cancer, the Crab, governs the breast and stomach.

Leo, the Lion, governs the back and heart

Virgo, the Virgin, governs the belly and bowels.

Libra, the Balance, governs the veins and loins.

Scorpio, the Scorpion, governs the secret parts.

Sagittary, the Centaur, governs the thighs.

Capricorn, the Goat, governs the knees.

Aquarius, the Water-Bearer, governs the legs and ankles.

Pisces, the Fish, governs the feet.

It is here furthermore necessary to let the reader know, that the ancients have divided the celestial sphere into twelve parts, according to the number of these signs, which are termed houses; as in the first house, Aries, in the second Taurus, in the third Gemini, etc. And besides their assigning the twelve signs of the twelve houses, they allot to each house its proper business.

To the first house they give the signification of life.

The second house has the signification of wealth, substances, or riches.

The third is the mansion of brethren.

The fourth, the house of parentage.

The fifth is the house of children.

The sixth is the house of sickness or disease.

The seventh is the house of wedlock, and also of enemies, because oftentimes a wife or husband proves the worst enemy.

The eighth is the house of death.

The ninth is the house of religion.

The tenth is the signification of honours.

The eleventh of friendship.

The twelfth is the house of affliction and woe.

Now, astrologically speaking, a house is a certain place in the heaven or firmament, divided by certain degrees, through which the planets have their motion, and in which they have their residence and are situated. And these houses are divided by thirty degrees, for every sign has so many degrees. And these signs or houses are called the houses of such and such planets as make their residence therein, and are such as delight in them, and as they are deposited in such and such houses are said to be either dignified or debilitated. For though the planets in their several revolutions go through all the houses, yet there are some houses which they are more properly said to delight in. As for instance, Aries and Scorpio are the houses of Mars; Taurus and Libra of Venus; Gemini and Virgo of Mercury; Sagittarius and Pisces are the houses of Jupiter; Capricorn and Aquarius are the houses of Saturn; Leo is the house of the Sun; and Cancer is the house of the Moon.

Now to sum up the whole, and show how this concerns Physiognomy, is this:—as the body of man, as we have shown, is not only governed by the signs and planets, but every part is appropriated to one or another of them, so according to the particular influence of each sign and planet, so governing is the disposition, inclination, and nature of the person governed. For such and such tokens and marks do show a person to be born under such and such a planet; so according to the nature, power and influences of the planets, is the judgment to be made of that person. By which the reader may see that the judgments drawn from physiognomy are grounded upon a certain verity.

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