The works of Aristotle, the famous philosopher : containing his Complete master-piece and Family physician, his Experienced midwife, his Book of problems, and Remarks on physiognomy : to the original work is added, An essay on marriage; its duties and enjoyments.

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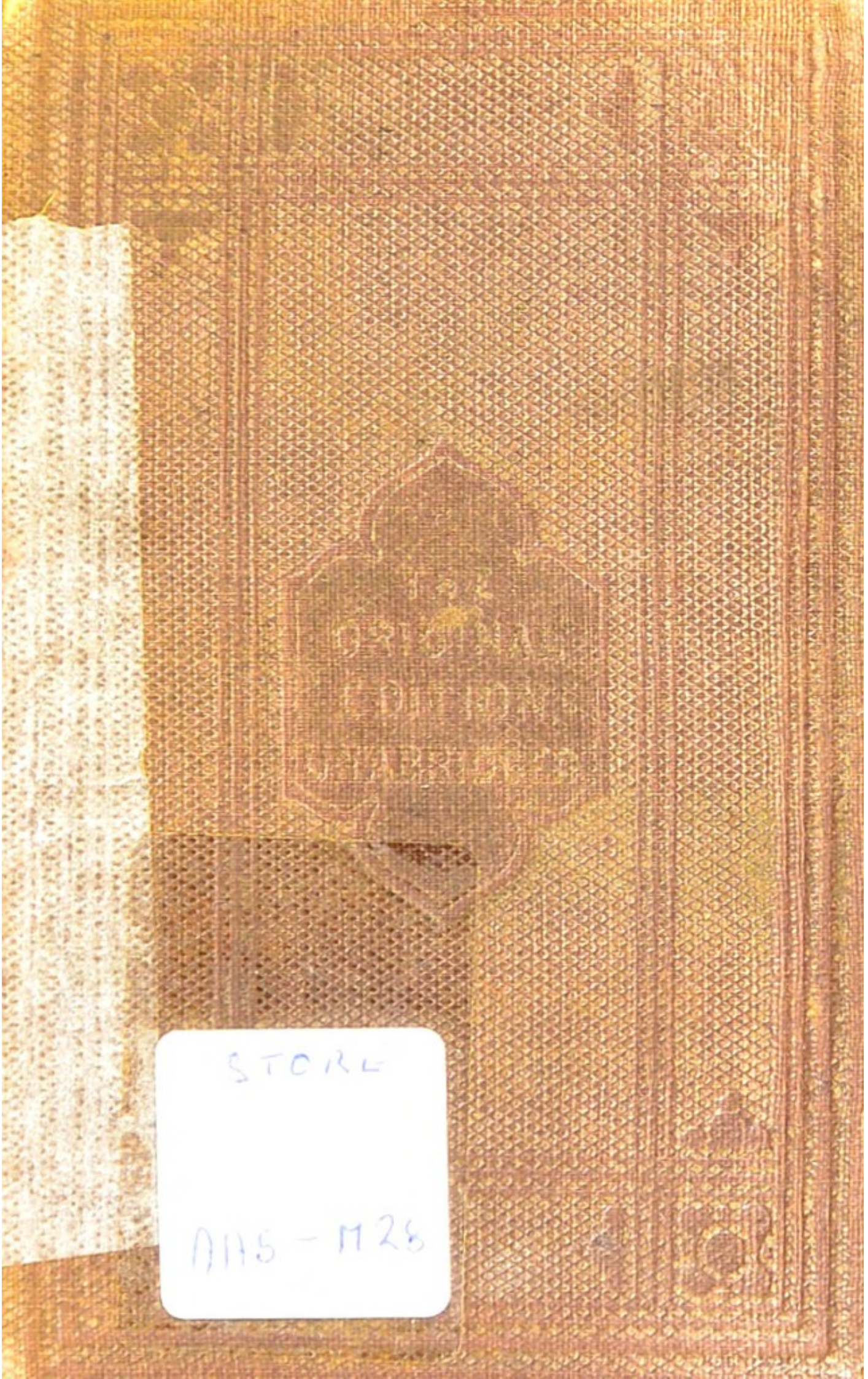

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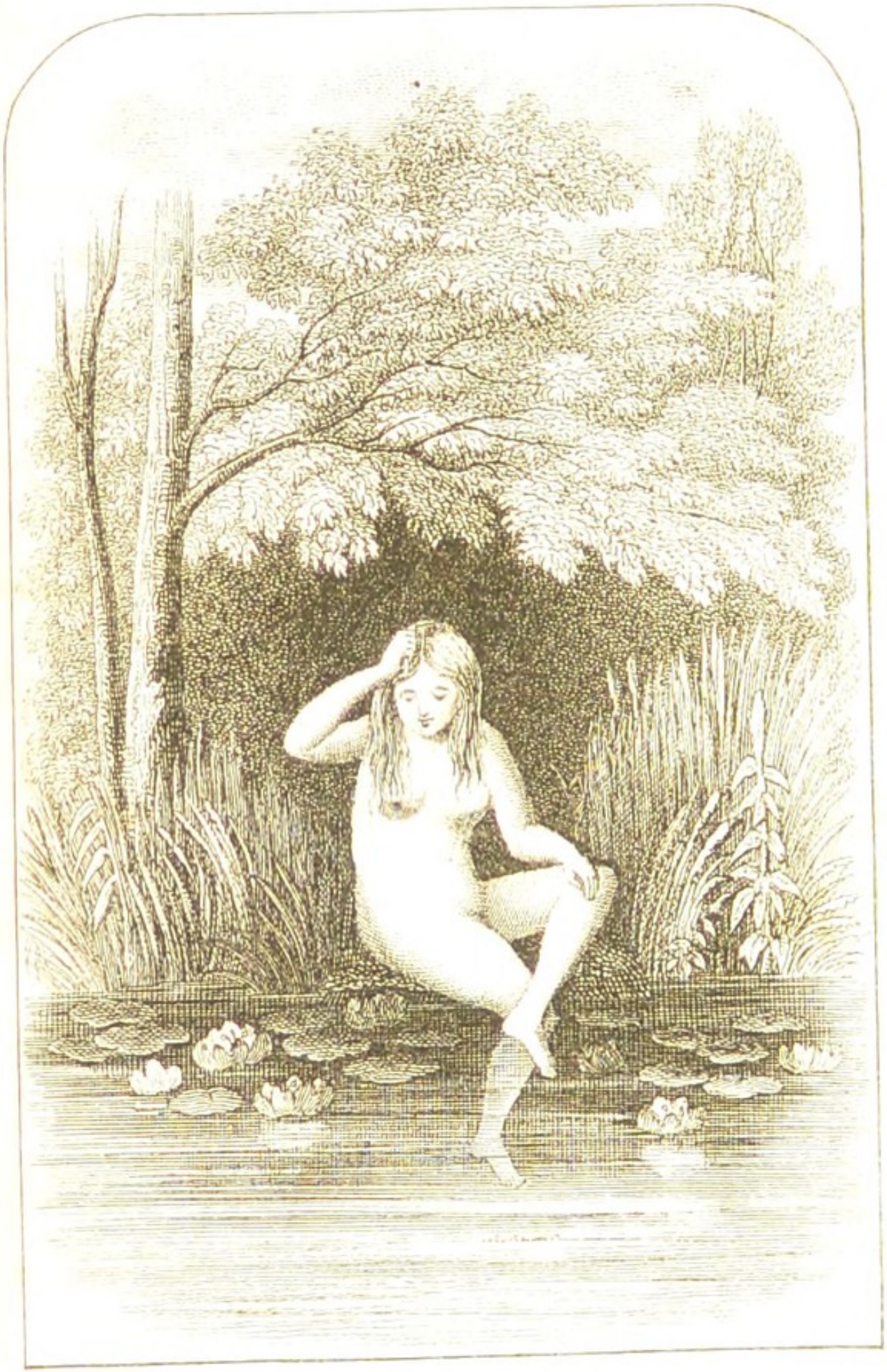

ARISTOTLE

LONDON.
PUBLISHED BY THE BOOKSELLERS

THE

WORKS OF ARISTOTLE,

THE FAMOUS PHILOSOPHER,

CONTAINING

HIS COMPLETE MASTER-PIECE

AND FAMILY PHYSICIAN,

HIS EXPERIENCED MIDWIFE,

HIS BOOK OF PROBLEMS,

AND

REMARKS ON PHYSIOGNOMY,

TO THE ORIGINAL WORK IS ADDED,

AN ESSAY ON MARRIAGE;

ITS DUTIES AND ENJOYMENTS.

LONDON:

PRINTED FOR THE BOOKSELLERS.

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INTRODUCTION.

At the present time, when so many of the female sex, in the hour of Nature's extremity, depend solely upon the skill and practical experience of the Midwife, we regard every attempt to assist the female accoucheur in her difficult, and sometimes dangerous operation as a blessing conferred upon society.

This treatise enters fully into every department of Midwifery; and lays down excellent rules, and proposes valuable suggestions for the guidance of the female operator, which, if acted upon, will not only redound to the credit of the practitioner, but will be of immense benefit to those operated upon. Another valuable feature of this work is, that it contains important directions for the guide of child-bearing women during the time of their pregnancy: how they should conduct themselves with regard to regimen, medical treatment, and other matters, each month, until the time of their delivery. In short we venture to assert, that if the counsel and advice given in the Experienced Midwife be strictly adhered to by all parties interested therein, the travail in child-birth instead of being many times difficult and dangerous, will be safe, speedy, and comparatively easy.

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MARRIAGE;

ITS DUTIES AND ENJOYMENTS.

Marriage is a subject in which all persons are interested. To both sexes it is an attractive topic. It engages their thoughts even before they arrive at an age for entering on married life. All young people feel the deepest interest in it. The life of an old bachelor, or of an old maid, is looked on with apprehension. Marriage is felt to be the proper order of things; wife and husband, the relative position which men and women ought to occupy; and celibacy, carefully to be avoided.

We propose to treat the subject in the following manner:—Marriage as originally appointed: the happy state of matrimony as so appointed; errors in matrimonial alliances; and the prejudicial influence consequent thereon.

CHAPTER I.

MARRIAGE AS ORIGINALLY APPOINTED.

Marriage is a divine institution. When God made the first pair of human beings, he did not leave them to the instinct of nature as he had done in the case of lower animals, but for them he especially instituted marriage. The waters at his command had brought forth abundantly, shoals of fish were in the sea; birds of every description flew in the firmament; animals of all kinds were on the earth, and every creeping thing. The eagle built her nest on the dizzy height; the beasts of the forest sought their lairs; cattle and sheep cropped the young herbage; the dove had found her mate; the nightingale tuned her song: the tiny insects, to which a leaf was a world, the animalculæ, to which a water-drop was a universe, all were fashioned by God, and received the command—"Be fruitful and multiply, in the earth."

But the case of the human beings was different. As

they were formed with an elaboration, not exercised in other departments of creation, as their formation differed from the other living creatures, as man was made from the dust of the earth, and animated with the breath of the Eternal, as woman was made from man, bone of his bone, flesh of his flesh, so there was a difference in the manner in which they were directed to fulfil the great purpose of their creation, namely, the replenishing of the earth.

Woman was formed as an helpmeet for man; for God declared it was not good for man to be alone. There was not a creature in the teeming earth, the blue expanse, the deep water, but had found a mate; the first man stood alone in solitary glory, a creature isolated from all other creatures by a higher nature; his great want was that of another being like himself, and the Universal Parent made woman, brought them together, and instituted marriage. Woman was invested with equal dominion over the animal world, and it was not till the original order of things was changed by sin, that we heard of anything like the subjection of Eve to Adam.

Marriage was peculiarly adapted to the position of the human race. It was necessary that man should have a companion, a friend, a wife; and thus it was ordained that a man should leave his father and mother, and cleave to his wife, and they twain shall be one flesh.

1. The wife was given to be WITH the husband, not given TO him. Thus we read that Adam said, "The woman that thou gavest to be WITH me." She was not to be his slave, nor the victim of caprice or violence, nor the toy of an hour, but a partner in all that concerned him; the sharer of his joy and his sorrow, of his prosperity and his tribulation. She was not to be subjected to humiliating treatment or cruel repudiation; but given to be with him in everything.

2. The first wife was a help MEET for the first husband. She was endowed with the same intellectual faculties, the same reason, the same moral qualities, and

was as capable of appreciating all that was ennobling as he was; she had the same affections, and could love and hope, and believe as well as he could; in no respect was she inferior to him. The qualities of mind and heart in which she differed rendered her the more adapted to fulfil her duties, and made her so much the more a help MEET for man. A woman's sensibilities are quicker and deeper than those of man. A woman knows better how to sympathise with others than man does. Her light always burns with a clear and steady radiance. Those qualities, intellectual and emotional, which man needs, woman supplies. There is that heroism of endurance which is unknown to man. Her love possesses an irresistible power, and her weakness is her greatest strength.

3. The union of husband and wife is thus set forth, "they twain shall be one flesh." Henceforth their hopes, their fears, their love and their hatred, their joys and their sorrows are identical. They are not two, but one. Sometimes there seems a diversity of interest between a married couple. They are as distinct in their tastes and pursuits as ever. If they ever loved one another, they lavished it all in the first days of marriage; if they ever had any liking for one another's society, they exhausted it long ago. The wife may have the key of every cupboard, but if she has not the key of her husband's heart, she wants that which should be hers above everything else. The husband may be very kind and respectful to his wife, but if she is not his second self, there is much to deplore. It is impossible for married people to love each other too much, and impossible for them to love with deep affection if they do not feel their interests to be identical.

Says an old divine—"Man and wife are equally concerned to avoid all offences to each other in the beginning of their conversation; a very little thing can blast an infant blossom; and the breath of the south can shake the little rings of the vine, when first they begin

to curl like the locks of a new-weaned boy; but when by age and consolidation they stiffen into the hardness of a stem, and have, by the warm embraces of the sun, and the kisses of heaven, brought forth their clusters, they can endure the storms of the north and the loud noise of a tempest, and yet never be broken."

The marriage state gives peculiar scope for the exercise of the highest qualities of the heart. Therefore it is highly "honourable." The presence of the founder of our religion at a marriage-feast, and the example of the early Christians, sanction the statement respecting its divine institution. The old fathers nearly all prized marriage and depreciated celibacy.

But why enforce the beauty and virtue of marriage. The instincts of nature yearn towards the opposite sex. We long to love and be loved. We feel that within us which induces us to seek the society of the other sex, and a consciousness that forbids unhallowed love, and to seek that condition of matrimony, which is approved by human and divine law.

Matrimony was in great esteem among the Jews; and the ancient Christians never put any one into the magistracy except such as were married. The pagans made laws to its advantages. The Lacedemonians instituted a festival, where unmarried men were scourged by the women as unworthy to serve the republic. The Romans crowned the heads of those that had been married several times, and in their public rejoicings they appeared with a palm in their hands as having contributed to the glory of the empire. St. Jerome tells us that "they covered a man with bays, and ordered him to accompany his wife's corpse in funeral pomp, with a crown on his head, and a palm branch in his hand," it being reasonable that he should be carried in triumph, since he had been married TWENTY TIMES, and his wife TWENTY-TWO.

When the nuptials were solemnized according to the rites of the early Christian Church, the veil (originally a pagan custom) was preserved, and from this practice

of veiling we derive the word nuptials. The ring was also used, the solemn kiss was given, and the practice of joining hands preserved. It was usual after the ceremony to crown the bride—sometimes both bride and bridegroom—with myrtle wreaths. We trace the remains of these old ceremonies in the lace veil and wreath of orange blossom which are still a part of bridal attire.

The wedding-ring is emblematic—

It is made of gold on account of that metal being the noblest and purest, as well as the most lasting.

It is made of a circular form, on account of the circle being the most perfect of all figures, and the hieroglyphic of eternity.

It is the significant pledge of the investiture of authority, as in ancient times its bestowal was regarded as the delegation of all the husband's authority, and rendered the person so invested supreme over everything he possessed.

Its being totally free from ornament intimates the perfect simplicity and plainness of married life.

It is placed on the left hand on account of its being nearest the heart; and on the fourth finger, on account of some supposed connection between that finger, above all others, with the seat of life.

CHAPTER II.

THE HAPPY STATE OF MATRIMONY.

"MARRIAGE," says Tupper, "is an emblem and an earnest of holier things unseen, and reverence well becometh the symbol of dignity and honour." "Marriage," says an old writer, "is the mother of the world, and preserves kingdoms and fills cities, and churches, and heaven itself. Celibacy, like the fly in the heart of an apple, dwells in perpetual sweetness, but sits alone, and dies in singularity; while marriage, like the useful bee, builds a house, and gathers sweetness from every flower, and labours and unites into societies and repub-

lics, and sends out colonies, and obeys kings, and keeps order, and exercises many virtues, and promotes the interests of mankind."

The union of hearts in marriage is of all states the happiest; for when a man has a second self to whom he can reveal his thoughts, as the sweet companion in his labour, he has one in whose breast, as in a safe cabinet, he may repose his secrets, especially where reciprocal love and inviolate faith are settled; for then neither fear, jealousy, mistrust, or hatred can interpose.

Man feels the want of some one to whom he can impart all his secrets. In boyish days he may entrust some youthful companion, but as he verges towards manhood, this sort of confidence becomes restricted. People are following their different pursuits, seeking wealth, reputation, or enjoyment, by a thousand different roads, and if you told to your dearest friend all that was in your heart, he would soon get weary, however much he might appreciate your ability, and rejoice in your success, your success and ability are not identical with his own. But how different is the case with a wife. When you led her to the altar and vowed to love and cherish her so long as life should last, she became one with you--"no more twain but one flesh." To her you can confide all your aspirations, difficulties, and disappointments. Joy is all the more joyous when there are two to enjoy it; and every burden is lightened when there are two to bear it. Pliny says of his wife—"Her ingenuity is admirable; her frugality is extraordinary; she reads my writings, studies them, and even gets them by heart. You would smile to see the concern she is in when I have a cause to plead, and the joy she shows when it is over. She finds means to have the first news brought to her of the success I meet with in court, how I am heard, and what decree is made. She feasts upon my applauses. Sometimes she sings my verses, and accompanies them with the lute without any other master, except love, the best of instructors." Such delight is that which belongs to trusting, loving, and hon-

ourable marriage. How the heart of the loved wife is prized; how we seek to shield it from every harm; how firmly we rely on its faith and its beauty! what zest it gives to the occupations of life that else were stale and barren; what a charm it imparts to pleasures, when we can share and talk them over with one whom we deeply love, and by whom we are deeply loved in return. Sympathy makes them delightful; take that away, and what remains but the hollow mockery of pleasure, disappointment, and pain.

What happiness flows from the married state. The good man sees his children rising round him, and feels himself all the better for his increasing responsibilities. He had no thought of what a fountain of joy was in the word "father." He seemed as if new life was given him, that he was young again in the youth of his children. He had no idea how cheerfully he could labour with the sweat of the brow till he found that such exertion was rendered necessary by new calls on his purse. He is proud of his children. He will undergo any trial for their benefit. He anticipates for them a happy and useful career, and endeavours with all his heart to make them what they should be. And it is not a selfish enjoyment; he knows that the man who gives a brave son or a virtuous daughter to society, has done society good service. When he grows old, and the wife of his bosom, the mother of his children, grows old and grey likewise, his children take their separate ways—the boys seek their fortunes, the girls get married and have little ones of their own—but the old pair are still happy, for they have so lived as to command each other's esteem, and they have led their family in that good path which shall make their memory blessed. The good mother is known in the good daughter, the good father in the good son.

CHAPTER III.

WORDS OF WARNING.

We shall be the more forcibly impressed with the happiness of the married state, if we consider the opposite

course, which is too often pursued with a foolishness as contemptible as its viciousness is abhorent.

Love is a passion of the human soul. Not only that love which is called forth by family relationship, and induced by intimate friendship, but an intense love for the opposite sex, man for woman, woman for man. Properly under control, this passion is capable of affording the greatest amount of happiness, but, like all the other passions of the heart, when uncontrolled or wrongly directed, it produces the utmost misery.

You find some men indulging their vicious inclinations by following the "strange woman," the street harlot, to her den of guilt and shame, or by alluring some simple girl by promises false and heartless to sin in that transgression which society forgives in a man, but never forgives in a woman: that sin which is unpardonable in the deceived, but venial in the deceiver.

Look at the first of these two cases. "A young man void of understanding," associates with unfortunate women, and wastes his precious vigour in criminal pleasure. The period of youth is the glory of nature, and the healthful developement of all the resources of strength in our nature is the glory of our youth. It is a most painful spectacle in the streets of our metropolis, and large cities, to notice the barefaced manner in which vice shows itself. And how numerous are the allurements to the foolish to enter on a vicious course of life. "The lips of a strange woman drop as an honeycomb, and her mouth is smoother than oil." Every attraction which beauty can borrow from art is employed; prostitution wears all kinds of guises, but is most dangerous when it is decked out the fairest and sports the best. Appropriately, therefore, it is said by the same wise teacher, "Lust not after her beauty in thine heart; neither let her take thee with her eyelids." The disastrous consequences of such "pleasures" are as plain as they are terrible. The sweetness of the honey never compensates for the bitterness of the sting. Such a course most

frequently ruins the prospect of success in life—"a man is brought to a piece of bread;" "it ruins the health,"—"thy flesh and thy body are consumed, till a dart strike through thy liver." Along with property and health goes the character, for "the name of the wicked shall rot," and their end is shrouded in frightful gloom; their "feet go down to death," and their steps take hold on hell,"

Indulgence in vicious courses is sure to issue in the miserable ruin of the man or woman who gives way to the indulgence. Look at the blighted wrecks of womanly beauty which you see in the gas-lighted street; observe the paint that often hides consumption, and always conceals the marks of wretchedness and decay. Ask any one of those to tell you whether she thinks her "gay" life really gay, and if she be sincere, she will tell you with a heart-breaking sigh that she is most unhappy, that she remembers a happier time,—remembrances she manages to dismiss by dram-drinking. She had a home once—and she recollects her mother—dead long ago—and the day when her own feet first turned into the path of guilt. Perhaps she was deceived into it, or rushed into it willingly to escape home restraint, or to gratify a vicious inclination, most probably she was driven into it. She tried to find work and could not, or found it at starvation prices; she saw before her prostitution or the grave, and, alas for her, she chose the first. Better, far better, that she had died; that the grass had grown rank above her burial-bed in the pauper quarter of the churchyard. It must come to that at last. Poor Traviata, with no splendour round her, no devoted admirer to rush in at the last, coughs her way through life and sinks into an early grave—a watery grave, sometimes, made by a leap from a bridge into the dark sullen river that chafes on the stone abutments, and sings under the shadow of the arch a syren song to the despairing.

And though it seldom comes to this with a man, though he may lead a RESPECTABLE life, yet how much

he has injured himself physically, mentally, and commercially, by such association! But the man who indulges his vicious propensities by companionship with depraved women—who trade on their want of virtue, and profit by their shame, is nothing compared to those lurking foes to purity, who take a fiendish pleasure in bringing to ruin and ignominy an honest-hearted, but too trustful girl.

The openly vicious are better than the dissembling vicious. "Burning lips and a wicked heart are like a potsherd covered with silver dross," a vile substance rendered attractive to the innocent by the glitter of an unsubstantial show, a false heart adorned with useless dross.

> Seems he a dove? his feathers are but borrow'd,
> For he's disposed as the hateful raven.
> Is he a lamb? his skin is surely lent him,
> For he's inclined as are the ravenous wolves.
> Who cannot steal a shape that means deceit?

His ambition is to sport on air "with beauty's chain, then cast it idly by." His love is lust. His smooth talk is sweet poison. Truth loves open dealing, but the false hearted ever go masked, and rest not till their unsuspecting dupe is plunged into hopeless ruin.

> "Take one example, one of female woe.
> Loved by a father's and a mother's love,
> In rural peace she lived, so fair, so light
> Of heart, so good and young, that reason scarce
> The eye could credit, but would doubt as she
> Did stoop to pull the lily or the rose
> From morning's dew, if it reality
> Of flesh and blood, or holy vision saw,
> In imagery of perfect womanhood.
> But short her bloom, her happiness was short.
> One saw her loveliness, and with desire
> Unhallowed burning, to her ear addressed
> Dishonest words: "her favour was his life,
> His heaven; her frown his woe, his night, his death.
> With turgid phrase thus wove in flattery's loom,
> He on her womanish nature won, and age
> Suspicionless, and ruined and forsook;
> For he a chosen villain was at heart

And capable of deeds that durst not seek
Repentance. Soon her father saw her shame;
His heart grew stone; he drove her forth to want
And wintry winds, and with a horrid curse
Pursued her ear, forbidding all return.
  Upon a hoary cliff that washed the sea,
Her child was found—dead: on its little cheek
The tear that nature bade it weep, had turn'd
An ice-drop, sparkling in the morning beam;
And to the turf its helpless hands were frozen:
For she, the woeful mother, had gone mad,
And laid it down, regardless of its fate,
And of her own. Yet had she many days
Of sorrow in the world, but never wept.
She lived on alone; and carried in her hand
Some withering stalks she gathered in the spring:
When any asked the cause, she smiled, and said,
They are my sister's, and would come and watch
Her grave when she was dead. She never spoke
Of her deceiver, father, mother, home,
Or child, or heaven, or hell, or God; but still
In lonely places walked, and ever gazed
Upon the withered stalks, and talked to them;
Till wasted to the shadow of her youth,
With woe too wide to see beyond—she died."

In how many instances is the above poetical picture true; and how detestable and revolting the character of the man who wins the love of woman only to betray it, who plucks the flower only to trample it under his heel.

We would not be supposed to defend the folly of woman thus betrayed, but surely they are more sinned against than sinning. They believe and love, and hope, and only find out the deception when they have strayed too far from the path of virtue to return. Their guilt is spotless compared with that of their deceiver.

Thinking of those who have been wrecked on the coral reef of love, a woman cannot be too guarded as to the acquaintances she makes. Let her be suspicious of that man who is evasive, who deals in subterfuge, or who seems unwilling to meet her relations and friends.

And let the man who leads a loose life, or who thinks

the conquest of a woman's virtue a triumph, reflect, and compare his condition with that of the honest man, who fairly plights his troth to the woman he loves, leads her to the altar, and makes her his wife, his second self.

Words of warning are especially necessary to young impulsive women. They are easily deceived. The lips of a "strange man," as well as those of a "strange woman," "drop as an honeycomb." The imprudences which are openly manifested, show too plainly how much our young women especially need a pure and honest mentor to instruct them, and how many nets are spread for their feet.

CHAPTER IV.

SELF-COMMAND.

LIFE, which is regulated by reason, prudence, and benevolence, is sure to be virtuous, but when the passions hold the mastery, they lead to every sort of excess. Rules which we approve and to which we adhere in our calmer moments are utterly violated under the influence of passion. Therefore one of the most necessary qualities for man or woman to cultivate is self-command,

This is true of every passion; but it is especially true of the man or woman under the influence of that strongest of all passions—love. The passion becomes so strong that it is dangerous lest it should break down every lawful barrier. Perhaps this is most true in the case of woman; her delicate and sensitive nature is more readily affected and more highly excited than the more phlegmatic frame of man. Therefore self-command is important, an essential feature in the character of those susceptible of the tender passion.

As love is the most universal of all passions, so is it that in which people are often deceived. Sometimes it is IDLE CAPRICE, sometimes it is FOOLISH INFATUATION, and in both cases it is very dangerous, and requires the strongest self-command to bring it into subjection. A

handsome face, a graceful figure, an agreeable manner, a tuneful voice, may occasion love. Beauty is called a letter of credit; but it is too often a Bellerophon letter, and betrays while it recommends. A woman should look for something better than personal beauty; she should look for intelligence, fixed principles, courtesy, good nature, industry, and, above all, strict morality. The philosophy that tells us that the reformed rake makes the best husband, is a saying commonly received, and has caused the overthrow of many. A man who has become conversant with the most degraded class of women, is very apt to contract a very bad opinion of the sex generally; the man becomes incapable of respecting any; he is suspicious, jealous, easily provoked, angry without cause; his diseased imagination is a continued source of ill-humour, to which is frequently joined a bad habit of body, the consequence of an irregular life. From a union with such, what happiness could flow?—the love of such who could prize? Women cannot be too much upon their guard, or too watchful and exacting. They should never allow the affections to be taken captive by beauty, genius, or fascinating power, before the reason is convinced of the integrity of the man who seeks their heart and hand.

GOLDEN RULES OF LOVE.

The virtues are necessary to love; and the more they are exerted, the more are its delights increased.

Its general kindness is necessary to the character of a good disposition, and is also the avenue to love, there the barrier ought to be kept. The man who offers unusual kindness, rings for further admission. On this alarum, a good girl will consider two things, the one for her own sake, namely,—what are the virtues and accomplishments of this man? the other for his sake, shall she give birth to a hope she is likely to disappoint? Continue at this barrier, and no harm can issue.

Though it behoves every young woman to be cautious

from whom she receives kindness, and by no means to admit any particular mark of it from a man; let her not be backward in an interchange of regard with all liberal men of her acquaintance.

When the barrier is passed, happiness is placed in a critical situation. A man of sensibility will not risk a refusal, nor a delicate woman commit herself. Here nature has established a mode of intelligence by which the most scrupulous may understand each other, and this is the sympathy prepared by kindness.

The allurements to love are, virtue, beauty, and accomplishments, uniting with kindness.

The emotion that exists by certain intelligible movements of the eye is not love. Yet the eyes speak its most harmonious periods,

Infatuation is not in the vocabulary of love. To infatuate signifies to make foolish; the very reverse of love, which refines and exalts. When it is said,—

> That woman, born to be controll'd
> Yields to the forward and the bold;

let it be remembered that love is not understood; the sentiment is that of a libertine expressing his opinion of female frailty, and against such an opinion love and virtue muster all their forces.

The woman who, having raised hope in the bosom of a lover, disappoints him without very good reason, is a jilt; a base character.

The man who uses kindness to incite sympathy for the gratification of appetite, without respect to love and honour, is a seducer; the basest of characters.

The flame of love once raised will burn long if fanned by both its votaries, but will inevitably expire, if left to the care of one.

Mutual constancy and unbounded confidence are the chief ingredients in love.

Chastity, by which is understood the exclusive appropriation of person and inclination to the object of affec-

tion is one of the chief props of love, which, unsupported by it, totters and falls.

A woman cannot sincerely love the man to whose infidelities she can be indifferent.

Infidelities are injuries; inattention is insult: they create the torture and mortification of jealousy.

Jealousy is said to be attendant on love; but then it is only as diseases are attendant on life; a good constitution escapes the one, and true love the other.

A kiss is the link of union between mental affection and animal sense; it is at first brittle, and needs the aid of a solemn engagement to secure the chain entire.

The end of love is the melioration of the heart, the invigoration of family affection, and the security of domestic happiness.

CHAPTER V.

SOME OF THE ERRORS IN MARRIAGE. AGE—INEQUALITY OF AGE.

By errors in marriage we mean the unfitness of persons to enter into this state, both as to their bodily or mental constitution, their age, or their disposition.

First with respect to Age.—It is the fashion in oriental countries at a very early age; but it is injudicious as a general practice. Those that marry too young marry unseasonably. They are not physiologically prepared for the requirements and enjoyments of that state. To attempt that for which nature has not fitted them is to impair their physical organs, debilitate their vital powers, and exhaust their strength. Therefore, do not marry too young.

Second, inequality of Age.—Marriages between the old and the young, whether the preponderance of age be on the side of the bride or bridegroom, commonly arises from the pocket and not the heart. The way

to the pocket lies through the heart, but very often the way to the heart—or the semblance of it—lies through the pocket. The purse, not the affections is consulted. If May marries December, she accepts his offer because

> He has gather'd up gold,
> And now he is dying!

And when a wealthy dowager is married to a young handsome fellow, fond of society, her silver hairs are kept in countenance by genuine gold, and if her vocal notes are of a shrill treble, her bank notes are just of the right tone. The money-loving spirit has led many a blooming girl to be the wife of a man old enough to be her grandfather. Happy marriages never result from such unions.

A young man who, to advance his fortune, marries a woman three times his age, between whom strifes and jealousies, are all which crown the "holy estate," has nobody to blame but himself. But the consequences of such a union are so miserable that we cannot help compassionating the condition of either party. The old woman, with one foot almost in the grave, surely ought to be thinking of something different from a bridal bed; to lean on the arm of a bridegroom, while death takes the other arm, is grossly anomalous; but, it is not so bad as the case of the man who marries her. If there is want of sense on one side, the childishness of age may form some excuse, but for the want of principle on the other side there is no excuse.

The same may be said when an old doting widower marries a virgin in the prime of her youth and vigour. While he vainly strives to please her, he weds himself more closely to the grave, and she is doomed to misery, or is driven into a vicious course. Here again money may influence. Of the fiends in the "outer darkness," none were so bad as Mammon—

> "Mammon led them on;
> Mammon, the least erected spirit of heaven

(For even in heaven his looks and thoughts were always
downward bent,)
Admiring more the riches of heaven's pavement,
Trodden gold, than aught divine or holy."

But really it is not so bad in the woman's case. She may be over-persuaded to marry decrepitude and age. But whatever may have been the inducement, the result is always unfortunate. If it be true that some marriages are made in heaven, these marriages are made in the opposite.

The people of Orinoco consider the marriage of youth to age desirable, but they are bad philosophers and worse physiologists, They unite old men to girls, and young men to old women, that age may correct the petulance of youth; for, they say, to join young persons, equal in youth and imprudence, in wedlock, is to unite one fool to another. But they do not intend such marriages to last; they serve as a sort of apprenticeship, for, after having served for some months, they marry people of their own age.

It is not every age that has the ability to avail itself of the great end of marriage. It is possible to be too old as well as too young, too feeble or too languishing. Before marriage we should have arrived at maturity. The flower of man's age is from twenty-five to forty, and this may be regarded as youth. Plato and Aristotle did not allow marriage before thirty, and at a later period people were not allowed to marry under that age without the consent of parents. The most common opinion is, that a man is perfect, and may safely enter on matrimony at twenty-five, and a woman at twenty; that both sexes are better qualified to marry at that age than when further advanced in life.

Both parties should thoroughly consider the character of each other before they get married. To marry with your eyes shut, and open them afterwards, is a mistake. Each should be as the half of a globe, that, fitly joined together, shall make a perfect sphere.

CHAPTER VI.

SOME OF THE ERRORS IN MARRIAGE; INADEQUATE MEANS OF SUPPORT; WANT OF RECIPROCITY IN TASTE AND INCLINATION.

INADEQUATE MEANS OF SUPPORT.—He that proposes to himself the enjoyments of married life should choose a virtuous, well-educated, and amiably disposed partner. He should not look for a large dower. An old writer says, "If a woman hath good qualities, she hath portion enough." The bride in "Plautus" speaks much to the purpose when she says,—

> 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 withal:
> To have God's fear, and beauty in my mind,
> To do those good who are virtuously inclined.

Such a wife is more precious than rubies.

But while a lover should never seek for a large dowry—it is equally true that an adequate income should be ensured—before entering on the married state. A man ought never to marry without he has the means of respectably maintaining his wife, The want of means to maintain a wife as a wife should be maintained is a prolific source of evil. Lycurgus made a law that no portion should be given in marriage with young women, for in the choice of a wife merit only should be considered. The wife has a right to expect that the man who marries her, is ready and able to support her, and yet how frequently people rush blindly into marriage without any means at all.

If a man can scarcely support himself, it is not likely he can support a wife. There is no magic in matrimony that will make money out of nothing, but there is a necromancy in poverty that will scare away love. People marry without counting the cost. They don't think of to-morrow, next month, next winter. The man who

could have gone anywhere alone, finds himself tied down by his marriage. He cannot do as he would, he must be content to toil hard for a bare subsistence, and as his expenses increase, he finds himself every year less able to meet them. The fault is not that he married—but that he married too soon, not that he should have lived all his life a bachelor, but that he should have remained single long enough to see his way clearly in the world and to have made a good start.

Thousands have gone to the altar with glowing hopes and expectations, and have seen all their hopes vanish before the honey-moon had filled her horn. In the arithmetic of love and courtship, ten and five may make twenty or even twenty-five, but in the more sober calculations of the school, when that rigid old pedagogue —Matrimony, examines the sum, all the false reckoning is rubbed out, and ten and five produce only fifteen.

Let not passion's force so powerful be
Over thy reason, soul, and liberty,
As to ensnare thee to a married life,
E'er thou art able to maintain a wife,
Thou can'st not feed upon her lips and face;
She cannot clothe thee with a poor embrace.
Thyself being yet alone, and but one still,
With patience could endure the worst of ill.
When fortune frowns, one to the war may go
To fight against his foes and fortunes too.
But oh! the grief were terrible to see,
Thy wretched bride half pin'd with poverty.
To see thy infants make their dumb complaint,
And thou not able to relieve their want.
The poorest beggar when he's dead and gone,
Is rich as he that sits upon a throne;
But he, who having no estate whilst wed,
Starves in his grave, being wretched when he's dead.

Another error in marriage is, WANT OF RECIPROCITY IN TASTE AND INCLINATION.—In courtship and marriage, it is seldom that either of the contracting parties care to have the other party like themselves; on the contrary, they seem to seek those who are dissimilar. Hence

tall husbands marry short wives, and tall wives short husbands; dark women marry fair men, and dark men fair women.

People not having the same disposition, tastes, likes, and dislikes, are seldom fond of one another's society. They may be for a short time. This may arise from their not understanding one another thoroughly, or happening to touch only on those questions on which both are agreed. Or it may arise from shyness on the part of both and an unwillingness to come to cross purposes. But as intimacy increases, less care is taken. Each becomes more free, and the dissimilarity in temperament becomes a constant source of annoyance.

Young people meet, say at a ball; they dance together, chat for awhile, are charmed with one another, and so the courtship dates from that night, and ripens into marriage. Or they meet at a friend's house, converse on some congenial topic, are mutually charmed, till they are man and wife. Perhaps before it comes to the day sacred to orange blossoms, they have found out that their tastes are not identical. But they find it out too late. In courtship, they seemed to be of one mind and one heart; in this, however, they were mistaken, as they have found out to their cost. Hood says:—

Now this Wedlock indeed's a fearful thing,
'Tis something like that feat in the ring,
And requires good nerve to do it.
When one of a grand equestrian troupe,
Makes a spring through a gilded hoop,
Not knowing at all what may befall,
After his getting through it.

Bound to one another as husband and wife, the world puts on its natural hues; the rose colour that tinted everything departs, and to "love and cherish, honour and obey," become common duties.

Then the want of congenial taste, and that reciprocity of feeling which makes two hearts one, begins to be felt The lady is fond of society, and gaiety. She has

little inclination to be a keeper-at-home; never contented but when preparing for some festivity or enjoying it—and seldom at home but when exhausted with a round of pleasure. She dotes on the opera. She would die if not present at the grand night of a new tenor, or the appearance of a favourite PRIMA DONNA. There is a dinner party on Monday, which she must attend: a ball on Tuesday, a concert on Wednesday, a dinner party at home, Thursday, just a quiet evening party on Friday; and only a friend or two, with a little music on Saturday, and a general wearisomeness throughout Sunday. The man she accepted is a quiet fellow, marrying because he wanted home, liking to sit by his own fireside in the evening, enjoying a quiet TETE A TETE with his CARA SPOSA. He never cared for parties, never liked dancing; thinks it rather hard work after pleading in the courts all day or visiting a number of patients, or wearying himself on 'Change. What is he? Miserable, he has no sympathy with his wife's gaiety, and she has no liking for his quietness. They are unequally yoked and are mutually uncomfortable.

Or take the opposite case, a quiet ladylike woman, who believed she should be so happy with her "dear Charles," but who finds that he is looking for some outside pleasure, that he has parties with which she has no sympathy, and bears her with him to places and scenes to which she has no attachment. The happiness she anticipated has all flown away. Failing to appreciate what her husband appreciates, he becomes morose, and seeks alone those pleasures for which she has no taste; the home is not a home and both are wretched.

All this arises from the want of properly understanding one another before marriage. People should ascertain, so far as it is practicable, the tastes and disposition of each other before they are made one. Better break off the match, than marry and be miserable.

CHAPTER VII.

ERROR IN MARRIAGE. INCOMPATIBILITY OF TEMPER. WANT OF CANDOUR.

INCOMPATIBILITY OF TEMPER.—We talk about good and bad tempers as if people were born with them and were no more responsible for an ugly twist in their disposition than they are for a crooked limb, or a cast in the eye. But we are wrong in saying so. We are not naturally good tempered or bad tempered. We make our tempers or circumstances make them for us. And a temper is never incurable. Temper is so spiritual a thing, that supposing we could not help having a bad one, we could help its exhibiting itself in our outward conduct. It must act through members subservient to our will. Temper has no face to look morose, no lips to sneer with, no eyes to shoot angry glances, no tongue to utter cruel words, no hands to work with a nervous convulsion, and no foot to stamp on the floor. If temper shows itself, it has to do so by deputy, it has to borrow from your will the means. The worst of tempers, like the fiercest of wild beasts, may be caged. It is to be regretted that bad tempers are not invariably caged, that they may be tamed down.

People are not ashamed of a bad temper. They debit nature with it. Not being ashamed to own it to their friends, man and wife seldom think of disguising it from one another. Eccentricities of temper are shown during courtship. Who has not heard of lovers' quarrels? For real or imaginary slight, offence is taken by one party or the other, and they do not speak for days. The lady pouts, the gentleman sulks. When they have grown weary of these amusements, they make it up in childish fashion—kiss and be friends. But after marriage it is another thing. Both are more obstinate. They add provocation to provocation, trying how disagreeable they can be to one another, and how miserable they can make themselves. Each party tries to display the most

spirit; neither will make the first advance. Temper makes the bliss or the misery of home. It is not in the collision of temper that domestic bliss loves to nestle; its home is in the yielding spirit—in a mild disposition, in a spirit anxious to give and receive happiness.

Bad temper may be foreseen. People can find this out before marriage as well as after. And it is better to do so first than last. Where this incompatibility of temper is observed, marriage should not take place. It is a great error to suppose that the passionate mistress, or the irascible wooer will get quit of their tempers on the wedding day.

WANT OF CANDOUR.—Wherever want of candour exists there is misery. The lover who would deceive his mistress, or the lady who would deceive her lover, are not fit to be husband or wife. Where there is mental reservation, where lovers speak only half the truth, where they keep back some personal failing, some anticipated misfortune—something which they suppose would be prejudicial to the smooth course of true love, they do an irreparable injustice to each other. Where false pretences are made; when either party is led to suppose that the other is in family or fortune, or in prospect, anything but what they are, the party so deceiving is altogether unprincipled. The more dangerous and the more common form of deception is when the whole truth is not told. "I may have my whole hand full of truth," says a German author, "and yet only lift my little finger." Of course he MAY; love MAY do the same but it is neither right nor just.

It should always be known by lovers, that everything about each other must be known at some time. If there is a secret which neither would like to divulge before marriage, which they fear would interfere with their union, let them remember that it is best to tell it now than to wait. Now they can part, but married, they are one, and may be rendered wretched all their lives, by the discovery of the deception practised,

CHAPTER VIII.

INFIDELITY IN LOVE.

INFIDELITY in love is one of the most melancholy and painful evils which can fall on the married state.

There is an infidelity which may be paraded before the eyes of the world, exposed in a law court, and for which pecuniary compensation may be obtained. Such infidelity is unpardonable.

There is an infidelity which is punishable by no law, for which no vengeance can be taken, an alienation of heart, only to be felt by those who deeply love.

When the suspicion of infidelity exists, the pain is almost as great as that which is caused by the reality. Therefore it is a good rule to be scrupulously correct in all our conduct. Flirtation may excite uneasiness, and create suspicion in the heart of either wife or husband. Although there may be nothing radically wrong, such conduct may leave a sting behind, not readily drawn out, However innocent the purposes of the parties may be at the outset, flirtation often leads to disastrous results. It breaks down some of the guards that hedge round innocence.

The more deeply we love, the more tenacious we are of apparent indifference on the part of the beloved. The earnest lover is most susceptible. If Othello had not loved Desdemona so well, he would not have acted as he did.

> She's gone; I am abused, and my relief
> Must be to loathe her. O curse of marriage
> That we call these delicate creatures ours,
> And not their appetites! I had rather be a toad,
> And live upon the vapour of a dungeon,
> *Than keep a corner in the thing I love,*
> For other's uses.

When he believes her guilty, everything in which he before delighted loses its charm.

"O now for ever
Farewell the tranquil mind: farewell content,
Farewell the plumed troop and the big wars,
That make ambition virtue! O farewell!
Farewell the neighing steed and the shrill trump,
The spirit stirring drum, the ear piercing fife,
The royal banner and all quality.
Pride, pomp and circumstance of glorious war!
And O you mortal engines, whose rude throats
The immortal Jove's dread clamours counterfeit;
Farewell! Othello's occupation's gone!

But there is that infidelity in love, which without exciting revenge, makes the heart desolate. When the object of our affections grows cold, when we feel that our love is not returned as it was, that the old smile is not for us, that the eye does not beam for us as it once beamed, that there is a gradual decrease of sympathy; a decrease which we are unwilling to admit, but the conviction of which forces itself on us hour by hour, day by day, till at last the veil is thrown aside, and the last hope dies. "Custom has brought its invariable curse, and indifference gathers round the place in which we had gathered up our soul. We discover we are no longer loved. And what remedy have we? None! Our first natural feeling is resentment. We are conscious of treachery; this ungrateful heart that has fallen from us—how have we prized and treasured it—how have we pleased ourselves in solitude and in absence, with yearning thoughts of its faith and beauty, is ours no more! Then we break into wild reproaches—we watch every look—we guage every action—we are unfortunate—we weary—we offend. Then our agonies—our ironical and bitter taunts, to which we half expect as heretofore, to hear the soft word that turneth away wrath—these only expedite the fatal hour; they are new crimes in us; the very proofs of our bitter love are treasured and repeated, as reason why we should be loved no more—as if without a throe we could resign ourselves to so great a loss."

We cannot be too watchful over ourselves, lest we should give occasion for such agony. We cannot be too cautious how we suspect the love of one who is dear to us, from any trivial circumstance. Doubt or suspicion should not readily be admitted. They have no legitimate place in the heart of wife or husband. Many a marriage begins like a rosy morning and fades like a snow wreath, because of the too suspicious nature of either wife or husband, a disregard of necessary caution, or a spirit too exacting in the evidence of love. The pleasing of one another should be a thought never absent from the mind of a married couple. If there is mutual love, the heart would bleed to suppose that love withdrawn from a moment on either side—and pride supply the place of love, and resentment that of suffering.

CHAPTER IX.

THE ECCENTRICITIES OF NATURE IN MONSTROUS BIRTHS.

THE joyful anticipations of parantal love, are sometimes blighted by the birth of a child. That which generally is the occasion of unspeakable delight, is turned into sorrowful complaint. They gaze on their little one—but it is with aching hearts. Their child is not like other children. It is malformed—and it seems to have but little of humanity—they dread to speak the word, for 'tis their child—but their child is a MONSTER.

The physiological reason for such monstrous births does not come within the scope of our subject. We simply refer to it for the purpose of introducing some remarkable cases of this kind which have occurred, with a view to inquire into its causes, that proper care may be taken to avoid anything likely to superinduce such a result.

From the following figure we may see that though some of the members may be wanting yet they are com-

monty supplied by others, by members which serve the same purpose as those which are deficient.

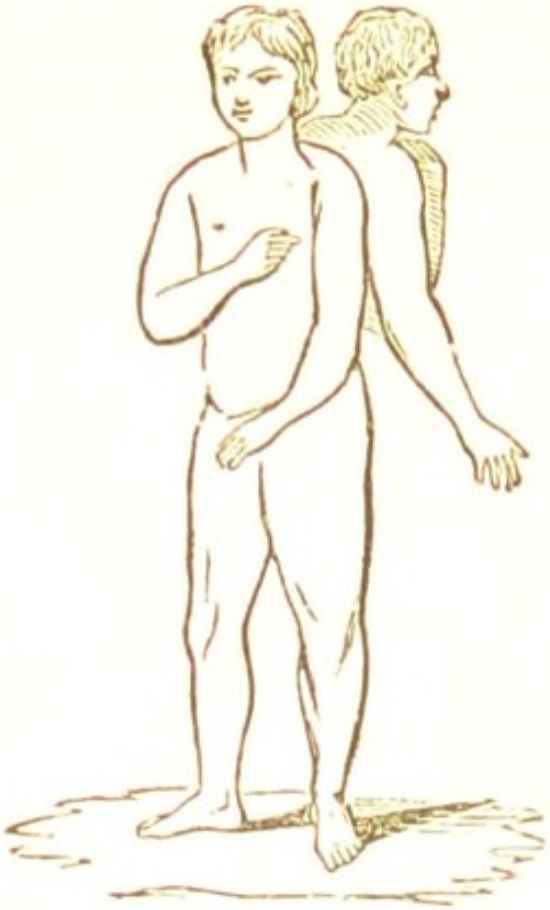
Another monster, mentioned by credible authorities, is that of a child covered from head to foot with hair. What rendered it the more frightful was, that its eyes were placed where its mouth should be, and its mouth in the chin. It was a male, and was born at Arles, in Provence, about the year 1597. It lived only a few days. It was regarded by the superstitious as a forerunner of those desolations which some time after happened to that kingdom "when men to each other were more like beasts than human creatures." The accompanying illustration from an old print—with the couplet attached—gives a better idea of the monster than could be done by description.

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

In Flanders, between Antwerp and Mechlin, in a village called Uthaton, a child was born which had two heads, and 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. The historian who recounts the circumstance, says, "How long they lived I had no account of." In this case it does not seem probable that life would be sustained for any length of time. Even supposing the vital organs unaffected by the mysterious function of the two bodies, the peculiar position of the limbs would to some extent disorganize the free actions of life, as well as render the

creature miserable all its days. These freaks of nature are, happily, not of frequent occurrence, and when they do occur, friendly death soon claims them for his own.

In the reign of Henry III. of England, a child was born with two heads and four arms, and the bodies joined at the back; the heads were so placed that they could look contrary ways; each had two distinct arms and hands; they could both laugh, both speak, and both cry and be hungry together;" "sometimes," says the old writer, "the one would speak and the other would keep silent, and sometimes both speak together. It lived several years, but one outlived the other several years, carrying the dead one with it (for there was no parting them,) till it died of the burden."



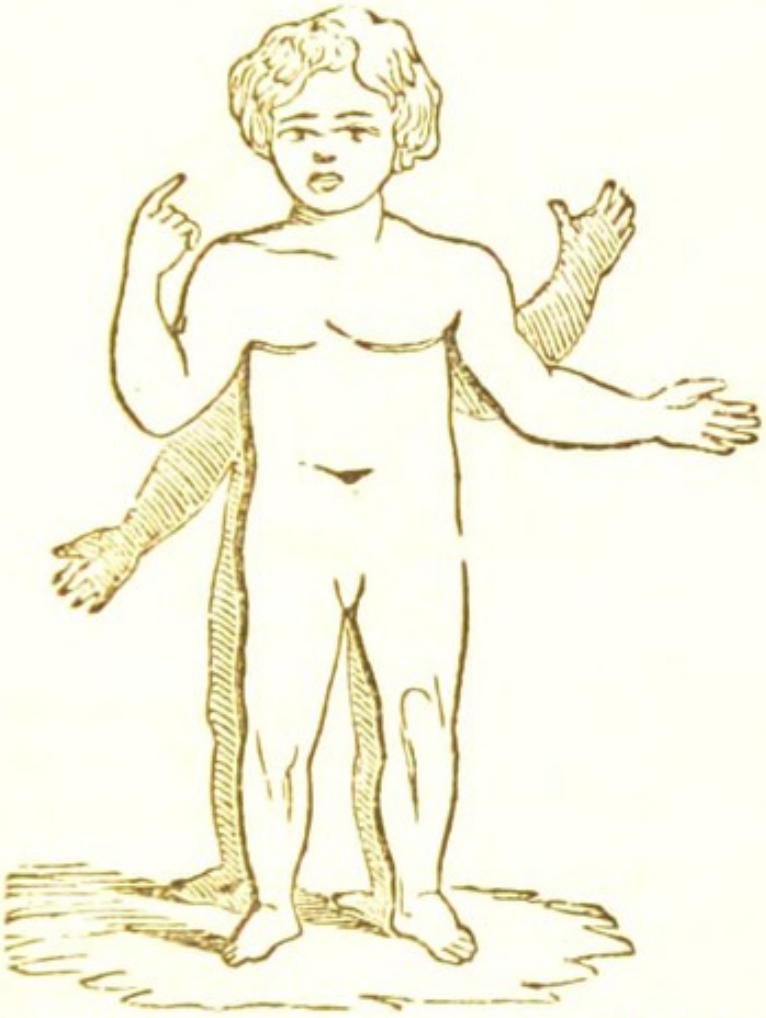
This case bears a singular resemblance to the modern instance of the Siamese twins, to whom we shall have occasion further to allude in the course of this chapter.

Sometimes, says an old writer, monsters so born are at fault by excess. sometimes by defect; that is, by defect when they are born with only one leg or one arm, by excess when they have three hands or two heads, or in a lesser degree, six fingers on one hand.

In 1581, a monster was born at Nazara, which had four arms and four legs, being of the same form as the following figure.

It does not appear whether this monster lived for any considerable length of time, or whether it perished soon after its birth. No doubt many such births were concealed, and the doctors of a former age would have thought themselves justified in putting an end to the existence of such unnatural offspring. From all that can

be gathered respecting this remarkable case, it seems that there was nothing in the condition of this double-bodied child which would have prevented its living; its vital organs were single. It was only the arms and legs which were double.



There is no doubt that some of the stories of monsters are fabulous, but there is sufficient reason to believe that many of them are true. Almost every accoucheur has seen, in the course of his practice, some remarkable cases of this kind. It commonly happens that death puts an end to what must otherwise be a miserable existence, and little is said about them. Our surgical museums contain ample proof of the birth of monsters. But beyond all doubt, there are cases in which people born into the world, and from certain peculiarities in their structure recognised as monsters, have grown up and been seen by the public.

Old historians tell us of a monster which was born at Ravenna, in Italy, about the year 1512, which instead of having arms had wings expanded with sundry curious marks on its body. We present the annexed engraving from an old authority of this marvellous creature.

Some have certain members deficient, but appear to possess an extraordinary power over other members, to supply the deficiency; we may mention the case of Miss Biffin, so skilful in cutting out profile portraits with her toes. Also Cæsar Ducornet, the French painter. He was born without arms, and his lower extremities were only trunks terminated by feet, having only four toes on each. He soon learned, however, to employ those feet with the same, or even more dexterity than other people use their hands. He used them, when a child, to throw the ball to his companions, to hold a pen, to cut figures with a pair of scissors with his toes. He could trace letters on paper with admirable precision, and his genius for art exhibited itself at an early age. That genius was fostered, and the deformed Ducornet became one of

the best painters, and carried off all the prizes at the Academy.

There is an account preserved of a monster born about the year 1603, which from the naval upwards resembled its mother, but in the lower limbs was formed like a beast. We annex an engraving of this remarkable creature from an old volume relating to the subject. It appears to have approached most closely to the old pagan notice of the Satyrs. Perhaps some such monster originated that fable.

Again, with regard to duplicated specimens, we have the modern case of the Siamese twins. The two persons, named Chang and Eng, were twins, born 1811. They enjoyed all the faculties and powers possessed by separate individuals, though joined together at the pit of the stomach, by a short cartilaginous band. They were originally discovered on the banks of the Siam river by Mr. Robert Hunt, an American, and taken to New York. There they were exhibited, and attracted considerable

attention. Afterwards Captain Coffin brought them to England. There appeared to be no positive connection between them but that of the cartilaginous band before mentioned, and their proximity was apparently no inconvenience. They were perfectly straight and well made, and walked as easily as other people, being perfect in all their parts and having all the animal functions distinct, the faculties of each belonging to himself. After having been exhibited for several years in London and the provinces, the Siamese twins went to America, where they settled on a farm, and married sisters.

There still is, or there was some weeks since, a remarkable woman, named Julia Pastrina, exhibiting in London. She had the appearance of a wild animal but was endowed with human faculties, and was one of the most curious cases of the eccentricities of nature that have occurred in modern times.

Further instances might be cited. As we remarked, it does not fall within our scope here to enter on the physiological question, but we cannot too strongly enforce upon our readers—especially females, the necessity of acquiring sound information respecting the cause, that they may avoid so bitter an affliction as that of having a monster for a child.

CHAPTER X.

FAMILY AFFECTION.— CONCLUSION.

MARRIAGE has its chief end and felicity in the family circle, and the natural affection which preserves that magic ring. The father lives again in his children as he sees them "like olive branches round about his table;" and the mother rejoices in her little ones as special gifts of Heaven—"her children rise up and call her blessed."

"They are mine, flesh and soul; mine, oh! my children;
A portion of myself."

Whether they are maimed or perfect, sickly or ro-

bust, each of them is a sacred deposit, of which the parent is to give an account to Him, of whom he received it. Kindred love spreads from the parents and becomes the source of attachment among brothers and sisters, descending to their children and branching through the various degrees of relation, as far as the blood can be traced.

The instinctive or natural love of children for their parents is not so powerful as that of parents towards their children; for it is more necessary in the one than in the other, the preservation of the offspring being greatly dependant on the strength of parental love. To make amends for the want of intensity of natural affection in the child, there soon springs up in the heart a feeling of gratitude, Children are grateful at the breast. Did young mothers know what inexpressible delight there is in nourishing their offspring how few would resign the duty to a hireling. The joys of the nursing mother repay the hours of confinement, and they can easily preserve those charms which must inevitably yield to time.

A true marriage is the Soul's Eden. But to be a true marriage, all its fundamental laws must be faithfully obeyed. Like every good institution, it has its laws, they are fixed and invariable, and in order to obtain the blessings of the married state, conformity to those laws must be strictly observed. All that belongs to the married state, ought to be learned before marriage. It is an obligation not to be entered on blindly. Ignorance should never wed, for it knows not the design of marriage. Its relations involve some of the stern duties of self-denial. Its conditions, its rules, its duties, its laws and its privileges should therefore be carefully studied, otherwise the most unhappy consequences may ensue.

How unwise would be that man who should assume the responsibility of a pilot on one of our rivers, without any previous study of either the river or the business. What folly would he exhibit who should attempt the

duties of an engineer on a railroad or steamboat, in total ignorance of the nicely adjusted and powerful machinery, placed under his control. What fool-hardiness would he exhibit who in entire ignorance of the human system, should attempt to perform a critical, surgical operation. How perfectly irrational would she appear, who should assume the position of a teacher of the higher science and accomplishments of elegant life without any previous preparation or study. And yet not more inconsistent would be those courses of conduct than his or hers, who enters unprepared by previous study upon the realities of married life. For all the professions, trades, and callings in life, men and women prepare themselves by previous attention to their principles and duties, they study them, devote time and money and toil to them. Every imaginable case of difficulty or trial is considered according to the general principles of the trade or profession. But marriage, the most important relation in life, is entered upon in hot haste or blind stupidity, by a majority of youth.

Sometimes people condemn any investigation into the mystery and beauty of the sexual relation. It has been said that "an undevout astronomer is mad;" with still more propriety might it be said that an undevout student of this beautiful relation is mad. Its object both in its physical and spiritual aspects, is the reproduction of the Divine image from generation to generation. The physical and mental constitution of the two, is the most legitimate object of study. The duties that the wife owes to her husband, and the husband to his wife, will afford a profitable topic of reflection.

Marriage itself is a duty. The man who marries not, fails in a palpable obligation, sets an example unworthy of imitation, and denies himself the noblest incentive to virtue and activity. But love ought to inspire and sanction marriage. Marry not where love does not exist. In taking a partner for life, take care that your love is strong enough to last all your life. It must be

founded on a full appreciation of the mental and moral qualities of the beloved, and not on mere sensual gratification.

The eager pursuit of sensual gratification disqualifies for the exercise of the loftier powers. Experience proves that abstinence and moderation are caterers to the palate, while the wretched epicure who gluttons away the organs of taste, becomes impotent of the sweets that are crowded on his table. The libertine destroys at once animal power and intellectual faculty. But the temperate enjoyments of mind and of person give a durability of rapture to wedlock, which joined to the pleasures of rearing, training, and maturing the fruits of hallowed love, sets man on the summit of terrestrial bliss. There is nothing debasing in connubial love. It is blessed of heaven. Free to make friendship with the senses, man must have dominion over the passions, or forego all the superior privileges of humanity. Our first parents participated of both mental and bodily enjoyments, with their Maker's benign smile upon them, everything was hallowed, and for the pleasure of the senses they offered to the Great Father the incense of adoration.

"They at their shady lodge arrived, both stood,
Both turn'd, and under open sky ador'd
The God that made both sky, air, earth and heav'n
Which they beheld, the moon's resplendent globe,
And starry pole: thou also mad'st the night,
Maker Omnipotent and Thou the day
Which we in our appointed works employed
Have finished, happy in our mutual help,
And mutual love, the crown of all our bliss
Ordained by Thee; and this delicious place,
For us too large, where thy abundance wants
Partakers, and uncropt falls to the ground.
But thou hast promis'd from us two a race
To fill the earth, who shall with us extol
Thy goodness infinite, both when we wake,
And when we seek, as now, the gift of sleep."

There is no other condition of life which should be held in so much esteem, so eminently responsible; no other state so blessed of heaven. As the first marriage was an institution of God himself, as we are taught to look upon this institution as one approved by God and man, as solemn stress is laid by the teachers of our religion, on the mutual responsibilities and reciprocal duties of husband and wife—we may be satisfied, "that Marriage is honourable in all."

The subject then is not an offensive one. The study of its duties and enjoyments can be undertaken by all classes and both sexes. It is but necessary that physiology should be examined, to know the requirements of the married state. We are all vitally interested in it, most of us are called on to discharge its duties; for our own sake and for the sake of our children, we should make it our business to fulfil the obligations which rest upon us. The evils which result from failure are patent to the commonest understanding. If the majority of people understood them better, if they would admit the truth that the physiology of marriage demanded a more careful consideration than it obtains, inestimable advantages would accrue.

The declarations of Scripture are plain and straightforward, and very encouraging. The true purpose of marriage is not lost sight of, nor veiled from view.

"He that getteth a wife getteth a good thing."

"Thy wife shall be as a fruitful vine, thy children like olive branches round about thy table.

"Lo children are a heritage of the Lord and the fruit of the womb is his reward. As arrows are in the hand of a mighty man so are children of the youth. Blessed is the man that hath his quiver full of them!"

THE MASTER-PIECE OF ARISTOTLE.

CHAPTER I.

OF THE WOMB IN GENERAL.

I herein propose to treat of the womb, and of the various maladies to which it is subject. By the Grecians it is called metra, the mother; adelphos, because it makes us all brothers.

It is placed in the hypogastrium, or lower part of the body, in the cavity called pelvis, having the strait gut on one side, to keep it from the other side of the backbone, and the bladder on the other side to defend it from blows. The figure of it is like a virile member, only—the manhood is outward, and womanhood inward.

It is divided into the neck and the body. The neck consists of a hard fleshy substance, like cartilage, at the end whereof is a membrane transversely placed, called hymen. Near the neck is a prominent pinnacle, called the door of the womb, because it preserves the matrix from cold and dust; by the Grecians it is called clytoris, by the Latins, præputium muliebre.

The body of the womb is that wherein the child is conceived; it is not quite round, but dilates into two angles, the outward part of it nervous and full of sinews, which are the cause of its motion, but inwardly it is fleshy. In the cavity of the womb there are two cells or receptacles for human seed, divided by a line running through the midst of it. In the right side of the cavity, by the heat of the liver, males are conceived; in the left side, by the coldness of the spleen, females. Most of our moderns hold the above as an infallible truth, yet Hippocrates holds it but in general; "For in whom (saith he) the spermatic vessels on the right side come from the reins, and the spermatic vessels on the left side from the hollow vein, in them males are conceived in the left side, and females in the right." Empedocles

says, "Such sometimes is the power of the seed, that the male may be conceived in the left side, as well as in the right." In the bottom of the cavity, there are little holes called the cotiledones, which are the ends of certain veins and arteries, serving in breeding women to convey substance to the child which is received by the umbilical veins, and others, to carry their courses into the matrix.

The MENSTRUALS are a monthly flux of excrementitious blood, which is to be understood of the superplus or redundance of it. For it is an excrement in quality, its quantity being pure, like the blood in the veins. This is proved two ways; first from the final cause of the blood, which is the propagation and conservation of mankind, that man might be conceived; and be comforted and preserved both in the womb and out of the womb. And all will grant, that a child, in the matrix, is nourished with the blood. And, being out of the womb, it is still nourished with the same; for the milk is nothing but the menstruous blood made white in the breast. Secondly, it is proved to be true, from the generation of it, it being the superfluity of the last ailment of the fleshy part.

The natural end of man and woman's being is to propagate; and this injunction was imposed upon them by God at their creation, and after the deluge. Now, in the act of conception, there must be an agent and patient; for if they be both of one constitution, they cannot propagate: man therefore is hot and dry, woman cold and moist; he is the agent, she the patient, subject to the office of the man. It is necessary the woman should be of a cold constitution, because in her is required a redundancy of nature for the infant depending on her; for otherwise, if there were not a superplus of nourishment for the child, more than is convenient for the mother, then would the infant weaken the principal parts of the mother, and the generation of the infant would be the destruction of the parent.

The monthly purgations continue from the 15th year to the 46th or 50th; yet often there happens a suppression, which is either natural or morbical; they are naturally suppressed in breeding women, and such as give suck.

CHAPTER II.

OF THE RETENTION OF THE COURSES.

The suppression of the terms is an interception of that accustomed evacuation of blood which every month comes from the matrix, proceeding from the instrument or matter vitiated. The part affected is the womb, and that of itself or by consent.

Cause: The cause is either external or internal. The external cause may be heat, or dryness of air, immoderate watching, great labour, vehement motion, &c. whereby the matter is so consumed and the body so exhausted, that there is not a surplus remaining to be expelled, as is recorded of the Amazons; who, being active and always in motion, had their fluxion very little or not at all. It is caused most by cold, making the blood gross, condensing and binding up the passages, that it cannot flow forth.

The internal cause is either instrumental or material, in the womb or in the blood. In the womb it may be by imposthumes, humours, ulcers, by the narrowness of the veins and passages, or by the omentum, in fat bodies pressing the neck of the matrix, producing hernia, for in mankind the kell reacheth not so low; by overmuch cold or heat, the one vitiating the action, the other consuming the matter by an evil composition 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 about the mouth or neck of the womb. The blood may be in fault in quantity or quality: in quantity, when it is so consumed that

there is not a superplus left, as in viragos, or virile women, who through their heat and strength of nature, digest and consume all in their last nourishment. The blood likewise may be consumed, and the terms staid, by bleeding at the nose, by a flux of the hemorrhoids, by a dysentry, or bloody flux, by many other evacuations, and by continual and chronical diseases. Secondly, the matter may be vicious in quality; and suppose it to be sanguinous, phlegmatical, bilious, or melancholic; every one of these, if they offend in grossness, will cause an obstruction.

Signs: Pains in the head, neck, back and loins; weariness of the whole body, (but especially of the hips and legs,) trembling of the heart. If the suppression proceed from cold, she is heavy, sluggish, of a pale colour, and slow pulse; the urine curdles, the blood becomes waterish and much in quantity, and the excrements are retained. If of heat, the signs are contrary to those now recited. If the retention come of conception, this may be known by drinking of water and honey, after supper, going to bed; for if, after the taking of it, she feels a beating pain upon the navel, and the lower part of the belly, it is a sign she hath conceived, if not, then it is vicious, and ought medicinally to be taken away.

Prognostics. With the evil quality of the womb, the whole body stands charged, but especially the heart, liver, and brain; and betwixt the womb and these three principal parts there is a singular concert: First, the womb communicates to the heart by the arteries which come from the aorta. Hence, the terms being suppressed, will ensue faintings, swoonings, intermission of pulse, cessation of breath. Secondly, it communicates to the liver by the veins derived from the hollow vein. Hence will follow obstructions, jaundice, dropsies, hardness of spleen. Thirdly, it communicates to the brain by the nerves and membrane of the back; hence will arise epilepsies, frenzies, melancholy, pain behind

the head, fear, and inability of speaking. Hippocrates, says, if the months be suppressed, many dangerous diseases will follow.

CURE. The suppression is a phlethoric effect, and must be taken away by evacuation; and we begin with phlebotomy. In the midst of the menstrual period open the liver vein; and for the reservation of the humour, two days before the evacuation, open the saphena in both feet; if the repletion be not great, apply cupping-glasses to the legs and thighs, although there should be no hopes to remove the suppression. As in some the cotiledones are so closed up, that nothing but copulation will open them; yet it will be convenient, as much as may be, to ease nature of her burden, by opening the hemorrhoid veins with a leech. After bleeding, let the humours be made flexible with syrup of calamint, betony, hyssop, mugwort, horehound, fumitary, maiden-hair. Bathe with camomile, pennyroyal, savia, bay-leaves, juniper-berries, rue, marjorum, fever-few. Take of the leaves of maiden-hair, succory, and betony, of each a handful, make a decoction; take thereof three ounces. Syrup of maiden-hair, mugwort, and succory; mix of each half an ounce. After she comes out of the bath, let her drink it off. Purge with pill de agarice, fley-bang, corb, feriæ. Galen commends pilulæ de cabercia, coloquintida; as they purge the humour of offending, and open the passage of the womb, and strengthen the faculty by their aromatical quality.

If the stomach be overcharged, let her take a vomit, yet such a one as may work both ways, lest working only upward, it should too much turn back the humour.

After the humour hath been purged, proceed to more proper and forcible remedies. Take of throchisk of myrrh, one drachm and a half; of musk ten grains, with the juice of smallage; make twelve pills; take six every morning, or after supper going to bed. Take of cinnamon half an ounce, smirutim, or rogos, valerian aristolochia, of each two drachms; roots of astrumone, drachm saffron, of each two scruples; spec. diambia, two drachms; trochisk of myrrh, four scruples;

tartari vitriolari, two scruples; make half into a powder; with mugwort water and sugar sufficient quantity, make lozenges, take one drachm of them every morning; or mingle one drachm of the powder with one drachm of the sugar, and take it in white wine. Take of prepared steel, spec. hair, of each two drachms; borax, spec. of myrrh, of each one scruple, with the juice of savine; make it up, with eighty-eight lozenges, and take three every other day before dinner. Take of castor one scruple, wild carrot seed half a drachm, with syrup of mugwort, make four pills; take them in a morning fasting, and so for three days together, before the wonted time of the purgation. Take of juice of horehound, of each five drachms; rhubarb, spikenard, aniseed, asfœtida, marrow root, gentian; with honey make an electuary, take of it three drachms for a dose. In phlegmatic bodies nothing can be better given than the decoction of the wood of guiacum, taken in the morning fasting, and so for twelve days together, without provoking of sweat.

Administer to the lower parts by suffumigations, pessaries, unctions, injunctions: make suffumigations of cinnamon, nutmeg, cloves, bay, berries, mugwort, galbanum, &c. Make pessaries of figs, and the leaves of mercury bruised, rolled with lint. Make injections of the decoctions of origane, mugwort, betony, and eggs. Take oil of almonds, capers, camomile, of each half an ounce; laudani, oil of myrrh, of each two drachms; with wax make an unguent, with which anoint the place; make infusions of camomile, melilot, dill, penny-royal, feverfew, juniper berries, and calamint; but if the suppression comes by a defect of matter, then ought not the courses to be provoked until the spirits be animated, and the blood again increased; or, by proper effects of the womb, as dropsies, inflammations, &c. then must particular care be used.

If the retention comes from repletion or fulness, if the air be hot and dry, use moderate exercise before meals, and your food attenuating; use with your meat garden savory, thyme, &c. if from emptiness or defect of matter, if the air be moist and moderately hot, shun exercise and watching; let your meat be nourishing and of light digestion, as raw eggs, lamb, chickens, milk.

CHAPTER III.

OF THE OVERFLOWING OF THE COURSES.

I shall now treat on the overflowing of the courses, an effect no less dangerous than the former. This immoderate flux is a sanguinous excrement, from the womb, exceeding both in quantity and time. First, it is sanguinous; the matter of the flux differs from that called the false courses, or the whites. Secondly, it proceeds from the womb: for there are two ways from which the blood flows; one by the internal veins of the womb,—and this is called the monthly flux; the other is by those veins which are terminated in the neck of the matrix.—and this is called the hemerrhoids of the womb. Lastly, it is said to exceed both in quantity and time. In quantity, saith Hippocrates, when they flow about eighteen ounces; in time, when they flow about three days: but it is inordinate flowing, when the faculties of the body are thereby weakened, In bodies abounding with gross humours, this immoderate flux sometimes unburdens nature of her load, and ought not to be staid without the counsel of a physician.

Cause. The cause is internal or external. The internal cause is threefold; in the matter, instrument, or faculty. The matter, which is the blood, may be vicious by the heat of constitution, climate, or season, heating the blood, whereby the passages are dilated, and the faculty weakened, that it cannot retain the blood; and by falls, blows, violent motion, breaking of the veins. The external cause may be lifting, carrying of heavy burdens, unnatural child-birth, &c.

Signs. The appetite is decayed, the conception depraved, and all the actions weakened; the feet are swelled, the colour of the face is changed, and a general feebleness of body. If the flux comes by the breaking of a vein, the body is sometimes cold, the blood flows forth in heaps suddenly, with great pain. If it comes

through heat, the orifice of the vein being dilated, there is little or no pain yet the blood flows faster than in an erosion, and not so fast as in a rupture. If by erosion, or sharpness of blood, she feels great heat scalding the passage; it differs from the other two, that it flows not so suddenly, nor so copiously as they do. Lastly, if it proceed from bad blood, drop some on a cloth, and when dry, judge of the quality by the colour. If it be choleric, it will be yellow; if melancholy, black; if phlegmatic, waterish and whitish.

PROGNOSTICS. If with the flux be joined a convulsion, it is dangerous, because it intimates the more noble parts are vitiated; and a convulsion caused by emptiness is deadly. If it continues long, it will be cured with great difficulty; for it was one of the miracles which Christ wrought, when it had continued twelve years. If the flux be inordinate, many diseases will ensue, and without remedy; the blood, with the native heat, being consumed, either cachetical, hydropical, or paralytical diseases will follow.

CURE. The cure is, First, in repelling and carrying away the blood; Secondly, in taking away the fluxibility of the matter; Thirdly, in incorporating the veins and faculties. For the first, to cause a regression of blood, open a vein in the arm, and draw out so much blood as the strength of the patient will permit; and at several times, for thereby the spirits are less weakened, and the refraction so much the greater. Apply cupping-glasses to the breasts and liver, that the reversion may be in the fountain.

To correct the fluxibility of the matter, cathartical means, moderated with the astrictories, may be used.

If it be caused by erosion, or sharpness of blood; and that caused by salt phlegm, prepare with syrup of violets, wormwood, roses, citron-pill, succory, &c.

If by adust choler, prepare the body with syrup of roses, myrtles, sorrel, and purslain, mixed with water of plantain, knot-grass, and endive. Then purge with

rhubarb, one drachm, cinnamon fifteen grains; infuse them one night in endive-water; add to the straining, pulp of tamarind, cassia, of each half an ounce; make a potion. If the blood be waterish or unconcocted, as it is in hydropical bodies, and flows forth by reason of thinness, to draw off the water it will be profitable to purge with agaric, coloquintida; sweating is proper, for thereby the matter offending is taken away, and the blood carried to other parts. To procure sweat, use cardus water, with mithridate, or the decoction of guaiacum, and sarsaparilla. The pills of sarsaparilla, taken every night are commended.

Take of bole ammoniac one scruple, London treacle one drachm, old conserve of roses half an ounce, with syrup of myrtle make an electuary; or, if the flux hath continued long, take of mastic two drachms, olibani, of each one drachm; make a powder;—with syrup of quinces make it into pills; take one before meals. Take the juice of knot-grass, comfrey, and quinces, of each one ounce, camphire one drachm; dip silk of cotton therein, and apply it to the place. Take of oil of mastic, myrtles, of each half an ounce; fine bole, of each one drachm; sanguis draconis a sufficient quantity; make an unguent, and apply it before and behind. Take of plantain, shepherd's purse, red rose leaves, of each one ounce and a half: dried mint one ounce; bean-meal, three ounces:—boil all these in plantain-water, and make of it two plasters: apply one before and behind. If the blood flow from those veins which are terminated in the neck of the matrix, it is not the overflowing of the terms, but hemerrhoids of the womb; yet the same cure will serve both, only the instrumental cure will a little differ: for, in the uterine hemerhoids, the ends of the veins hang over like teats or bushes, which must be taken away by incision, and then the veins closed up with aloes, fine bole, burnt alum, myrrh, mastic, with the juice of comfrey and knot-grass, laid plaster ways thereto.

The air must be cold and dry. All motion of the body must be forbidden. Let her meat be pheasant, partridge, mountain birds, coneys, calf-feet, &c.

CHAPTER IV.

OF THE WEEPING OF THE WOMB.

The weeping of the womb is a flux of blood, unnaturally coming from thence by drops, like tears, causing violent pains, keeping neither period nor time. By some it is referred unto the immoderate evacuation of the courses, yet they flow copiously and free; this is continual, little and little, and with great pain and difficulty.

The cause is in the faculty, by being enfeebled that it cannot expel the blood; and the blood resting there, makes that part of the womb grow hard, and stretcheth the vessels; from whence proceeds the pain of the womb. In the instrument, by the narrowness of the passages. It may be the matter of the blood which may offend in too great a quantity; or it may be gross and thick that it flows by drops. The signs are pains in the head, stomach, and back, with inflammations, suffocations, and excoriations of the matrix. If the strength of the patient will permit, first open a vein in the arm, rub the upper parts, and let her arm be corded, that the force of the blood may be carried backward: then apply such things as may laxate and mollify the strengthening of the womb, and assuage the sharpness of the blood, as cataplasms, made of bran, linseed and mallows. If the blood be vicious and gross, add thereto mugwort, calamint, and betony; and let her take Venice treacle the size of a nutmeg, and the syrup of mugwort, every morning; make an injection of the decoction of mallows, linseed, groundsel, mugwort, with oil of sweet almonds.

Sometimes it is caused by the wind, and then phlebotomy is to be omitted, and instead, take syrup of feverfew one ounce; honey, roses, syrup of roses, of each half an ounce; water of calamint, mugwort, betony, and hyssop, of each one ounce; make a julep. If the pain continues, employ this purgation: take of

hieræ one drachm, syrup of roses and laxative one ounce; with the decoction of mugwort and make a potion. If it come through the weakness of the faculty, let that be corroborated. If through the grossness and sharpness of the blood, let the quality of it be altered. Lastly, if the excrement of the guts be retained, provoke them by a clyster of the decoction of camomile, betony, feverfew, mallows, linseed, juniper berries, aniseed, adding thereto of diacatholicon half an ounce; hiera piera, two drachms; honey and oil of each one ounce; salt nitre a drachm and a half.

CHAPTER V.

OF THE FALSE COURSES, OR WHITES.

From the womb proceed not only menstruous blood, but a distillation of a variety of corrupt humours through the womb, keeping neither courses nor colour, but varying in both.

Cause. The cause is either promiscuously in the whole body, by weakness of the same, or in some of the parts, as in the liver, which causeth a generation of corrupt blood, and then the matter is reddish, sometimes the gall being sluggish, not drawing away those choleric superfluities engendered in the liver, the matter is yellowish; sometimes in the spleen, not cleansing the blood of the excrementitious parts. It may also come from the catarrh in the head, or from any other corrupted member; but if the matter of the flux be white, the cause is either in the stomach, by crude matter there, and vitiated through grief and melancholy, for, otherwise, if the matter were only pituitous crude phlegm, it might be converted into blood; for phlegm in the vertrical is called nourishment half digested; but being corrupt, though sent into the liver yet it cannot be turned into nutriment; for the second decoction cannot correct that which the first hath cor-

rupted; and therefore the liver sends it into the womb, which can neither digest nor repel it, and so it is voided but with the same colour it had in the ventricle. The cause also may be in the reins being overheated, whereby the spermatical causes may be moistness of air, eating of corrupt meats, anger, grief, slothfulness, immoderate sleeping, costiveness.

The signs are extenuation of the body, shortness and stinking of the breath, loathing of meat, pain in the head, swelling of the eyes and feet, and melancholy; humidity from the womb of divers colours, as red, black, green, yellow, and white. It differs from the courses, in that it keeps no certain period, and is of many colours, all of which generate from blood.

PROGNOSTICS. If the flux be phlegmatical, it will continue long and be difficult to cure, yet if vomiting or diarrhœa happeneth, it diverts the humour and cures the disease. If it be choleric, it is not so permanent, yet more perilous, for it will cause a cliff in the neck of the womb, and sometimes make an excoriation of the matrix; if melancholic, it must be dangerous and contumacious. Yet the flux of the hemerrhoids administer cure.

If the matter flowing forth be reddish, open a vein, in the arm, if not apply ligatures to the arms and shoulders. Galen glories how he cured the wife of Brutus, by rubbing the upper part with crude honey.

If it be caused by a distillation from the brain, take syrup of betony, and marjoram; with sugar and betony water make lozenges, to be taken every morning and evening; Auri Alexandria half a drachm at night going to bed. If these things help not, use the suffumigation and plaster, as are prescribed.

If the matter of the flux be choleric, prepare the humour with syrup of roses, violets, endive, succory: purge with manna, rhubarb, cassia. Take of rhubarb two drachms, aniseed one drachm, cinnamon a scruple and a half; infuse them in six ounces of prune broth, add

of the straining of manna one ounce, and take in the morning according to art. If the clyster of the gall be sluggish, and do not stir up the faculty of the gut, give hot clysters of the decoction of the four mollifying herbs with honey of roses and aloes.

If the flux be melancholic, prepare with syrup of maiden-hair, borage, buglos. Purgers of melancholy are stamped prunes two oz.; senna, one drachm; fumitary, a drachm and a half; sour dates, one ounce; with endive water, make a decoction; take of it four ounces, add unto it manna, three drachms. Take conserves of borage, violets, buglos, of each a drachm; citron-peel candied, one drachm; sugar seven ounces: with rose-water make lozenges.

Lastly, let the womb be cleansed from the corrupt matter. Make injections of the decoction of betony, feverfew, spikenard, bistort, and sage, sugar, oil of sweet almonds; pessaries may be made of silk or cotton, mollified in the juice of the aforenamed herbs.

A dry diet is the best, because the body abounds with phlegmatical and crude humours. For this cause Hippocrates counsels the patient to go to bed supperless. Let her meat be partridge, pheasant, and mountain birds. Immoderate sleep is forbidden, moderate exercise is commended.

CHAPTER VI.

OF THE SUFFOCATION OF THE MOTHER.

This is called in English, "the suffocation of the mother;" because it causeth the womb to be choked. It is a retraction of the womb towards the midriff and the stomach, which so presseth and crusheth up the same, that the instrumental cause of respiration, the midriff, is suffocation, and causes the animating faculty, the cause of respiration, to be intercepted, while the body being refrigated, and the action depraved, she falls to the ground as one dead.

In those hysterical passions some continue longer, some shorter. Rabbi Moses writes of some who had the fit two days. Rufus of one who had it three days and three nights, and then she revived. Paroetus writeth of a woman in Spain, who suddenly fell into an uterine suffocation, and appeared dead; her friends sent for a surgeon to have her dissected, who, making an incision, the woman began to move, and returned to herself again, to the wonder of the spectators.

To distinguish the living from the dead, the ancients prescribe three experiments: first, to lay a light feather to the mouth, and by its motion you may judge whether the patient be living or dead: second, to place a glass of water on the breast, and if you perceive it to move, it betokeneth life: third, to hold a looking-glass to the mouth and nose; and if the glass has dew upon it, it betokeneth life. Yet do not trust too much to this, for the motion of the lungs may be taken away so that she cannot breathe, yet the internal transpiration of the heat may remain; which is not manifest by the motion of the breast or lungs, but lies occult in the heart and arteries: as in the fly and swallow, who, in winter, seem dead, and breathe not at all; yet they live by heat reserved in the heart and arteries; therefore, when the summer approacheth, the internal heat being revocated to the outer parts, they revive out of their sleepy ecstacy.

Those women, therefore, who seem to die suddenly, let them not be committed unto the earth until the end of three days, lest the living be buried for the dead.

Cure. The part affected is the womb, of which there is a twofold motion—natural and symptomatical. The natural motion is, when the womb attracteth the human seed, or excludeth the infant or secundine. The symptomatical motion, of which we speak, is a convulsive drawing up of the womb. The cause is the retention of the seed, or the suppression of the menses, causing a repletion of the corrupt humours in the womb, from whence proceeds a flatuous refrigeration, causing a convulsion

of the ligaments of the womb. And as it may come from humidity or repletion, being a convulsion, it may be caused by emptiness or dryness. And lastly, by abortion, or difficult child-birth.

Signs. At the approaching of the suffocation, there is paleness of the face, weakness of the legs, shortness of breath, frigidity of the whole body, with a working in the throat, and then she falls down as one void of sense and motion; the mouth of the womb is closed up, and feels hard. The fit being once past, she openeth her eyes, and feeling her stomach oppressed, she offers to vomit.

It differs from apoplexy, as it comes without shrieking out; also in the hysterical passion the sense of feeling is not altogether destroyed and lost, as it is in the apoplectic disease; and it differs from the epilepsies in that the eyes are not wrested, neither doth any spongy froth come from the mouth; and that convulsive motion, which sometimes is joined to suffocations, is not universal, as it is in the epilepsies, only that matter is convulsed, without vehement agitation. In the syncope, both respiration and pulse are taken away, and she swoons away suddenly; but in the hysterical passion there is both respiration and pulse, though it cannot be well perceived; her face looks red, and she hath a forewarning of her fit. Lastly, it is distinguished from the lethargy by the pulse, which, in the one is great, and in the other little.

Prognostic. If the disease arises from the corruption of the seed, it foretells more danger than if from the suppression of the courses, because the seed is concocted, and of a purer quality than the menstruous blood; and the more pure being corrupted, becomes the more foul. If it be accompanied with a syncope, it shows nature is weak, and that the spirits are almost exhausted; but if sneezing follows, it shows that the heat begins to return, and that nature will subdue the disease.

Cure. In the cure observe: first, that during the paroxysm, nature be provoked to expel those malignant

vapours which blind up the senses, that she may be recalled out of that sleepy ecstacy. Secondly, that in the intermission of the fit, proper medicines may be applied to take away the cause.

To stir up nature, fasten cupping-glasses to the hips and navel, apply ligatures unto the thigh, rub the extreme parts with salt, vinegar, and mustard: cause loud clamours and thundering in the ears. Apply to the nose asafœtida, castor, and sal volatile; provoke her to sneeze by blowing into her nostrils the powder of castor, white pepper, and hellebore; hold under her nose partridge feathers, hair, and burnt leather. The brain is sometimes so oppressed, that there is a necessity for burning the outward skin of the head with hot oil, or with a hot iron. Sharp clysters are available. Take of sage, calamint, horehound, feverfew, marjoram, betony, hyssop, of each one handful; aniseed, half an ounce; coloquintida, white hellebore, of each two drachms; boil in two pounds of water to the half; add oil of castor two ounces, hiera picra two drachms, and make a clyster of it. Hippocrates writeth of an hysterical woman, who could not be freed from the paroxysm but by pouring cold water upon her; yet this cure is singular, and ought to be administered only in heat of summer.

If it be caused by the retention and corruption of the seed, let the midwife take oil of lilies, marjoram, and bays, dissolving in the same two grains of civet, and musk, and put it into the neck of the womb, tickling and rubbing the same.

If it arise from the suppression of the menses, look to the cure in chap. xi. If from the retention of the seed, a good husband will administer a cure; but those who cannot honestly purchase that cure, must use such things as will dry up and diminish the seed, as diacimina, diacalaminthes, &c.

Amongst potions, the seed of agnus castus is well esteemed of, whether taken inwardly, or applied outwardly. It was held in great honour amongst the Athenians, for by it they did re-

main as pure vessels and preserved their chastity, by only strewing it on the bed whereon they lay, and hence the name of agnus castor, as denoting its effects. Make an issue on the inside of each leg, a hand-breadth below the knee. Make trochisks of agaric, two scruples; wild carrot seed, ling aloes, of each half a scruple; washed turpentine, three drachms; with conserve of anthos make a bolus. Castor is of excellent use in this case, eight drachms of it taken in white wine: or you may make pills of it with mithridate, and take them going to bed. Take of white briony root, dried and cut after the manner of carrots, one ounce, put in a draught of wine, placing it by the fire, and when it is warm, drink it. Take myrrh, castor, and asafœtida, of each one scruple; saffron and rue-seed, of each four grains; make eight pills, and take two every night going to bed.

Galen commends agaric pulverized, of which he frequently gave one scruple in white wine. Lay to the navel, at bed-time, a head of garlic bruised, fastening it with a swathed-band. Make a girdle of galbanum for the waist, and also a plaster for the belly, placing in one part of it civet and musk, which must be laid upon the navel. Take pulveris, benedict, trochisk of agaric, of each two drachms; of mithridate a sufficient quantity; and so make two pessaries, and it will purge the matrix of wind and phlegm; foment the natural part with salad oil, in which hath been boiled rue, feverfew, and camomile. Take of rose leaves a handful, cloves two scruples; quilt them in a little cloth, and boil them in malmsey the eighth part of an hour, and apply them to the mouth of the womb, as hot as may be endured, but let not the smell go to her nose. A dry diet must still be observed. Let her bread be aniseed biscuit, her flesh meat rather roasted than boiled.

CHAPTER VII.

OF THE DESCENDING OR FALLING OF THE WOMB.

The falling down of the womb is a relaxation of the ligatures, whereby the matrix is carried backward, and in some hangs out in the size of an egg. The descending of the womb is, when it sinks down to the entrance of the privities, and appears to the eye either not at all, or very little. The precipitation is, when the womb, like a

purse, is turned inside out, and hangs betwixt the thighs like a cupping-glass.

CAUSE. The external cause is difficult child-birth, violent pulling away of the secundine, rashness in drawing away the child, violent coughing, sneezing, falls, blows, and carrying heavy burdens. The internal cause is overmuch humidity flowing into these parts, hindering the operations of the womb, whereby the ligaments by which the womb is supported are relaxed. The cause in particular is in the retention of the seed, or in the suppression of the monthly courses.

SIGNS. The intestines and bladder oftentimes are so crushed, that the passage of the excrements is hindered; if the urine flows forth white and thick, and the midriff moistened, the loins are grieved, the privities pained, and the womb sinks down to the private parts, or else comes clean out.

PROGNOSTIC. In an old woman, it is cured with great difficulty; because it weakens the faculty of the womb, and though it be reduced to its proper place, yet upon very little illness it returns; and so it is with younger women, if the disease be inveterate. If it be caused by a putrefaction of the nerves, it is incurable.

CURE. The womb being naturally placed between the strait-gut and the bladder, and now fallen down, ought not to be put up again, until the faculty of the gut and bladder be stirred up. Nature being unloaded of her burden, let the woman be laid on her back, her legs higher than her head; let her feet be drawn up to her hinder parts, with her knees spread; then mollify the swelling with oil of lilies and sweet almonds, or the decoction of mallows, beets, fenugreek, and linseed; when the inflammation is dissipated, let the midwife anoint her hand with oil of mastic, and reduce the womb into its place. The matrix being up, the situation of the patient must be changed, let her legs be put out at length, and laid together; six cupping-glasses to her breast and navel; boil mugwort, feverfew, red roses, and comfrey

a red wine; make suffumigation for the matrix; and at her coming out of the bath, give her syrup of feverfew one ounce, with a drachm of mithridate. Take laudani, mastic, of each three drachms, make a plaster of it for the navel; then make pessaries of asafœtida, saffron, comfrey, and mastic, adding a little castor. Parius in this case made them only of cork, like a little egg, covering them with wax and mastic, dissolved together, fastening them to a thread, and put into the womb.

The matrix now seated in its natural abode, the remote cause must be removed. If the body be plethoric, open a vein; prepare with syrup of betony, calamint, hyssop, and feverfew. Purge with pil. hierac, agaric, pil. de colocin. If the stomach be oppressed with crudities, unburden it by vomiting, sudorifical decoctions of lignum sanctum, and sassafras, taken twenty days together, dry up the superfluous moisture, and suppress the cause of the disease. Let the air be hot and dry, your diet hot and attenuating; abstain from all motion; eat sparingly, drink little, sleep moderately.

CHAPTER VIII.

OF THE INFLAMMATION OF THE WOMB.

The inflammation of the matrix is a humour of the whole womb, accompanied with unnatural heat, obstruction, and gathering of corrupt blood.

Cause. The cause of this effect is suppression of the menses, repletion of the whole body, immoderate use of Venus, often handling the genitals, difficult child-birth, vehement agitation of the body, falls, blows, &c.

Signs. The signs are anguish, pain in the head and stomach; vomiting, coldness of the knees, convulsions of the neck, trembling of the heart; straitness of breath, by reason of the heat communicated to the midriff, the breasts sympathizing with the womb, pained and swelled. If the fore-part of the matrix be inflamed, the privities

are grieved, the urine is suppressed, or flows with difficulty. If the after part, the loins and back suffer, the excrements are retained on the right side, the right hip suffers, the right leg is heavy and slow to motion; and so if the left side of the womb be inflamed, the left hip is pained, and the left leg is weaker than the right. If the neck of the womb be refreshed, the midwife shall feel the mouth of it retracted, and closed up with a hardness about it.

PROGNOSTICS. All inflammations of the womb are dangerous, if not deadly; and especially if the total substance of the matrix be inflamed; but they are very perilous if in the neck of the womb.

CURE. Let the humours flowing to the womb be repelled; for effecting of which, after cooling clysters, open a vein in the arm, if she be not with child; the day after strike the saphena on both feet, fasten ligatures and cupping-glasses to the arm, and rub the upper part. Purge gently with rhubarb and senna. Take of senna three drachms, aniseed one scruple, barley-water a sufficient quantity; make a decoction. At the beginning of the disease anoint the privities and reins with oil of roses and quinces; make plasters of plantain, linseed, barley-meal, white of eggs, and if the pain be vehement, a little opium; foment the genitals with the decoction of poppy heads. In the declining of the disease, use incisions of sage, linseed, mugwort, pennyroyal, horehound, and fenugreek; anoint the lower part of the belly with the oil of camomile and violets.

Take lily-roots and marrow-roots, of each four ounces; mercury one handful; mugwort, and feverfew, camomile flowers, and meliot, of each a handful and a half; bruise the herbs and fruits, and boil them in a sufficient quantity of milk; then add fresh butter, oil of camomile, and lilies, of each two ounces; bean-meal a sufficient quantity; make two plasters,—the one before, the other behind.

If the tumour tends to suppuration, take fenugreek, mallow-roots, decocted figs, linseed, barley-meal, turpentine, of each three drachms; deer's suet, half a drachm, opium half a scru-

ple: with wax make a plaster. Take of bay leaves, sage, hyssop, camomile, mugwort, and with water make an infusion.

Take wormwood and betony, of each half a handful; white wine and milk, of each half a pound; boil them until one part be confirmed; then take of this decoction four ounces, honey of roses, two ounces, and make an injection. Yet beware that the humours are not brought down to the womb. Take roasted figs and mercury bruised, of each three drachms; turpentine and duck's grease, of each three drachms; opium, two grains; with wax make a pessary.

The air must be cold; and all the motion of the body, especially in the lower part, is forbidden. Vigilance is commended, for by sleep the humours are carried inward, by which the inflammation is increased: eat sparingly; let your drink be barley-water, or clarified whey, and your meat be chickens, and chicken broth, boiled with endive, succory, sorrel, buglos, and mallows.

CHAPTER IX.

OF SCHIRROSITY OR HARDNESS OF THE WOMB.

Of phlegm neglected, or not perfectly cured, is generated a schirrus of the matrix, which is a hard unnatural swelling, insensibly hindering the operation of the womb, and disposing the whole body to slothfulness.

Cause. One cause may be ascribed to want of judgment in the physician; as many empyrics, in inflammation of the womb, do overmuch refrigerate the humour, that it can neither pass forward nor backward; the matter being condensed, degenerates into a hard substance. Other causes may be suppression of the menstruous retention of the lochi, or after purging; eating corrupt meats, as in the longing called plea, to which breeding women are subject. It may proceed also from obstructions and ulcers in the matrix, or from evil effects in the liver and spleen.

Signs. If the bottom of the womb be affected, she feels a heavy burden representing a mole: yet differing,

in that the breasts are attenuated, and the whole body gets less. If the neck of the womb be affected, no outward humours will appear; the mouth of it is retracted, and feels hard; nor can she have the company of a man without great pains and pricklings.

PROGNOSTICS. Schirrus confirmed is incurable, and will turn into a cancer, or incurable dropsy, and ending in a cancer, proves deadly.

CURE. Where there is a repletion, bleeding is advisable; open the medina on both arms, and the saphena on both feet, especially if the menses be suppressed. Prepare the humour with syrup of borage, succory, and clarified whey; then take pills following, according to the strength of the patient:

Take of hiera picra six drachms, black hellebore, polybody, of each two drachms and a half; agaric, lapis lazuli, coloquintida, of each one drachm and a half; mix them and make pills. The body being purged, mollify the hardness as followeth; the privities and neck of the womb with unguent, de calthea, and agrippa; or take opopanax, bdellium, ammoniac, and myrrh, of each two drachms, saffron half a drachm; dissolve the gum in oil of lilies and sweet almonds; with wax or turpentine make an unguent; make infusion of figs, mugwort, mallows, pennyroyal, fennel roots, fenugreek, boiled in water. Make injection of calamint, linseed, fenugreek, and the four mollifying herbs, with oil of dill, camomile, and lilies dissolved in the same. Three drachms of the gum bdellum; cast the stone pyrites on the coals, and let her receive the fume into the womb. Foment the secret parts with decoction of the roots and leaves of danewort. Take of gum galbanum, opopanax, of each one drachm, juice of danewort, mucilage, fenugreek, of each one drachm; calf's marrow an ounce, wax a sufficient quantity; make a pessary.

The air must be temperate: use no salt meats.

CHAPTER X.

OF THE DROPSY IN THE WOMB.

THE uterine dropsy is an unnatural swelling, by the gathering of wind or phlegm in the cavity, membranes, or

substance of the womb, by reason of the debility of the native heat and aliment received.

The causes are overmuch cold or moistness of the milt and liver, immoderate drinking, eating of crude meats; all which, causing a repletion, suffocate the natural heat. It may be caused by overflowing of the courses, or by any other immoderate evacuation, and by abortions, phlegmons and schirrosities of the womb.

Signs. The lower parts of the belly, and the genitals, are puffed up and pained; the feet swell, the natural colour of the face decays, the appetite is depraved. If she turns herself in bed, a noise like the flowing of water is heard. Water sometimes comes from the matrix. If the swelling be caused by wind, the belly sounds like a drum; and the wind breaks through the neck of the womb with a murmuring noise. It is distinguished from a general dropsy, in that the lower parts of the belly are most swelled.

Prognostics, This effect foretells the ruin of the natural functions, by that consent the womb hath with the liver, and therefore general dropsy will follow.

Cure. Mitigate the pain with fomentation of melilot, mallow, linseed, camomile, and althea; then let the womb be prepared with hyssop, calamint, mugwort, with the decoction of elder, marjoram, sage, pennyroyal, betony: purge with senna, agaric, and rhubarb. Take rhubarb, and trochisks of agaric, of each one scruple: with juice of iros make pills.

If diseases rise from moistness, purge with pills. And in these effects which are caused by emptiness or dryness, purge with potion. Fasten a cupping-glass to the belly, with a great fume, and also the navel, especially if the swelling be flatulent; make an issue on the inside of each leg, a hand-breadth below the knee. Apply to the bottom of the belly, as hot as may be endured, a little bag of camomile, cummin, and melilot, boiled in oil of rue; anoint the belly and secret parts with unguent agrippa and unguent aragons; mingle therewith oil of iros; cover the lower parts of the belly with the plasters of bay berries, or a cataplasm made of cummin, camomile, briony roots.

Our moderns ascribe great virtues to tobacco-water distilled, and poured into the womb by a metrenchyta. Take balm, southernwood, wormwood, calamint, bay-leaves, marjoram, of

each one handful; juniper berries four drachms; with water make a decoction: of this may be made fomentations and infusions: make pessaries of storax, aloes, with the roots of dictau, aristolochia, and gentian. Instead of this you may use pessary, prescribed chapter xvii.

The air must be hot and dry; moderate exercise; she may eat the flesh of partridges, chickens, mountain birds, hares; drink thin wine.

CHAPTER XI.

OF MOLES OR FALSE CONCEPTIONS.

THIS disease is called by the Greeks mole; and is taken from the heavy weight of it, it being a mole, or great lump of hard flesh burdening the womb.

It is an articulate piece of flesh, without form, begotten in the matrix as a true conception. Note two things: first, that a mole is said to be inarticulate and without form, it differs from monsters, which are both formate and articulate; secondly, it puts a difference between a true conception and a mole; first, in the genus, in that a mole cannot be said to be an animal; secondly, in the species because it hath no human figure, and bears not the character of a man; thirdly, in the individual, for it hath no affinity with the parent, either in the whole body or any particular part.

CAUSE. Some of the learned are of opinion, that if the woman's seed goes into the womb, and not the man's, thereby is the mole produced. Others affirm, it is engendered of the menstruous blood. But in such a case, maids, by having their courses, or through nocturnal pollutions, might be subject to the same, which never yet any were. The true cause of this fleshy mole proceeds both from the man and from the woman, from corrupt and barren seed in man, and from the menstruous blood in the woman, both emitted together in the womb, where nature finding herself weak, labours to bring forth a vicious conception rather than none: and instead of a living creature, generates a lump of flesh,

Signs. The signs of a mole are these: the months are suppressed, the appetite depraved, the breasts swell, and the belly is puffed up, and waxeth hard. Thus the signs of a breeding woman, and one that breedeth a mole, are all one. The first sign of difference is in the motion of a mole; it may be felt to move in the womb before the third month, when an infant cannot; yet the motion is not an intelligent power in the mole, but the faculty of the womb and the animal spirits diffused through the substance of the mole; for it hath not an animal but a vegetative life: secondly, if a mole, the belly is suddenly puffed up; but if a true conception, the belly is suddenly retracted, and then riseth up by degrees: thirdly, the belly being pressed with the hand, the mole gives way; and the hand being taken away, it returns to the place again; but a child in the womb, though pressed with the hand, moves not presently; and being removed, returns slowly, or not at all; lastly, the child continues in the womb not above eleven months, but a mole continues sometimes four or five years, more or less, according as it is fastened in the matrix. I have known a mole fall away in four or five months. If it remain until the eleventh month, the legs wax feeble, and the whole body consumes.

Prognostics. If, at the delivery of a mole, the flux of the blood be great, it shows danger, because nutrition having been violated by the flowing back of the superfluous humours, where the natural heat is consumed; and parting with so much blood, the woman is so weakened that she cannot subsist without difficulty.

Cause. We are taught by Hippocrates, that phlebotomy causeth abortion, by taking all that nourishment which preserves the life of the child; wherefore, open the liver vein and saphena in both feet, fasten cupping-glasses to the loins and sides of the belly; let the uterine parts be first mollified, and then the expulsive faculty provoked to expel the burden.

To laxate the ligature of the mole, take mallows with the roots, three handfuls; camomile, melilot, pelitory of the wall,

violet leaves, mercury, root of fennel, parsley, of each two handfuls; linseed, fenugreek, each one pound; boil them in water, and let her sit therein up to the navel. At her going out of the bath, anoint the privities and reins with the following unguent; take oil of camomile, lilies, sweet almonds, one ounce each; fresh butter, laudanum, ammoniac, of each half an ounce: with the oil of linseed make an unguent. Take mercury and althea roots, of each half a handful; flos, brachoc, ursini, half a handful; linseed, barley-meal, of each six ounces; boil all these with water and honey, and make a plaster; make pessaries of the gum galbanum, bdellium, antimoniacum, figs, hog's suet, and honey.

After the ligaments of the mole are loosed, let the expulsive faculty be stirred up to expel the mole. Take troch. de myrrh one ounce; castor astrolochia, gentian, dictam, of each half an ounce; make a powder; take one drachm in four ounces of mugwort water. Take of hypericon, calamint, pennyroyal, betony, hyssop, sage, horehound, valeria, madder, savine; with water make a decoction; take three ounces of it, with one ounce and a half of feverfew. Take of mugwort, myrrh, gentian, pill. coch. of each four scruples; rue, pennyroyal, of each a drachm; asafœtida, cinnamon, juniper-berries, borage, of each one drachm; with the juice of savine make pills to be taken every morning: make an infusion of hyssop, bay-leaves, calamint; bay-berries, camomile, mugwort, ervine, cloves, nutmeg, of each two scruples; galbanum one drachm; hiera picra and black hellebore oil, of each one scruple; with turpentine make a pessary.

But if these things avail not, then must the mole be drawn away with an instrument, which may be performed by a skilful surgeon. After the delivery of the mole, let the flux of blood be stayed as soon as may be. Fasten cupping-glasses to the shoulders and ligatures of the arms. If this help not, open the liver vein in the right arm.

CHAPTER XII.

OF CONCEPTION, AND HOW A WOMAN MAY KNOW WHETHER SHE HATH CONCEIVED OR NOT, AND WHETHER A MALE OR FEMALE.

THE natural instinct implanted in men and women to propagate their species, puts them upon making use of

those ways that nature has ordained for that end, which, after used, the woman many times, through ignorance of her having conceived, is little better than a murderer of her child, for, after conception, finding herself not well, and not knowing what is the matter with her, consults a doctor; and he, not thinking of her being with child, gives cathartical potions, which destroy the conception. And some out of coyness, though they know they have conceived, will not confess it, that they might be instructed how to order themselves.

Signs of Conception. If under the eye the vein be swelled, the veins in the eyes appearing clearly, and the eyes somewhat discoloured, if the woman has not the terms upon her, nor watched the night before, you may conclude her to be with child; the first two months I never knew this sign to fail. Keep the urine of the woman close in a glass three days, and then strain it through a fine linen cloth; if you find small living creatures in it, she hath conceived.

A coldness and chillness of the outward parts after copulation, the heat being retired to make conception. The veins of the breast are more clearly seen than usual. The body is weakened, and the face discoloured. The belly waxeth very flat, because the womb closeth itself to nourish the seed. If cold water be drank, a coldness is left in the breasts. Loss of appetite, sour belchings, and weakness of stomach. The breasts swell, wax hard, with pain and soreness. Griping pains, like the cramp, about the navel. Divers appetites and longings. The veins of the eyes are clearly seen, and the eyes are discoloured. This is an infallible sign. The excrements are voided painfully, as the womb swelling thrusteth the right gut together. Take a green nettle, put it into the urine of the woman, cover it close, and let it remain a night; if the woman be with child, it will be full of red spots on the morrow; if not, it will be blackish.

Signs of a Male Child. The woman breeds a boy easier and with less pain than girls, and is more nimble.

The child is first felt on the right side; for male children lie on the right side of the womb. The woman, when she riseth from a chair, sooner stays herself on her right hand than on her left. The belly lies rounder and higher than when it is a female. The right breast is more hard and plump than the left, and the right nipple redder. The colour of a woman is not so swarthy as when she conceives a girl. The contrary to these are signs of the conception of a female.

If the circle under the eye, of a wan blue colour, be more apparent under the right eye, and the veins most apparent, and most discoloured, she is with child of a boy; if the marks be most apparent in her left eye, she is with child of a girl. Again, let her milk a drop of her milk in a basin of fair water; if it sinks to the bottom, as it drops in, round in a drop, it is a girl she is with child of; but if it be a boy, it will spread and swim at top.

CHAPTER XIII.

OF UNTIMELY BIRTHS.

When the fruit of the womb comes forth before the seventh month, before it comes to maturity, it is abortive; and, in effect, the child proves abortive, if born in the eighth month. And why children born in the seventh and ninth month may live, and not in the eighth month, may seem strange, yet it is true. Hippocrates gives a reason, viz: the infant being perfect in the seventh month, desires more air and nutriment; and it labours for a passage to get out; and if it has not strength sufficient to break the membranes and come forth, it shall continue in the womb till the ninth month, and in that time may again be strengthened; but if it returns to strive again the eighth month, and be born, it cannot live, because the day of its birth is either past or to come. For, in the eighth month, saith Aven, he is weak and infirm; and if cast into the cold air, his spirits cannot be supported.

CAUSE. Untimely birth may be caused by cold; or by humidity, weakening the faculty, and the fruit cannot be retained till the due time; by dryness or emptiness, defrauding the child of nourishment; by fluxes, phlebotomy, evacuations; inflammations of the womb, &c. Sometimes it is caused by laughter, joy, anger, and fear; for in that the heat forsakes the womb, and runs to the heart for help there, and so cold strikes in the matrix, whereby the ligaments are relaxed, and abortion follows. Abortion may be caused by corrupt air, filthy odours, and especially by the smell of the snuff of a candle; also by falls, blows, violent exercise, leaping, dancing, &c.

SIGNS. Signs of abortion are, extenuation of the breasts, a flux of watery milk, pain in the womb, heaviness in the head, unusual weariness in the hips and thighs, flowing of the courses. Signs foretelling the fruit dead in the womb, are hollow eyes, pain in the head, anguish, horror, paleness of the face and lips, gnawing of the stomach, no motion of the infant, coldness and looseness of the mouth of the womb, thickness of the belly, and watery and bloody excrements come from the matrix.

CHAPTER XIV.

DIRECTIONS FOR BREEDING WOMEN.

BEFORE conception, if the body be over hot, dry, or moist, correct it with the contraries: if couchmical, purge it: if plethorical, open the liver vein; if too gross, attenuate it: if too lean, nourish it.

After conception, let the air be temperate; little sleep; avoid watchings, much exercise, passions of the mind, filthy smells, and sweet odours. Abstain from things which provoke the urine or the courses; from salt and windy meats.

If the excrements be retained, lenify with clysters of the decoction of mallows, violets, with sugar and common oil. If with looseness, let it not be stayed without the

judgment of a physician; for all the uterine fluxes have a malign quality in them, which must be evacuated before the flux be stayed.

The cough of breeding women puts them in danger of miscarrying. To prevent which, shave away the hair on the cornal coissures, and apply thereon the following plaster; take of resinæ half an ounce, of laudana one drachm, citron peel, lign. aloes, olibani, of each a drachm; stir achis liquidæ, and sicca, a sufficient quantity; dissolve the gums in vinegar, and make a plaster; at night going to bed let her take the fume of these trochisks cast upon the coals. Also take of frankincense, storax powder, and red roses, of each a drachm and a half, sandrich, eight drachms, mastic, benjamin, amber, of each one drachm; with turpentine make trochisks, apply a cautery to the nape of the neck. And every night these pills following: take hypocistides, terriæ sigillate, fine bole, of each half an ounce; bastort, alcatia, styracis, calamint, of each two drachms, cloves, one drachm; with syrup of myrtles make pills.

In breeding women there is often a flux, which greatly distresses the womb. To prevent all these dangers, the stomach must be corroborated as follows:

Take aloes and nutmeg, of each one drachm; mace, clove, mastic, and laudanum, of each two scruples; oil of spike an ounce; musk two grains; oil of mastic, and wormwood, of each half an oz.; make an unguent for the stomach to be applied before meals. Take of conserve of borage, buglos, and atthos, of each half an ounce; confect. de hyacinth, lemon peel candied, specierum, diamarg. pulv. de gemmis, of each two drachms; nutmeg and diambra, of each two scruples; with syrup of roses make an electuary; of which she must take twice a day, two hours before meals. A woman with child is subject to swelling of the legs during the first three months, by humours falling down from the stomach and liver; for the cure whereof, take oil of roses two drachms, salt and vinegar, of each one drachm; shake them together until the salt be dissolved, and anoint the legs therewith hot, chafing it with the hand. If the body need purging, she may do it without danger in the fourth, fifth, or sixth months; but not before nor after, unless in some sharp diseases, in which the mother and the child are like to perish. Apply plasters and unguents to the reins, to strengthen the fruit of the womb. Take of gum agaric, bistort, and storax, of each one drachm; fine bole, nutmeg, mastic, sanguis draconis, and myrtle-berries, a drachm and a half; wax and turpentine a sufficient quantity; make a plaster.

Apply to the reins in the winter time, and remove it every twenty-four hours, lest the reins be over-hot therewith. In the interim anoint the privities and reins with unguent and consitissæ; but if it be the summer time, and the reins hot, the following plaster is more proper; take of red roses one pound, mastic and red sanders, of each two drachms; bole ammoniac, red coral and bistort, each two drachms; pomegranate peel prepared, and coriander, of each two drachms and a half; barberries two scruples; oil of mastic and quinces, of each half an ounce; juice of plantain, two drachms; with pitch make a plaster; anoint the reins with unguentum sandal. Once every week wash the reins with two parts of rose-water, and one part of white wine mingled together and warmed at the fire. This will assuage the heat of the reins, and disperse the oil of the plaster out of the pores of the skin, and cause the ointment or plaster the sooner to penetrate and strengthen the womb. Some are of opinion, that as long as the loadstone is laid to the navel, it keeps the woman from abortion.

CHAPTER XV.

DIRECTIONS TO BE OBSERVED BY WOMEN AT THE TIME OF THEIR FALLING IN LABOUR.

The time of birth drawing near, let the woman send for a skilful midwife; let her prepare a bed, or couch, that the midwife and her assistants may pass round, and help as required, having a change of linen ready, and a stool to rest her feet against, she having more force when they are bowed.

When the pain comes, let her walk about the room, resting by turns upon the bed, and so expect the coming down of the water, which is a humour contracted in the outward membranes, and flows thence when it is broke by the struggling of the child. Motion causes the womb to open and dilate itself, when from lying long in bed it be uneasy. If the patient is weak, let her take some gentle cordial, if her pain will permit. If her travail be tedious, she may take chicken or mutton broth, or a poached egg.

In delivery, the midwife must wait with patience till

the child bursts the membrane; for if she tear the membrane with her nails, she endangers both the woman and the child; for by lying dry, and wanting that slipperiness that should make it easy it comes forth with great pains.

When the head appears, the midwife must gently hold it between her hands, and draw the child at such times as the woman's pains are upon her, and at no other, slipping by degrees her forefingers under its arm-pits, not using a rough hand, lest the tender infant receive any deformity of body. As soon as the child is taken forth, let it be laid on its back, that it may freely receive respiration; then cut the navel string about three inches from the body, tying that end which adheres to the body with a silken string, as near as you can; then cover the head and stomach of the child well.

Let the midwife regard the patient in drawing forth the secundine, by wagging and stirring them up and down, afterwards with a gentle hand drawing them forth; if the work be difficult, let the woman hold salt in her hands, shut them close, breathe hard into them, and thereby she will know whether the membranes be broken or not.

CHAPTER XVI.

IN CASE OF EXTREMITY, WHAT OUGHT TO BE DONE BY WOMEN, WHO, IN THE TRAVAIL, ARE ATTENDED WITH A FLUX OF BLOOD, CONVULSIONS, AND FITS.

The woman being across the bed, let the operator put up his or her hand, if the neck of the womb be dilated, and remove the contracted blood, that obstructs the passage of the birth; and let him tenderly move the infant, his hand being anointed with sweet butter, or a harmless pomatum. And if the waters be not come down, then without difficulty may they be let forth; when, if the infant should attempt to break out with the head foremost, or cross, he may gently turn it to find the feet; which having done, let him draw forth the one, and fasten it to the riband, then put it up again, and by degrees find the other, bringing them close and even, and let the

woman breathe, urging her to strain, in helping nature to perform the birth, and that the hold may be surer, wrap a linen cloth about the child's thighs, and bring it into the world with its face downwards.

In a flux of blood, if the neck of the womb be open, it must be considered whether the infant or secundine comes first, which the latter sometimes happening to do, stops the mouth of the womb, and hinders the birth, endangering both the woman and child; but in this case the secundine must be removed by a swift turn; and they have by so coming down deceived many, who feeling their softness, supposed the womb was not dilated, and thus the woman or child has been lost. The secundine moved, the child must be sought for, and drawn forth; and in such a case, if the woman or child die, the midwife or surgeon is blameless, because they did their best.

If it appears upon enquiry that the secundine comes first, let the woman be delivered with all convenient expedition, because a great flux of blood will follow.

First. The manner of the secundine advancing, whether it be much or little. If the former, and the head of the child appears first, it may be guided towards the neck of the womb, as in the case of natural birth; but if there appear any difficulty in the delivery, search for the feet and draw it forth; but if the latter, the secundine may be put back with a gentle hand, and the child first taken forth.

But if the secundine be far advanced, so that it cannot be put back, and the child follow it close, then is the secundine to be taken forth with much care, as swift as may be, and laid easy without cutting the entrail that is fastened to them; for thereby you may be guided to the infant, which, whether live or dead, must be drawn forth by the feet in all haste; only in cases of great necessity, for in other cases the secundine ought to come last.

And in drawing forth a dead child, let these directions be carefully observed, viz. If the child be found dead, its head being foremost, the delivery will be more difficult: for it is an apparent sign, by the woman's strength beginning to fail her, that the child being dead, and wanting its natural force, can

be no ways assisted to its delivery: wherefore the most certain and safe way for the surgeon is to put up his left hand, sliding it as hollow in the palm as he can into the neck of the womb, and into the lower part thereof toward the feet, and then between the head of the infant and the neck of the matrix; then having a hook in the right hand, couch it close, and slip it up above the left hand, between the head of the child, and the flat of his hand, fixing it in the bars of the temple towards the eye. For want of a convenient coming at these in the occipital bone, observe still to keep the left hand in its place, and with it gently moving and stirring the head, and so with the right hand and hook draw the child forward, admonish the woman to put forth her utmost strength, still drawing when the woman's pangs are upon her. The head being drawn out, with all speed he must slip his hand under the arm-holes of the child, and take it quite out; giving these things to the woman, viz: a toast of fine wheaten bread in a quarter of a pint of Ipocras wine.

Take seven blue figs, cut them to pieces, add to them fenugreek, motherwort, and seed of rue, of each five drachms; water of pennyroyal and motherwort, of each six ounces; boil them till one half be consumed: and having strained them again, add myrrh one drachm, and saffron three grains; sweeten the liquor with loaf-sugar, and spice it with cinnamon.

If this effect not your desire, then the following plaster is to be applied, viz. Take of galbanum an ounce and a half; colocynth without grains, two drachms; the juice of motherwort and rue, of each half an ounce, and seven ounces of virgin's bees' wax; bruise and melt them together, spreading them on a searcloth, to reach from the navel to the os pubis, spreading also the flax, at the same time making a convenient pessary of wood, closing it in a bag of silk, and dipping it in a decoction of round bithwort, savin, colocinthia with grains; stavescare, black hellebore, of each one drachm.

But those things not succeeding, and danger increasing, let the surgeon use his instruments to dilate and widen the womb; to which end the woman must be set in a chair, so that she may turn her crupper as much from its back as is convenient, drawing her legs up as close as she can, spreading her thighs as wide as may be; or if she be very weak, it may be more convenient that she be laid on her bed with her head downwards, and her thighs raised, and both legs drawn up; the surgeon then, with his speculum, or his aperatory, may dilate the womb,

and draw out the child and secundine together, if it be possible: which being done, the womb must be well washed and anointed, and the woman laid in her bed, and comforted with cordials.

Sometimes the child comes with the feet foremost, and its arms extended above its head; but the midwife must put it back into the womb, unless the passage be extraordinary wide, and then she must anoint both the child and the womb: the woman must be laid on her back, with her head depressed, and her buttocks raised; and then the midwife must gently compress the womb, to put back the infant, turning the face of the child towards the back of the mother, raising up its thighs and buttocks towards her navel, that the birth may be more natural.

If a child comes forth with one foot, the arm extending along the side, and the other foot turned backward, then must the woman be taken to bed, and in a posture above described; the midwife must carefully put back the foot so appearing, and the woman rock herself from one side to the other, till the child is turned, but must not alter the posture nor turn upon her face; after which she may expect her pains, and must have cordials to revive and support her spirits.

At other times the child lies across in the womb, and falls upon its side: the midwife, when she finds it so, must use great diligence to reduce it to its right form, or to such a form in the womb as may make the delivery possible and easy, by moving the buttocks, and guiding the head to the passage: and if she be successful, let the woman rock herself to and fro, and wait with patience till it alters its manner of lying.

Sometimes the child presses with one arm stretched on its thighs, and the other raised over its head, and the feet stretched in the womb. The midwife must not receive the child in that posture, but must lay the woman on the bed, making a gentle compression on her belly, to 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. She must anoint her hands and the womb of the woman with sweet butter, and thrust her hand to the arm of the infant, and bring it to the side. But if this cannot be done, let the woman be laid on her bed to rest awhile; in which time, perhaps, the child may be in a better posture: which the midwife finding, she must draw the arms close to the hips, and so receive it.

If the child's neck be bowed, and it comes with its shoulders, 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 woman must rock herself as aforesaid. These and other the like methods are to be observed in case a woman hath twins, or three children at a birth. Wherefore the midwife must 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 less than those of single birth.

But if one of the twins comes 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 it presses forward; but if that with its feet downward be foremost, she may deliver that first, turning the other aside. But 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. And, for the safety of the other child, as soon as it comes out of the womb, the midwife must tie the navel string; and also bind, with a large long fillet, that part of the navel that 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 by the shortness of the ligaments, it retires back. Wherefore, lest the womb should close, it is most expedient to hasten them with all convenient speed.

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Part Second.

ARISTOTLE'S WORKS.

GUIDE TO CHILD-BEARING 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 shut together like a purse. 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 diminisheth 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, and the shorter her womb must be extended

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 part of the belly,) between the bladder and the rectum (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 a birth's being thrust out at the 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 the 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, 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 her delivery the more is the womb 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 fœtus, or young one, and is afterwards contracted and closed again, to thrust forth both it and the after-burden, and it is to retire to its primitive seat. Hence also it is enabled to expel any obnoxious 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 spring, unless sown in ground proper to awake and excite their vegetative virtue, so likewise the seed of man, though potentially containing all the parts of a child, would never produce so admirable an effect, if it were not cast into the fruitful field of nature, the womb.) I shall proceed to a more particular description of its parts, and the uses for which nature hath 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 smooth, and within equal, that it may the better cleave to the womb, as it is fleshier and thicker than any thing else we meet within the body when the woman is not pregnant, and is interwoven with all sorts of fibres and small strings, that it may the better suffer the extension of the child and the waters caused during pregnancy, and also that it may the easier close again after delivery.

The veins and arteries proceed both from the hypogastrics and the spermatic vessels, of which I shall speak by and by; all these are inserted and terminated in the proper membrane of the womb. The arteries supply it with food for 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 whence do proceed both 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 yet some other small vessels, which, arising the one from the other, are conducted to the internal orifice, and by these, those that are pregnant do 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 hath taken such care of the womb, that during its pregnancy it shall not be obliged to open itself for the 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 with 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 the stomach is immediately sensible thereof, which is the cause

of those loathings or frequent vomitings which happen to it.

But, besides all these parts which compose the womb, it hath yet four ligaments, whose office 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 side of the loins, towards the reins, 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 original 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 and holes 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 are some inserted into the os pubis, and the rest are lost and confounded with the membranes that cover the upper and interior parts of the thigh: and it is that which causeth the numbness which women with child 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 to 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 parts.

Its use or proper action, in the work of generation, is to receive and retain the seed, and deduce from its power and action, by its heat, for the generation of the infant; and 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 of 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 in 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 that the woman affords seed, and contributes to the procreation of the child, it is evident from hence, that the woman has seminal vessels, which had been given her in vain if she wanted seminal excrescence; but since nature forms nothing in vain, it must be granted they were made for use of seed and procreation, and fixed in their proper places, to operate, and contribute virtue and efficiency to the seed.

But against all this, 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 fowls and 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 thence one or more, as they are fecundated by the man's seed, are conveyed into the womb by the ovaducts. And the truth of this, say they, is so plain, that if you boil them, the liquor will have the same taste, colour, and consistency, with the taste of birds' 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, there are in the generation of the fœtus, 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 spirit; 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 man's seed, reaching up to the ovarium or testicles of the woman (which contains divers eggs, sometimes more, sometimes fewer,) impregnates one of them; which, being conveyed by the ovaducts to the bottom of the womb, presently begins to swell bigger and bigger, and drinks in the moisture that is plentifully sent thither, after the same manner that the seeds in the ground suck in the fertile moisture thereof, to make them sprout.

Having thus laid the foundation of this work, I will now proceed to speak of conception, and of those things that 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.

SECT. I. *What Conception is.*

CONCEPTION is nothing else 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 produce only false conceptions, moles, or other strange matter. Nay, there are three things principally necessary in order to a true conception, so that generation may follow, viz. diversity of sex, congression, and emission of seed. 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 sex is necessary even to those animals, as well as to the generation of man.

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 thing as superfœtations, or a second conception, in a woman, (which is yet common enough) 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 spoke 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, her 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, free from extremes either of heat or cold; for being too hot it dissipateth the spirits too much, and causeth 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 always to avoid all nauseous and ill smells; for sometimes the stench of a candle, not well put out, may cause her to come before her 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, &c.

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 every thing 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 for her to fast too long, or 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, soups, 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 desires fish, let it be fresh, and such as is taken out of rivers, and running streams, Let her eat quinces of marmalade, to strengthen her child; sweet almonds, honey, sweet apples, and full ripe grapes, are also good. Let her abstain from all sharp, 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 two 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 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, (which will breed good blood, help the digestion, and comfort the stomach, which is always weakly during her pregnancy;)

but white wine being diuretic, or that which provokes urine, ought to be avoided. Let her have a care of too much exercise; let her avoid dancing, riding in a coach, or whatever else puts the body into violent motion, especially in her 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 has 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) she hath conceived, she ought to abstain from all violent motions and exercises; whether she walks on foot, or rides on horseback, or in a coach, it ought to be very gently. Let her beware she lift not her arms too high, nor carry great burdens, nor repose herself on hard and uneasy seats. Let her use moderately good juicy meat, and of easy digestion; and let her wine 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 is boiled. Let her avoid fastings, thirst, watchings, mourning, sadness, anger, and all other perturbations of the mind. Let none 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 bowels 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:—

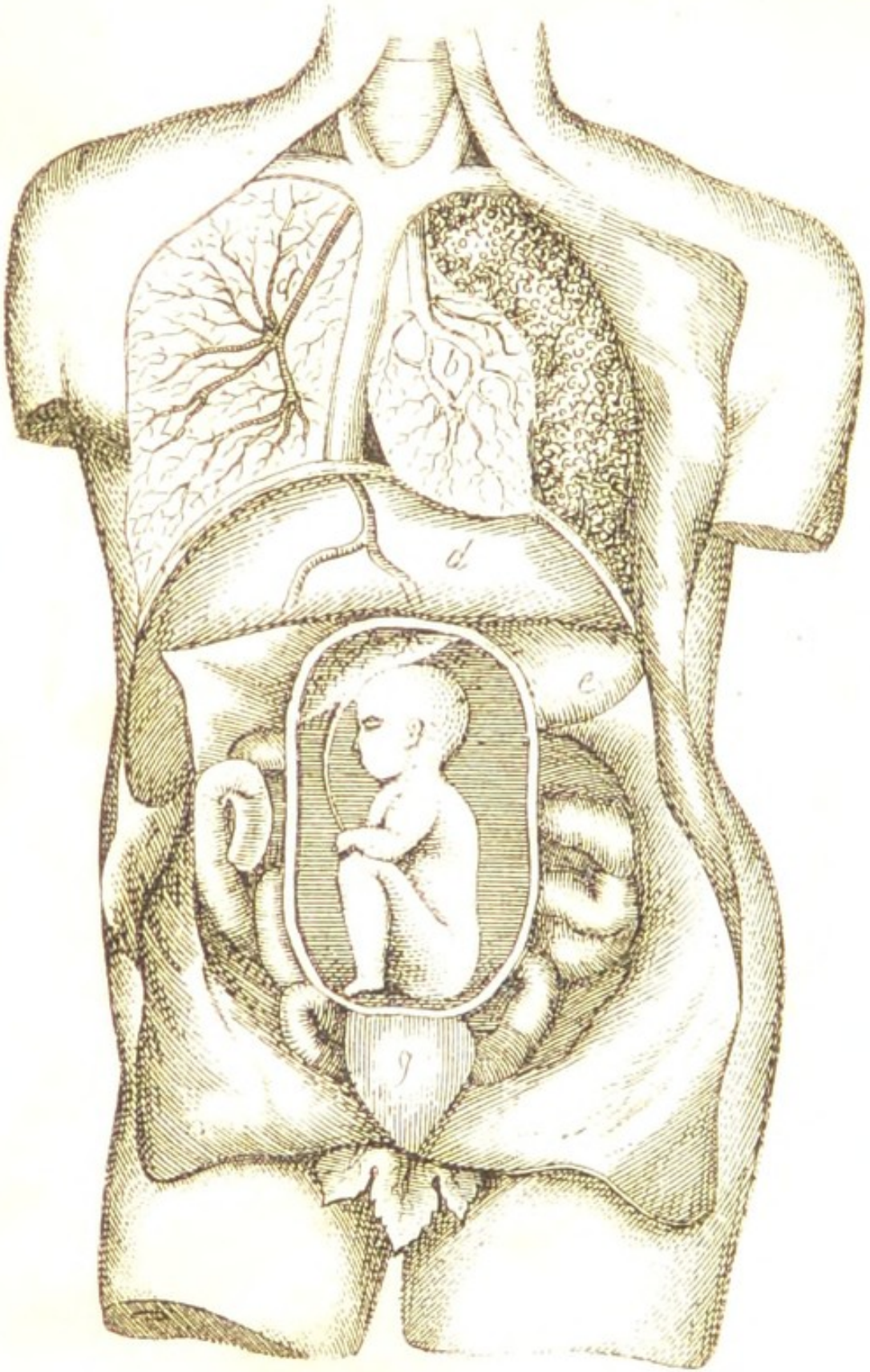
"Take conserve of burrage, buglos, and red roses, each two ounces; of balm an ounce; citron peel and shreds, mirobalans candied, each an ounce; extract of wood aloes, a scruple; pearl prepared, half a drachm; red coral, ivory, each a drachm; precious stones, each a scruple; candied nutmegs, two drachms: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

Let her observe the following Rules.

"Take pearls prepared, a drachm; red coral prepared and ivory, each half a drachm; precious stones, each a scruple; yellow citron peels, mace, cinnamon, cloves, each half a drachm; saffron, a scruple; wood aloes, half scruple; ambergris, six drachms; and with six ounces of sugar dissolved in rose-water, make rolls." Let her also apply strengtheners to the navel, of nutmeg, mace, mastich, made up in bags or a toast dipped in malmsey, sprinkled with powder of 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 any thing that she can not obtain, let her drink a large draught of pure cold water.

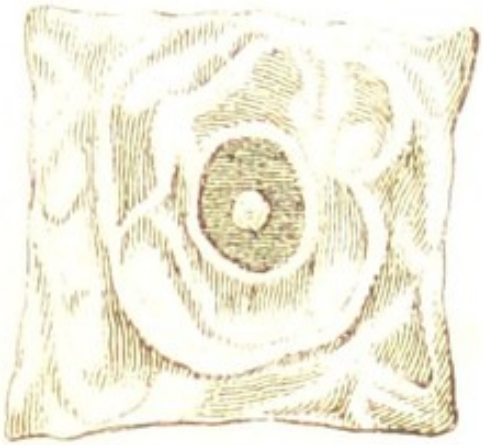
Rules for the Third Month.

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 to the end of the fourth month; and yet if blood abound,



The action of quickening.

Position of a Child in the Womb just before delivery.



Conception

First Month

Second Month

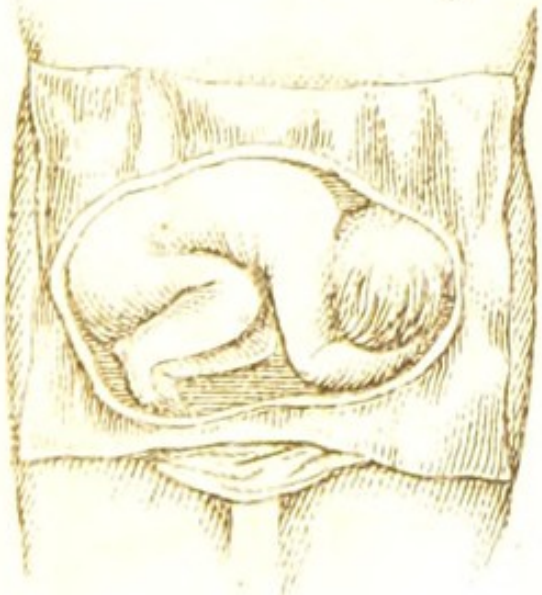
Third Month

Fourth Month

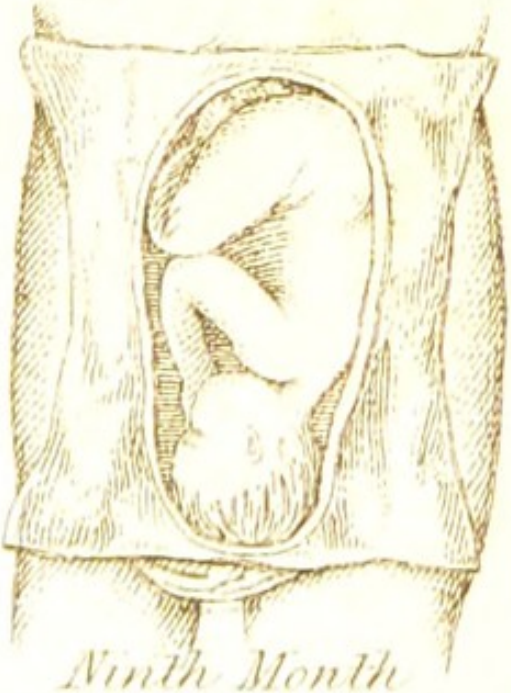
Fifth Month

Sixth Month

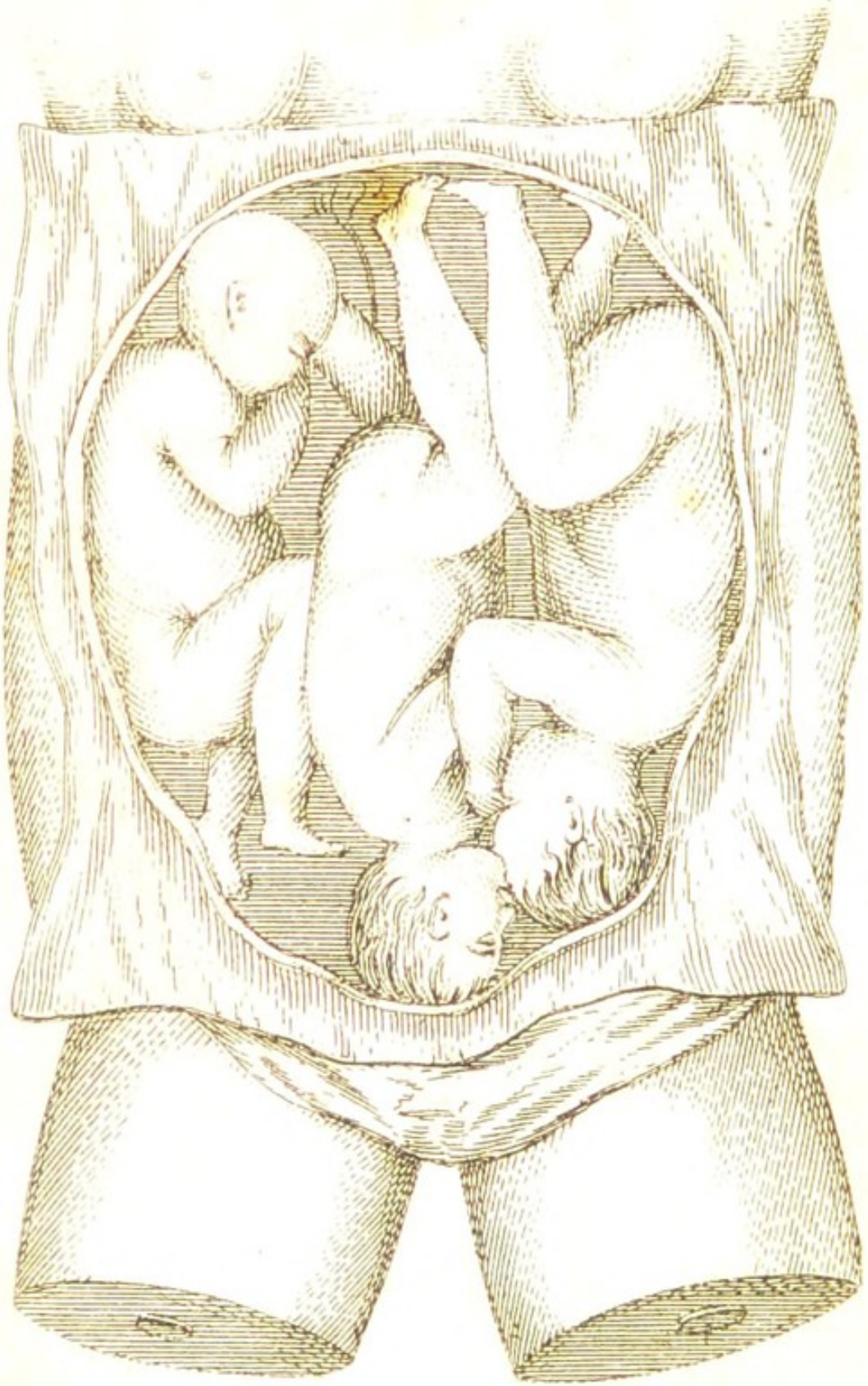
Seventh Month



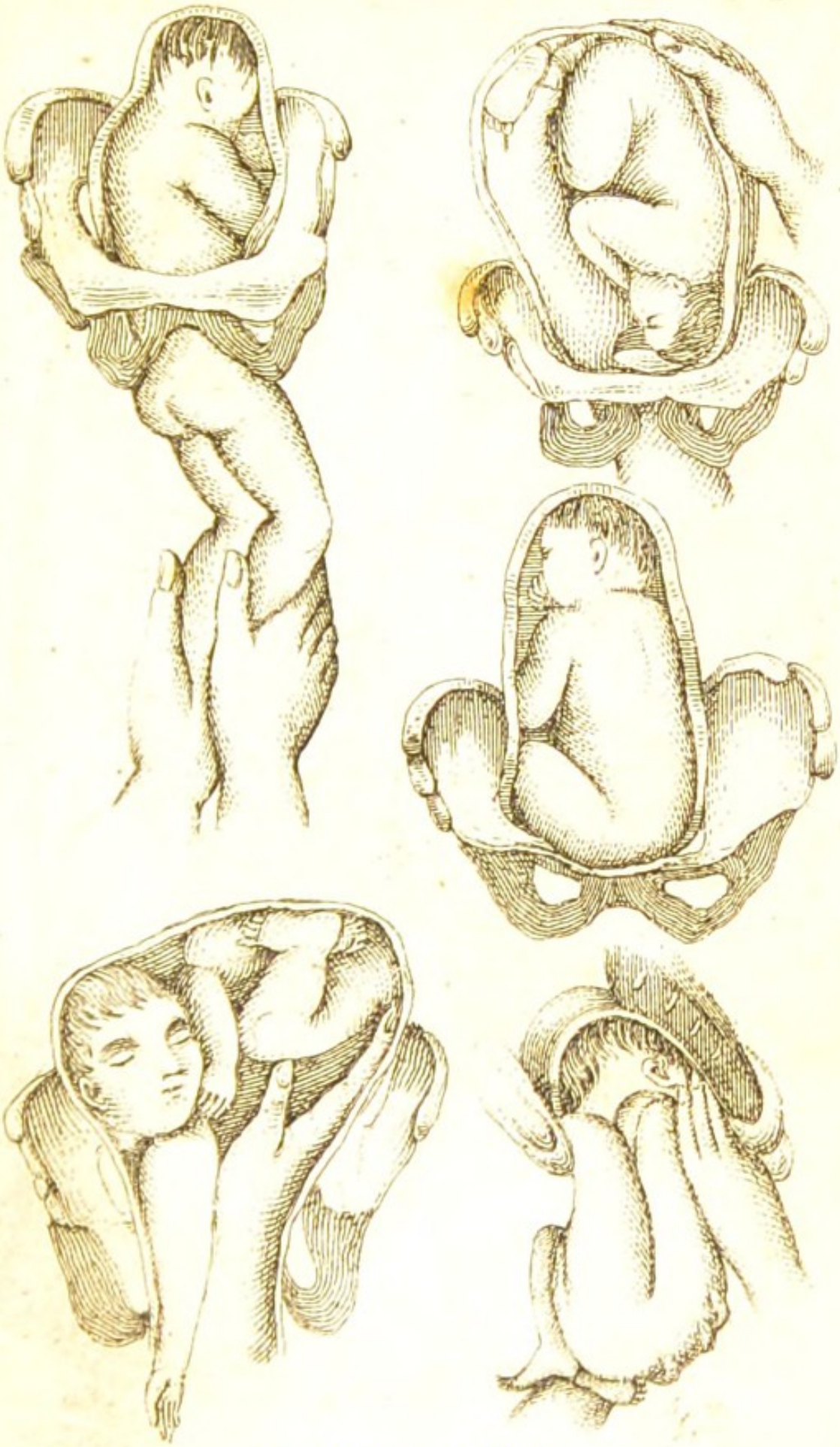
Eighth Month



Ninth Month



Position of the Embryos in a plural conception.



Procefs of Delivery

or some incidental disease happen, 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 abdomen 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 past, bloodletting 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 the acute disease; but purging may be used only 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 electuary of the juice of roses.

Rules for the Fifth, Sixth, and Seventh Months.

In these months child-bearing women are troubled with coughs, 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 gotten into the veins of the breast, or falling from the head to 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 fainting arise from vapours that go to it by the arteries, or from blood that aboundeth, and cannot get out at the womb, but ascends, and oppresseth 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 these months she is subject to be, from the weight of her child, who is now grown big and heavy, and so stretcheth the ligaments of the womb, and parts 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 hemorrhoids, 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 to send 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 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 plethory, 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 by 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 cacochimy, which is like to fall upon both. If it arises from plethory, open a vein, but with great caution, and use astringents, of which the following will do well:—Take pearls prepared, a scruple; red coral, two scruples; mace, nutmegs, each a drachm; cinnamon, half a drachm; make a powder: or, with 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; sealed earth, tormented 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 cacochimy, alter the humours; and if you may do it safely evacuate: you may likewise use amulets in her hands and about her neck. In a flux of hemorrhoids wear off the pain; and let her drink hot wine with a toasted nutmeg. In these months the bowels are 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 mellows, 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 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, supped a little before meat, will be very convenient. But if her bowels be distended and stretched out with wind, a little fennel-seed and aniseed reduced into a powder, and mingled with honey and sugar, made after the manner of an electuary, will do very well. Also, if the thighs and feet swell, let them be anointed with exphrodinum (which is a liquid medicine made with vinegar and rose-water, mingled with salt.)

Rules for the Eighth Month.

The eighth is commonly 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, so she must increase her exercise: and because then women with child, by reason that sharp humours alter the belly, are accustomed to weaken their spirit 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 loath and nauseate their meat, they may take green ginger candied with sugar, or the rinds of citron and oranges candied; and let them often use honey for the strengthening of the infant. When she is not

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, lest the child be unfolded in the umbilical ligament, 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 yolk 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 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 of mallows and marshmallows, cut and shred, of each an 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 any thing from growing to the child. Her privy parts may 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 abdomen and groin as at first.

When she is come so near her time as to be within 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 one handful; camomile, hard mercury, maiden-hair, 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 on it longer than about half

an hour, lest her strength languish and decay; for it is better to use it often than 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, showing what it was, how accomplished, 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 made first 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.

SECT. 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, 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 umbilicurs, 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 Umbilicurs, 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 by which the infant is nourished, from the time of its conception till the time of its delivery; till, being brought into the light of this world it has the same way of concocting its food that we have. This vein ariseth from the liver of the child, and is divided into 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 shall 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 ar-

tery 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 opinions 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 Montpelier, 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 thirty years of age, who having a stoppage at the neck of the bladder, his urine issued out of his navel 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 years of age, at Nuremberg, in Germany. These instances, though they happen but seldom, are sufficient to prove that there is such a thing as an urachos in men.

These four vessels before mentioned, viz. one vein, two arteries, and the urachos, do join near to the navel, and are united by a skin, which they have from the chorin, and so become like a gut or rope, and are altogether void of sense, 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 some other physical use, &c.

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 placentia, 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 doth 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 placentia 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 secund-

ine is the alantois, of which there is a great dispute among anatomists. Some say, there is such a thing, and others that there is not. Those that will have it to be a membrane, say it is, white, soft and exceeding thin, and just under the placentia, where it is knit to the urachos, from whence it receives the urine; and its office is to keep it separate from the sweat, that the saltness may not offend the tender skin of a 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 this 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 it in several branches to all parts of the body. *Arteries* proceed from the heart, are in continual motion, and by their continual motion quicken the body. *Nerve* is the same with *sinew*, and is that by which the brain adds sense and motion to the body. *Placentia* properly signifies a *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 the mother's blood appointed for the infant's nourishment in the womb. The *chorion* is the outward skin which compasseth the child in the womb. The *alantois* is the skin that holds the urine of the child during the time 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.*

THE woman having conceived, the first thing which is operative in the conception is the spirit whereof the seed is full, which nature quickening by the heat of the womb, stirs up to 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 outsides, and with these the seed is circled round, and the membranes made, in which that seed which is the 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, 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 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 the vertebræ or chin bones, and then the skull, &c. As to the time in which this curious part of workmanship is formed, having already in the preceding Chapter, spoken distinctly and 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 figures that the child is found in, according to the different times of the woman's pregnancy; for near the time of its deliverance out of the 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 all 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 another, 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 oblong, having the spine moderately turned inwards, 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 the head is inclining forwards, 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 its back is at that time placed towards the mother's, the head uppermost, the face downwards; and proportionably to its growth, it extends its members by a little and little, which were exactly folded in the first month. In this posture it usually keeps till the seventh or eighth month; and then by a natural propensity and disposition of the upper part of the body, the head is turned downwards toward 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 for 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 the arms and legs cannot hinder its birth, because they cannot be bended against the inward 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 past the birth. 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 the 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; and 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 a child into the world with safety both to the mother and the infant, as the whole time of a woman's pregnancy may very well be termed a kind of labour; for, from the time of her conception to the time of her delivery, she labours under many difficulties, is subject to many distempers, and in continual danger, from one effect 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 labour; and to deliver her safely is the principal business of the midwife; and to assist her 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.

Sect. 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 abdomen, 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 lives of both mother and child, by breaking the amnios and chorion. These pains, which are often mistaken for labour, are removed by warm cloths laid to the abdomen, 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 a flux of the abdomen, 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 abdomen, 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 begining to open at this time, suffers that slime to fall 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 abdomen 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 sign of labour and speedy delivery, though by ignorant people thought otherwise; for good pains are thereby 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 blood, which the midwifes 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 water, 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, which the midwives call *the gathering of the waters*, resemble to the touch of the finger 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 impulsion of the 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 there can be; for the *amnios alantois*, which contained those 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 the birth is, and therefore retains the water 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 section, of which those that are most to be relied

on are pains and strong throes in the abdomen, 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 of the membranes which contain them; through which, between the pains, one may in some manner with the finger discover the part which presents (as we 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 things necessary to comfort her in that time. And the better to help her, be sure to see she be not strait-laced: you may 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 thereby will be, that they excite the gut to discharge itself of its excrements, that so, the rectum being emptied, there may be 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 stool; but a pallet-bed, girded, is much the best way, placed near the fire, if the season require; which pallet ought to be placed, that there may be easy access to it on every side, that the woman may be more readily assisted as there is occasion.

If the woman abounds with blood, to bleed her a little may not be improper, for thereby she will both breathe the better, and have her breasts more at liberty, and likewise the more strength to bear down her pains; and this may be done without danger, because the child being about that time 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, after 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 some good strengthening things, such as jelly, broth, new-laid eggs, or some spoonsful 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 womans privities with emollient oil, hog's grease, and fresh butter, if she find they are hard to be dilated. Let the midwife likewise be all the time near the labouring woman, and diligently observe her gestures, complaints, and pains; for by this she may guess pretty well how her labour advanceth, because when she changes her ordinary groans into loud cries, it is a sign the child is very near the birth; for by that time her pains are greater and more frequent. Let the woman, likewise, by intervals, rest herself on 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 much as she can, the woman supporting her under the arms, if it be necessary; for by this means, the weight of the child causeth the inward orifice 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 the time, as they further her throes and pains by provoking downwards.

When the waters of the child are ready and gathered (which may be perceived through the membranes to present themselves to the inward orifice) to the bigness of the whole dilation, 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 cause the infant to slide forth more easy) the passage remains dry, by which means the pains and throes of the labouring woman are less efficacious to bring forth 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 most proper and natural way of its birth.

If the head comes right, she will find it round, big, hard, and equal; but if it be any other part, she will find it unequal, rugged, and soft or 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 sometimes it may, that the waters break away too long before the birth, in such a case those things that hasten nature may be safely administered. For which purpose, make use of pennyroyal, dittany, juniper-berries, red coral, betony, and feverfew, boiled in white wine, and give a draught 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 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 following prescriptions are very good for 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 it 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 up so dipped into the mouth of the womb: it will presently cause the child to come away, though it be dead, and will bring away the after-burden. Also, the juice of 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 spirit of castorum in any convenient liquor; also eight or nine drops of spirit 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 any pain.

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

8. Take peony seeds, and beat them into powder, and mix the powder with oil, with which oil anoint the loins and 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 things that move the terms, are good for making the delivery easy; such as myrrh, white amber in white wine, or lily-water, two scrupies 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: ditany, 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 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: plaintain and endive seed, of each half a drachm; lavender seed four scruples; make a powder: or take laudanum two drachms; storax, calamite, benzion, 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 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 both to woman and child), then let her send speedily for better and more able 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 to her delivery.

CHAPTER. V.

OF NATURAL LABOUR; WHAT IT IS; AND WHAT THE MIDWIFE IS TO DO IN SUCH A LABOUR.

SECT. I *What Natural Labour is.*

THERE are four things which denominate a woman's natural labour; the first, 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 is come, nature is not dilatory in the bringing of it forth, without some ill accident intervene, which renders it unnatural. The third is that the chid be alive; for all will grant, that the being delivered of a dead child is very unnatural. The fourth thing requisite to a natural birth is, that the child come right: for if the position of the child in the womb be contrary to what is natural, the event will prove it so, by making that which should be a time of life, the death of both 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 broke of themselves, let there rather be a quilt laid upon the pallet bedstead than a feather bed, having thereon linen, and cloths in many folds, with other such things as are necessary, and that may be changed accord-

ing 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 so 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; that is, her head and breast a little raised, so that she 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 bed. Being so placed, she must spread her thighs abroad, folding her legs a little towards her loins somewhat raised by a small pillow underneath, to the end her groin should have more liberty to retire back; and let her feet be stayed against some firm thing: besides this, let her take 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 the side of her bed, having her midwife at hand, the better to assist as nature may require, let her take courage, and help her pains the 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 diapragma, or midriff being strongly thrust downwards, 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 she will have a speedy delivery. Let her 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 surounds 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 child is in the passage;" and at this time the woman feels herself as it were scratched, or pricked with pins, and is ready to imagine that the midwife hurts her, when it is occasioned by the violent distentions 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 other 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 place immediately after it is past, without losing any 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 follow immediately, should do it in an injury, by runing 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 requsite 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 abdomen. But the midwife may be sure of it, if she puts her hand up the entry of the womb, and finds there another watery gathering, and a child in it presenting to the passage ;

and if she finds 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 double, and fasten the other end with a string to the woman's 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 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 ought to 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 midwives call the *caul*, and ignorantly attribute some extraordinary virtue to the child that is so born: but this opinion is only the effect of their ignorance; for when the 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 is come 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 vital and natural 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 be soon 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.

3. As to the manner in which 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 midwife 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 abdomen 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 another inch below the ligatures, towards the afterbirth, 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 cut it in two, and therefore, the thread must be pretty thick, and pretty strait cut, it being better too strait than to 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.

4. The last thing I mentioned was the event or consequence, or what follows cutting the navel-string. As soon as the navel string is cut off, 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 the oil of roses, it will be the better ; and then put another small rag three or four times double upon the abdomen : 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 by being continually

stirred from side to side, it comes to fall off before the navel-string which you left remaining is falling 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 advise them to put a little ammoniac to it, because of its drying quality.

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 of the fingers of 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 string towards the same hand, extended and stretched forth along the entrance of the vagina, always observing, for 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 this burden is sometimes very strongly fastened, be drawn away with it, as it 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 in 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 were then.

2. Considering 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 very necessary.

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

4. Tansey and the stone ætites, 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 make 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 featherfew and mugwort have the same operation, taken as the former.

6. Alexander 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, has been known to bring away the after-birth, even when the midwife let go her hand.

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 and after-birth. But special care must be taken to remove it as soon as they come away, lest by its longer 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 wherein the mother and child suffer very much by 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 straight 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 labours than others, proceeds from their having the mouth of the malrix 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 some strong passion of the mind with which she was once possessed; she may be too young, and so may have the passage too strait; 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 either small, short or deformed, as crooked women, who have not breath enough to help their pains, and to bear them down, and persons that are crooked having sometimes the bones of the passage not well shaped. The cholic

also hinders labour, by preventing the true pains; and all great and active pains, as when the woman is taken with a violent fever, a great flooding, frequent convulsions, bloody flux, or any other great distemper. Also, excrements retained cause much 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 strait, and the neck of the womb not sufficiently open, the passages pressed and strained by tumours in the adjacent parts, or when the bones are too firm, and will not open, which very much endangers the mother and child; or when the passages are not slippery, by reason of the waters having broke too soon, or the membranes being too thin. The womb may also be out of order with respect to its bad situation, or conformation, having its neck too strait, hard, and callous, which may easily be so naturally, or may come by accident, being many times caused by a tumor, 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 at 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 when 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 cases 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 or too strait, 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 of 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 humps and bruises on their heads.

Those women that are very small and mis-shapen, should not be put to bed, at least, till their waters are broke, 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 on 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 many 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, that so the weight of the child may help them forward. If she flood, or have strong convulsions, she must be then helped by a speedy delivery; the operation I shall relate in the section of unnatural labours. If she be costive, let her use clysters, which may also help to dispel the cholic, 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 the womb bears too much on the bladder, let her lift up her abdomen a little with her hand, and try if by that she receives any benefit; if sne 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 proceed from the indisposition of the womb, as from its oblique situation, &c. it must be remedied, as well as it can, by the placing her body accordingly; or, if it be a vicious conformation, having the neck too hard, too callous, and too strait, it must be anointed with oils and ointments, as before directed. If the membranes be so strong as 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 forward in the passage, and ready to follow presently after; or else, by the breaking of the waters too soon, the child may remain 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 water. These membranes sometimes do press forth with the waters three or four finger's breadth out of the body before the child, resembling a bladder full of water; but there is then no great danger to break 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 in 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 the speed that may be, lest it be suffocated.

Sect. V. *Of Women labouring with a dead Child.*

When the difficulty of labour arises from a dead child, it is a case of great danger to the mother, and great care ought to be taken therein; but before any thing be done, the midwife ought to be well assured 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 abdomen of the mother, especially about the navel. 3. Her urine is thick, and filthy stinking settles at the bottom. 4. No motion of the child can be perceived; for the trial whereof, let the midwife put her hand in warm water, and lay it upon the abdomen: for that if it is alive, will make it stir. 5. She is very subject to dream of dead men, and be affrighted therewith. 6. She has extravagant 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 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 spice whatever; and when she has drank 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 that the child is dead, let the mother do all she can to forward the delivery, because a dead child can be nowise helpful therein. It will be necessary, therefore, that she make some comfortable things to prevent her fainting, by reason of the putrid vapours ascending 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, featherfew, centuary, 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 be also anointed with the juice of the garden-tansey. Or take the tansey in the summer, when it can be most plentifully had, and before it runs up to the flower, and having bruised it well, boil it in oil till 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 ætites, 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 loadstone 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 after-birth is left behind in the body (for in such cases as these, many times, it rots, and comes away piecemeal), let her continue drinking the same decoction till her body be cleansed.

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

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

Take savine, round birthwort, trochisks of myrrh, afaram roots, cinnamon, 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, camomile, hen and goose-grease. Also foment, to get out the child with a decoction of mercury, orris, wild cucumbers, sæcus, 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; with oil of keir make an ointment. Or this pessary:

Take birthwort, orris, black hellebore, coloquintida, myrrh, each a drachm; powdered 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, spermatic two drachms, deer's suet an ounce; with wax make an ointment. Or,

Take wax six ounces, spermaceti an ounce; melt them, dip flax therein, and lay it all over her abdomen.

If none of these things will do, the last remedy is to use 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 in the next chapter.

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 children 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 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 fore parts of the body first present themselves. 2. When, by an unhappy transportation, 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 may be reduced.

SECT. 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 of hers. Let him also inform her, for her encouragement, that he doubts not, with the divine blessing, to deliver her safely; and that the pain arising thereby 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 prevail 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 body, and her thighs spread, and held so 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, a great strength is required. Let the sheets and blankets cover her thighs, for decency's sake, and with respect to the assistance, and also to prevent her catching cold; the operator herein governing himself as well as with respect to the convenience, and the facility and surety of the operation, as to other things. Then let him anoint the entrance of the womb with oil or fresh butter, if necessary, that so with more ease he may introduce his hand, which must also be anointed; and having, by the signs before-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, 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 putrified, the operator needs 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 so happen that the operator cannot take hold of it 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, observing to keep the point of it towards the 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 the hands only, the shoulders may be drawn into the passage, and so sliding the fingers of both hands under the arm-pits, 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 shoulder 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 points 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 be 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 their birth, are the occasions of most of the bad labours and ill accidents that happen unto them in that condition.

And since midwives are very often obliged, because of the 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 inclinable 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 comes 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 continuing to do so till 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 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 gently draw it forth with the other; but of this she must be especially 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 twist, and there find 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 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, that so her hands, being always greasy, slide not on 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 some danger of its being stopped by the chin, over the share-bone: and therefore, if it be not so, she must turn it to the posture; which may easily be done, if she takes proper hold of the body when the breast and arms are forth, in the manner as we have said, and draws it, turning it in proportion on that side which 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. Some children there are whose heads are so big, that when the whole body is born, yet that stops 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 despatch 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 putrified 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 be taken; and so very great is the difficulty in this case, that sometimes two or three able practitioners of 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 through putrefaction or otherwise, let the operator immediatly, without any delay, while the womb is still 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 by little and little, holding it by the jaws; but if that fails, as sometimes it will, when putrified, then let him pull out the right hand, and slide up his left with which he must support the head, and with the right let him take a narrow instrument called a *crotchet*, 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 eye-hole, or the hole of an 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 it brought 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 hardships 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 doth 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 till 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 comes 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 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 into 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 thighs may be a little higher than her head and shoulders, causing her to lean a little upon tbe 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 so by thrusting them back a little into the womb, sometimes on the one side and sometimes on the other, he may, by little and 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 can only make use of his fingers, 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 day's 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 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 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 thighs, 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 can be born in that manner. In this case therefore, when the midwife guides her hand to 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 be sufficiently 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 very gently thrust back 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 thighs 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 round 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 very probably be the death of both mother and child in the operation. I would therefore lay down, as a general rule, that whensoever, a child presents itself wrong to the birth, in what posture soever, from the shoulders to the feet, it is the best 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 to put them in the 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 hath 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 a 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 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 not 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 there are twins till the first is born, and that she is going to fetch away the after-birth. 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 therefore, 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, 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 its mother, already tired and weakened by the birth of the first, and there would be greater danger of it death than likelihood of its coming out of th womb that way.

But if, when the first is born naturally, the second should likewise offer its head to the birth, it would be then 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 yet delayed, let a manual operation be deferred 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 this second child be not broke, as it often happens, yet, intending to bring it by the 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 of breaking them; nay, on the contrary, it becomes necessary; for without the waters are broken, it would be 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, as, whether they be not joined together, or any way monstrous; and which part belongs to one child, and which to the other; that so 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 the one and the left of the other, and so drawing them together, as if they belonged to one body, because there is a left and a right, by which means it would be impossible ever to deliver them. But a skilful operator will

easily prevent this, if, 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 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.

SECT. 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 restrained 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 herb 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 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 till 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 abdomen 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 closure (which was put to her presently after her delivery,) and likewise such clots of blood as were then left. Let this lie on 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, and 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 be easily 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 of featherfew, 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, till after the fifth, sixth, or seventh day of her delivery, if she be weak; and let her take as little meat as possible, for that tends to weaken her very much.

If she goes not well to stool, give a clyster made only with 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 polipodium, 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 in her bowels 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. These 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 any thing she drinks, will be as effectual as the other.

2. Give the 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 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 body warm and not to drink too cold; and if the pain prove violent, hot cloths, from time to time, must be laid on her abdomen, or a pancake fried in walnut oil may be applied to it. without swathing her body 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 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 reins of the back of her that is troubled with after-pains, and it will give her speedy ease.

Lastly, Let her take half a drachm of bayberries beaten into a powder in a draught of muscadel or tent.

II. Another accident to which women in child-bed are subject is the hemorrhoids, 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 saphæna 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 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, featherfew, centuary, 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 this 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-bearing 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 terms in women.

V. Excoriations, bruises, and rents of the lower part of the womb are often occasioned by the

violent distention and separation of the four carbuncles 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 till it is 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, on each side of the bearing-place; or let the part excoriated be anointed with 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.

VI. The curding and clotting of the milk is another accident which 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 moved 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 all, or because she does not desire to be a nurse; for the milk, in those cases, remaining in the breast after concoction, without being drawn, loseth the sweetness and the balsamic quality it had, and by reason of the heat it acquires, and the too

long stay it makes there, it sours, curds, and clots, in like manner as we see runnet put into ordinary milk turn it into curds. The curding of the milk may be also caused by having taken a great cold, and not keeping the breast well covered.

But from what cause soever this curding of the milk proceeds, the most certain remedy is, speedily to draw the breasts until it is emitted and dried. But in regard that the infant, by reason of weakness, cannot draw strong 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 gives 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 arm: besides which, let the humours be drawn down by strong clysters and bleeding in the feet: nor will it be amiss to purge gently; and to digest, dissolve, and dissipate the curded milk, apply a cataplasm of pure honey, or that of the four brains 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 dipped, and, according to their largeness, be laid upon the breast; and when it shall be dispersed, and pains no more, let other linen bloths be dipped in the distilled water of acorns, and put them 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 suck do arise from abundance of milk, and 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 others without, which are thick, whitish, and clammy, proceeding from the sliminess of the waters. There are children sometimes 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 had 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 on the folds of the groin, arm-pits, and privities; which parts must be gently cleansed with a linen rag, or a soft sponge dipped in lukewarm wine. If this clammy or vicious excrement stick so close that it will not easily be washed off from those places, it may be fetched off with oil of sweet almonds, 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, and dipping it in the wine, lest it should make them smart.

The child being thus 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 or dislocation; 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 any thing 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 chiefly 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 sometimes also void their excrements, but not so soon as the urine. If the infant does not ordure the first day, then put up 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 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 arm-pits and groin, 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 strait 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 extended 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 on each side of the blanket; and then wrap the child up in a mantle and blankets to keep it warm. Let none think this of swathing 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 decent and proper for a man, and to accustom him to keep upon his feet, who otherwise would go upon all four, as most other animals do.

CHAPTER IX.

SECT. 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

night and day, and at last die of it. The cause of it for the most part comes from the sudden change of their 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 receive, as soon as they are born; for instead of purified blood only, which was conveyed to them by means of the umbilical vein only, 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 also caused sometimes by a rough phlegm, and sometimes by worms; for physicians affirm, that worms have been bred in children even in their mother's womb.

Cure. 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 these pains, give them at the mouth 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, with sugar-candy, and a scruple of aniseed; it purgeth new-born babes from green choler 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 pelitory stamp, with oil of camomile.

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, their 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 to the breast and belly dipped in wine, 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

dipped in white wine, that 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 it 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 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 never 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 had their fundaments quite closed, and yet have voided the excrements of the guts by an orifice; which nature, to supply that 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 muscles 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 excrements, 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 have 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 from the child's anus, which is the place where he will certainly find the intestine; let him thrust it forward, that it may be open enough to give free vent to the 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 in 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 thence 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 lentiles husked, powder them, and lay a little of them upon the child's gums. Or take bdellium flower 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, or syrup of dry 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 child's mouth, as to cool those parts which are already over-heated. This may be done by means of a small fine rag fastened to the end of a little stick, and dipped therein, whereby 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 it 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 to 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 the 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 with rhubarb.

SECT. V. *Of Pains in the Ears, Inflammation, Moisture, &c.*

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 it; and sometimes you may discern the parts above 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 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 aquamollis be dropped into the ears; or take virgin honey, half an ounce; red wine two ounces; alum, saffron, saltpetre, each a drachm; mix them at the fire: or drop in hempseed 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 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 the 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 that needs to be taught how to do it; for if she lets it have but dry, clean, and warm beds and cloths, as often and as soon as it has fouled and wet them, either by its urine or 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 with 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 luke-warm milk. The powder of a post to dry it, or a little milldust strewed upon the parts affected, may be proper enough, and is used by many women. Also, unguentum album, or diapampholigos, 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 those parts may not gather and be pained by rubbing together.

SECT. VII. *Of Vomiting in young children.*

VOMITING in 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: and 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 bowels plasters 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 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 another, 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 hath 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 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 those accidents of the child, the nurse ought to take great care to keep a good diet, and to use all things that may cool and temper milk, that so a fever may not follow the pain of the teeth. And to prevent the humour from falling too much upon the inflamed gums, let the child's belly be kept always 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 in 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 althœa, and camomile flower 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 so extraordinary 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 it 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 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 in breeding of 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 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 with 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 the cooling quality behind them, as syrup of honey or roses, or a clyster. Take the decoction of millium, myrobalans, 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, with 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 of 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, as when the humours that cause it are bred in 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 comes from the small-pox or meazles, 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; take peony roots a drachm; peony seeds, mistletoe of the oak, elk's hoofs, amber, each a scruple; musk, two grains; of which 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 smaraged 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 smaraged, about the child's neck.

As to a convulsion, it is when the brain labours to cast out that which troubles it; the manner 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 althæa, lily roots, peony and camomile flowerets, and anoint it frequently with goose's grease, oils of worms, orris, lilies, foxes, turpentine, mastich, storax, and calamint. The sunflower is also very good, boiled in water, to wash the child.

PROPER AND SAFE REMEDIES

FOR

CURING ALL THOSE DISTEMPERS

THAT ARE PECULIAR

TO THE FEMALE SEX.

CHAPTER I.

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, though 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.

SECT. I. *Of the Hot Distemper of the Womb.*

THIS 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 disperseth its heat and hinders the conception. This preternatural heat is sometimes from the

birth, and causes barrenness; but if it be accidental, it is from hot causes, that bring the heat and the blood to the womb; it arises 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; are 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 hypochondriacs, and for the most part barren, having sometimes a frenzy of the womb.

Cure. The remedy is to use coolers, so that they offend not the vessels that must open 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 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 narvel, 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, she may sleep as long as she pleases.

SECT. II. *Of the Cold Distemper of the Womb.*

THIS distemper is the reverse of the foregoing,

and equal 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. 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 hard to be cured.

Cure. Take galengal, cinnamon. nutmeg, mace, cloves, each two drachms; ginger, cubebs, nedory, cardamum, each an ounce; grains of paradise, long pepper, each half an ounce; beat them, and put them into six quarts of wine, for eight days; then add sage, mint, balm, motherwort, of each three handfuls: let them stand eight days more, then pour off the wine, and beat the herbs and the spice, and then pour off the wine again, and distil them. Or you may use this: take cinnamon, nutmeg, cloves, mace, ginger cubebs, cardamum, 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, bays, cinnamon, cloves, mace, and nutmeg. Let her diet and air be warm, her meat of easy concoction, seasoned with aniseed, fennel, and thyme; and let her avoid raw fruits and milk diet.

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 meat 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 tunicles, 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 conception, let them observe the signs of the woman with 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 this is a further sign, that in conception the swelling is invariable, also if you strike upon the belly, in an inflation, there will be a 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 in the abdomen, 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, is more easily expelled. To which purpose give her diaphnicon, with a little castor, and sharp clysters that expel 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 fulness of blood, let the saphæna 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, diaganel, each a drachm; oil of aniseed six drops; and with syrup of citron 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 wind, be put into the womb; take angus 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 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 vessels of the womb,

and the neck thereof. The cause 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, schirrous, 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 crudities abounding in the body, which are all shown by particular signs; for if there is a wound, or the secundine pulled out by force, phlegm comes from the wound; if stoppage of the terms be from an old obstruction by 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 schirrous, 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; saffron, half a drachm, with wine. Or take asparagus root, parsley roots, each an ounce; pennyroyal, calamint, each a haddful; wall-

flowers, gilly-flowers, each two handfuls; boil strain, and add syrup of mugwort, an ounce and a half. For a fomentation, take pennyroyal, calamint, marjoram, mugwort, each two handfuls; sage, rosemary, bays, camomile-flowers each a handful; boil them in water, and foment the groin and bottom of the abdomen; or let her sit up to the navel in a bath, and then anoint about the groin with oil of rue, lilies, dill, &c.

Sect. V. *Of the Falling of the Womb.*

This is another evil effect of the womb, which is both very troublesome, and also an hinderance 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 membraneous, that come from the peritoneum, and two below, that are nervous, 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 veins 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 connection of the fibrous neck and 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 in 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, like a skin stretched, or a weight felt upon 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 abdomen, 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 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 a decoction of mallows, althæa, 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, a drachm; manna, pomegranate flowers, sanguis draconis, 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 acaida with powder of sanguis, with galbanum san bdellium. Apply also a cupping-glass, with a great flame, under the navel or paps, or to both kidneys, and lay this plaster to the back: take opoponax, 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 half 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; worm-seed, two handfuls; pomegranate flowers, half an ounce; boil them in wine and water. For an injection take comfrey root an ounce; rupture wort, 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 a drachm; myrrh, half a drachm; make a powder for two doses, and give it with sharp wine. Or, you may take zedoary, parsnip seeds 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 it 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 qualites, as rice starch, quinces, pears, and green cheese; but let the summer fruits be avoided; and let her wine be astringent and red.

CHAPTER. II.

OF DISEASES RELATING TO WOMEN'S MONTHLY COURSES.

SECT. I. *Of Women's Monthly Courses in General.*

THAT divine Providence, which, with a wisdom peculiar to itself has appointed woman to conceive, and to bear and bring forth children, has provided for the 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 the superfluity of the last aliment of the fleshy parts. If any ask, if the menses be not of a hurtful quality, how can they cause such venomous effects? If they fall upon trees and herbs, they make 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 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 overflow 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. Every thing is beautiful in its order. in nature, as well as in morality ; and if the order of nature be broke, 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 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 proceed 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 proceed 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 straitness of

the passage, and the 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 very little exercise. If the blood be thick and foul, let it be made thin, and the humours mixed therewith be 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 ancles, and hold the feet in warm water four or five days before the courses come down. Let her also anoint the bottom part of her abdomen with things proper to provoke the terms.

Remedies for Disorders in Women's Paps.

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

If the paps be hard and swelled, 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 flappy 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 smapios 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 arpleni, drawn as tea, for twenty-one days. Or eat aniseeds. Also the juice of arbor vitæ, 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 at first invented for good and salutary purposes, although often abused and misapplied. To bleed in the left arm removes long-continued pains and head-aches. 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 very extraordinary cases; and in these 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.

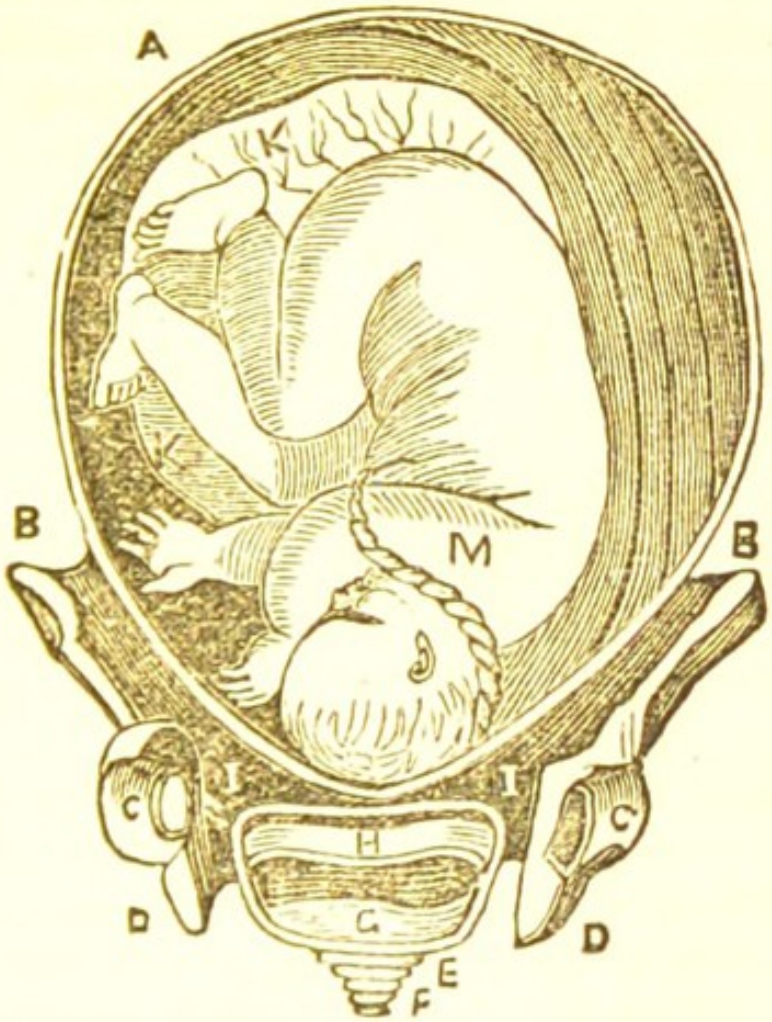
When the moon is on the increase, you may le blood at any time, day or night; but when she is on the decline, you must bleed only in the morning.

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; bnt it may be performed with safety from the 9th of March to the 19th of November.

To prevent the dangers that may arise from the unskilful drawing of blood, let none open a vein but a person of experience and practice. There are three sorts of people you must not let draw blood: first ignorant and inexperienced pretenders. Secondly, those who have bad sight and trembling hands, whether skilled or unskilled. For when the hand trembles, the lancet is apt to startle from the vein, and the flesh be thereby damaged, which may hurt, canker and very much torment the patient. Thirdly, let no woman bleed you, but such as has 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 will 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.

FORM OF A MALE CHILD IN THE WOMB



EXPLANATION.

A The *uterus*, as stretched to near its full extent, containing the *fœtus* entangled in the *funis*.—BB The superior part of the *ossa ilium*.—C C. The *acetabula*.—D D. The remaining posterior parts of the *ossa ischium*.—E. The *coccyx*.—F. The inferior part of the *rectum*.—G G. The *vagina* stretched on each side.—H. The *os uteri*, stretched to its full extent.—I I. Part of the *vesica urinaria*.—K K. The *placenta* at the superior and posterior parts of the *uterus*.—L. The *Membranes*.—M. The *funis umbilicalis*.

ARISTOTLE'S BOOK OF PROBLEMS,

WITH OTHER

ASTRONOMERS, 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 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 every thing 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 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 physician.

Q. Why have men longer hair on their heads than any other living creatures? A. Arist. de Generat. Anim. says, that men have the moist-

est brains 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. 1. Because women are moister and more phlegmatic than men: and therefore there is more matter for hair in 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 which 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, and some gross: therefore the hair which grows out of a 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, those beasts which have hard hair are the boldest, because such have proceeded from heat and choler, examples of which we have in the bear and 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 in cold countries towards 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 the 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 and of the matrix, or womb, is joined, and meeteth in that low, 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, and have complexions like women.

Q. Why doth the hair grow on those who 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 any 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 smoother 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 it 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 putrify, of which putrefaction of humours the whiteness doth follow which is called grayness or hoariness. Whereby it doth appear, that hoariness is nothing else 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.

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 animal beast, he eateth gluttonously without chewing, and enough at once for three days; in consequence of which, gross vapours are engendered in the wolf's body, which causes 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 putrify, and in consequence they are quickly peeled.

Q. Why do men become bald, and trees let fall their leaves in winter? A. The want of moisture is the cause of both, which is proved by 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 get 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 not 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 the 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 hindermost 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 the heavens when the head is bowed down, and so that cell is open, to the end that the spirits which perfect the memory should enter in.

Q. Why is not the head fleshy, like other parts of the body? 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 for 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 may 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 gray eye see badly in the day-time and well in the night? A. Because grayness is light and shining of 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 divers 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 *abungines*, from its likeness unto the white of an egg. The seeond *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 eye.

Q. Why are men who have but one eye good archers? and why do good archers commonly shut one eye? Any 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 wind-pipe, 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 so 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 most 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 see best far off? A. Because the force and power by which we see is dispersed in them, and doth 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 day-time the stars of the firmament: because then the power of the sight 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 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 bears' 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. 1. When the flowers do run from a woman, then a most venomous air is distilled from them, which doth ascend into the 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 venomous 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 made more strong and shining.

Q. Why is the sight retreated and refreshed by a green colour? A. Because green doth merely move the sight, and therefore doth comfort it; but this doth not black nor 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 farther 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 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 that cannot sneeze die quickly, because it is a sign their brain is wholly stuffed with evil humours, which cannot be purged.

Q. Why do not 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 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.

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 upon 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 every thing 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 soon be hurt if they were not covered with lips.

Q. Why has a man two eyes, two ears, 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 the difference of things.

Q. Why hath a man a mouth? A. 1. Because the mouth is the gate or 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 be well formed.

Q. What causeth man 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 doing 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 make water unless he should hear another doing the like.

Of the Teeth.

Q. Why do the teeth only, amongst all other 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 blood, which is more in men than 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 fail, or be taken out, and other bones being taken away grow no more? A. Because all 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 other 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 colt's teeth yellow, and of the colour of saffron, when they are young, and be-

come 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 bats; unto some to eat with, as unto horses; unto some for the forming of voice, 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 horns turneth not into teeth, consequently they want the upper teeth. And 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 unnecessary things, nor abound in 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 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 people 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 every thing 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 and faculty of tasting; and when we imagine a taste, we conceive the power of tasting as a mean; 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 vicosity of a 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 in 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; this is 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 give the taste of spittle, and could not distinguish others.

Q. Why does 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 spitting is a sign of fever.

Q. Why is the spittle of a man who is fasting more subtle than of one who 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 proceedeth the spittle of 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 foam and froth? A. Because then the lights and heart are in great 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 animalis* 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 or sour relish, and afterwards 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 and 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 so 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 breath 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 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. Be-

cause 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 voice, the crow only excepted, and a woman a shriller and smaller voice than a man? A. By reason of the composition of the veins the vocal arteries of voice are 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 when 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, &c. 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 voice? 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 noise is a percussion of the air which is drawn.

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 backbone is joined to the brain in the neck, and from thence it re-

ceives 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, &c. because such are ravenous, and therefore for strength have short necks; as appeareth in the ox, which 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 *Œsophagus;* 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 thither 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 that 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 are 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 pollox, 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 their nails? A. Because they give witness of the goodness or badness of the 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 the 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 to the heat of the heart, should the sooner be digested, perfected, and converted into the matter and substance of the milk.

Q. Why are the paps below the breasts in beasts, and above the breasts 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. 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. Whether are great, small, or middle-sized paps best for children to suck? A. In great ones the heat is dispersed, and 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 of the milk.

Q. Why do the paps of young women begin to grow about 13 or 15 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 the mother; therefore if the milk run out, it is a token that the child is not nourished, and consequently is weak.

Q. Why doth the hardness of the paps betoken the health of the child in the womb? A. Because the flowers are converted into milk, and that milk doth sufficiently nourish the child, 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 up; and the great moisture which proceeds from the flowers doth run into the paps, which at other seasons remaineth in the matrix or 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 midwifes 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 red, 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, and where there is much monthly superfluity engendered, there is much milk; because it is nothing else but that 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 new-milked cow good? A. Because milk at that time is very spungy, expels many fumosities, and, as it were, purges at that time.

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 backs? 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 backbone.

Q. Why hath the backbone so many joints or knots, called *spondelia?* 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 backbones are broken? A. Because in fish the backbone 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, the 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 backbone, 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 the dropsy, plague, &c.

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 never 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, spungy, 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 impart 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 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 and die last? A. Because the heart is the beginning and original of life, and without it in no part can live. For of the seed retained in the matrix, there is 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 rarifaction 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 dissolves 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 breast or heart; 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 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 strongly 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 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 from 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 backbone instead of the heart.

Q. Why does the heart beat in some creatures when the head is 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, as 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 the 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 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 those 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 some time 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? 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 of 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 of 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 the physicians prescribe that we should not eat too much at a time, but by little and little? A. Because when the stomach is full, the meat doth swim in it, which is a dangerous thing. Another reason is, that a 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 meats according to the change of times; as in winter, beef, pork, mutton; in summer, light meals as veal, lamb, &c.? A. Because the complexion of the body is altered and changed according to the time of the 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 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 putteth down the meat; and the like of pears. Note, than 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 putrify 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 meats? 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 thing 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 that 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? A. 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, &c. to nourish all the body.

Of the Urine.

Q. How doth the urine come into the bladder, seeing the bladder is shut? A. Some say by 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 and 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 hinders digestion.

Q. Why is it unwholesome to drink new wine? A. 1. It cannot be digested; therefore it causes 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 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. But 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 agues if they should remain in it; and purges the eyes and head, clearing the brain.

Q. How comes sleep to strengthen the stomach and digestive faculty? A. Because in sleep the heat draws inwards, and helps digestion; but when 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 guts is blueish and yellow; therefore when its pores are stopped, the humours 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, no gall? A. Though those 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 earthly 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 Issidorus: "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 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, wou'd have burnt him with the cow; but Albertus, being skilful in astronomy, said, that this did proceed from a special 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.

Of Infants.

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 happen sometimes 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, as appeared in a queen who had her imagination on a blackamore; and in an 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 waters 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 its 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 its fingers 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 the colour of milk; but in the six following a red colour, which is near unto the disposition of 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? A. 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 putrified seed, which, the mind abhoring, doth cast it out of the womb, as unfit for the most noble shape which is adapted to receive the soul.

Q. Why doth wrestling or 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 a time of joy a woman is destitute of heat, and so 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 or ligaments are weak, so it is with a child in the womb.

Q. Why is it hard to miscarry in the third, fourth, fifth, or sixth months? 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 a 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 cannot drunken men judge of taste as well as sober men? A. Because the tongue, being full of pores and spungy, receives great 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 be also understood why drunkards have not a perfect speech.

Q. Why have melancholy beasts long ears? A. The ears proceed from a cold and dry substance, called a 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 safeguard to themselves, sleep with their eyes open.

Q. Why do not crows feed their young till they are 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 inwards? A. Because, if outward they would hinder their flying and lightness.

Q. How comes it that birds do not make water? A. Because that superfluity which would be converted into urine, is turned into feathers.

Q. How do we hear better by 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 mean is more fit, than in the day; and the mean 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 the other parts 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 cause laughter.

Q. Why do some women love white men and some black men? A. 1. Some have a 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 to 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 parts; 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 digested and consumed 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 are 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 they 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 at another's ear and awake him not, then of this stirring of the spirits there are thunderings and buzzings in the head, which cause dreaming.

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 *stava 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. He 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? He is soon angry, furious, and quarrelsome, given to war, pale coloured, and unquiet, drinks much, sleeps little, and desires women's company much.

Q. What are the properties of a melancholy 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, exceeding 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. The 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 blood, is an enemy to mirth, and bringeth on an 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 of the head proceeds from the vapours which arise from the stomach, and ascend to the head, and also from 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 creature, and also more superfluities in the brains, which the heat expelleth: hence it followeth that he hath more hair than any other living creature.

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 cool 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 subject to the plague as young men and children? A. They are cold and their pores 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 that 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. Wherefore doth it proceed that want of

sleep doth weaken the brain and the body; A. Much watching doth engender choler, the which being hot doth 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 the 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 experience 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 sun-beams, is very heavy, and hath much earthy 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 lie 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, these 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 drank: 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 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 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 purified 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 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, when 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, 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 and from what cause do we suffer hunger better than thirst? A. When the stomach has 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 off after a great sickness? A. Where the sickness is long, as in an ague, the humours of the head are dried up

through over much 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 of the eye-lids are thin for want of heat, and therefore the hair doth grow there, by reason of the rheum of the eyes.

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 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 vivicate all things; but cold bringeth death, withering and decaying all things.

Q. Why doth grief cause men to grow old and gray? A. Age is nothing else but dryness and want of humours of the body; grief then causeth alteration, and heat dryness; age and grayness 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 ANTONIUS ZIMARAS 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 which has neither compass nor 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 any thing, 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 is man the proudest of all living creatures? A. By reason of his great knowledge; or as philosophers say, all intelligent beings have 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 side? A. To moderate the cold on that side.

Q. How come hairy people to be more lustful than any others? A. Because they are supposed to have great 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 men'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 the things themselves; for the image and representation of cold and heat is such as the nature of things are. Or it is, 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 undi-gested? A. Be cause 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 which 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, it is carried unto the ear of him who is opposite; as those passages do not go from side to side, a sound cannot be distincly heard there.

Q. Why are the thighs and calves of the legs of men fleshy, 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 fore part, the imagination; if the middle, the cogitative part? A. It is because the brain is appointed by Nature to cool the heat of the heart; whereof it is, that in divers parts it serveth the powers and instruments with their heat, 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 drawn and stirred up the humidity of wax, it is softened; but in 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 drying medicines, as physicians assert.

Q. Why is honey sweet to all men but such as have the 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 it be 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 have children gravel breeding in their bladders, and old men in their kidneys and reins? A. Because children have strait 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 humours 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 over-heated or roasted, turn to sand. And by this means it happens that small stones, are voided, 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 reins of the back (through which the stones doth grow) is quenched with coldness.

Q. Why is the curing of an ulcer or bile in the kidney 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 the 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 quality; seeing, therefore, that of its own nature it can be easily mingled, and consumed by that which it is annexed

unto, 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 it in its coldness.

Q. Why have we oftentime 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 filling.

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 invisible bodies in them, not by 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 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 draw 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 drank, 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 earth can it enter into it.

Q. Why are water and oil frozen in cold weather, and wine and vinegar are not? A. Because that oil, being without quality, and fit to be compounded with any thing, 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 overmuch thickness, doth wring out the filthy humidity, like as a spunge wrung with the hand doth cast out the water which it hath in the pores or small passages.

Q. Why doth a shaking or quivering seize us oftentimes when any fearful matter doth happen, as a great noise or 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 the 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 into 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 that the stone, with the vehemence of the cast, doth agitate the water in every part of it, until it comes 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 heard. 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 cease? 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 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 avoid them, and so provoke sneezing. The noise caused thereby proceeds from a vehement spirit or breath passing through the conduits of the nostrils, as belching doth the stomach, or breaking wind 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 carcases 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 gray? A. For this reason, because that through great motion they disperse and dissolve the superfluous phlegm that breeds grayness.

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 crudity of the sore.

Q. Why doth 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 thick 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 hiccup do ease themselves by holding their breath? A. The breath retained doth heat the interior parts, of the body, and the hiccup 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 adopted 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 earthy 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 the 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 causes 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 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 within being unequal to the throat, the air going out the rough 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 flow; it happens by reason of the drooping humidity that a light small skin filled unequally causes the uneven going forth of the spirit and air. Understand, that the wind-pipe 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 that 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 first found out the course of the moon, watching all night, and observing her course, and searching her motion, did sleep in the day time, and therefore they do fable that he was beloved of her, and that she came to him when he was asleep, because she did give the philosopher the solution of the course of 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 above 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 wind-pipe doth close together by reason of the straitness of it.

Q. Why do swine delight in dirt? A. As the physicians do say; they are naturally delighted with it, because they have a great liver, in which desire is, as Aristotle saith; the wideness of the snout is the cause, for he hath smelling which doth dissolve itself, and as it were strive with stench.

Q. Why do many beasts wag their tails 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 gently 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 grass.

Q. Why do grief and vexation bring gray hairs? A. Because they dry, which bringeth on grayness.

Q. How come those to be most merry 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 is it 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 very 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 the hens.

Q. Why is our smell less in winter than 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 impossible, or very hard.

DISPLAYING THE SECRETS OF NATURE,

RELATING TO

PHYSIOGNOMY

CHAPTER I.

SECT I. *Of Physiognomy, showing what it is, and from 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, &c. 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 to be esteemed a foolish or idle art, seeing it is derived from 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 the 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 reader may hereby attain to, 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 dominion 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; 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 sway, 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 eye-brow, as Sagittarius does upon the right eye, and Libra upon the right ear; upon the left eye-brow 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 in 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 and 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 the other parts of the body, as his hands, &c. in like manner we also behold the face of a woman, who in respect of her flesh and blood is like unto a man, and in the disposure also of the greatest parts 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, 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

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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 at the first sight certainly 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, given to lying, mali-

cious, and ready to do any mischief. He whose hair rises in the corner of his 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 extraordinary fair, is for the most part a man fit for all praiseworthy enterprises, a lover of honours, 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 any thing, fearful, shame-faced, and weak of body, but strong in the abilities of the mind, and more apt to remember than to revenge 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 gray 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 extemely 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 hath 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, high-spirited, 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, jutting forth, and whose face is figured, almost sharp and picked towards the chin, is one reasonably honest, but weak and simple, and of a hard fortune.

Those eye-brows 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 downwards 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 eye-brows 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 eye-brows 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, and is only to be kept honest by good looking to. He whose eye-brows have but short hair and of whitish colour, is fearful, and very easy of belief, and apt to undertake any thing. Those on the other side whose eye-brows are black, and the hair of them but 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 any thing without reason for so doing.

If the space between the eye-brows be of more than ordinary distance, it shows the person to be hard-hearted, envious, close, cunning, apprehensive, greedy of novelities, of a vain fortune, addicted to cruelty more than love. But those men whose eye-brows are at 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 of 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 excellently 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 eye-lids 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 this, miserable. He who hath a wandering eye, and which is rolling up and down, is for the most part a vain, simple, deceitful man, lustful, treacherous, or high-minded, 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, shows the person to be luxurious, unfaithful, and treacherous, presumptuous, and hard to believe any thing that is spoken. If a

person has any greenness mingled in the white of his eyes, 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, do as it were draw their eyes inwardly, and accurately fasten them upon some object, such are by their inclinations very malicous, vain-glorious, slothful, unfaithful, envious, false and contentious. They whose eyes are addicted to blood-shot, are naturally choleric, proud, disdainful, cruel without shame, perfidious, and much inclined to superstition. They that have eyes like oxen, are persons of good nutriment, but of a weak memory, are dull of understanding, and silly in their conversation. 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 friend.

A long and thin nose denotes a man bold, furious, angry, vain, easy to be persuaded either to good or evil, weak or 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 who will not be overreached in bargaining.

A bottle-nose is what denotes a man to be impetuous in obtaining his desires, also vain, false, luxurious, weak, and an uncertain man, apt to believe, and easy to be persuaded. A nose broad in the middle, and less towards the end, denotes a vain talkative person, a liar, and one of

a hard fortune. He who hath a long and great nose, is an admirer of the fair sex, but ignorant of the knowledge of any thing that is good, extremely addicted to vice; assiduous in 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 on 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 under-

standing. A very wide nose, with wide nostrils, denotes a man dull of apprehension, and inclined more to simplicity than wisdom, and withal contentious, vain-glorious, and a liar.

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 fearful, but faithful, secret, modest, bountiful, and but a little eater.

He whose mouth smells of a bad breath is one of a corrupted liver or lungs, is oftentimes vain, wanton, deceitful, of indifferent intellects, 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 any thing. Lips of a different size denote a person to be discreet, secret in all things, judicious and of 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 variety of fortunes, and denotes the party to be of a dull, sluggish temper, and 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 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 repeat it afterwards, and is apt to entertain any thing to his behalf. To have teeth thin and weak, shows a weak feeble man, and one of 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 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 sometimes 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 a 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, 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 lower 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 reaaonably 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 apprenension, 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, impudent, 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 15 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, 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. Yet sometimes women of a hot constitution have hair to be seen on their cheeks, but more commonly on their lips, or near unto 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, shame-faced, mild and obedient;

whereas a woman of 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 strange kind of squeaking voices, and are of a weak constitution, which is apparent in the case of eunuches, who after they are deprived of their virility, are transformed from the nature of men into the condition of woman.

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, secret, 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 himself, and a man of small industry, but of a great stomach.

A face apt to sweat at every motion, shows the person to be of a hot constitution, vain and luxurious, of a good stomach, but 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 every thing. 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 to be 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 any thing, 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, of a dull and clownish behaviour. A face of a handsome proportion, and more inclining to fat than lean, show 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 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 any thing.

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, aud 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 show 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 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 the 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 face are the principle 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 subject to choler. If the throat be so thin and lean that the veins appear, it shows a man to be weak, slow, and of 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 for novelties and beauties, and one that is very credulous and apt to believe every thing. 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, easy 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 part of the work 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 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 various 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 fore-finger, 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 under the middle finger. The girdle of Venus, which is another line so called, begins near the first joint in 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 further. 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 each 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 Y, 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 between the line of life and the table-line, shows the person to be very liberal and charitable, one of a noble spirit. Let us 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 of 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 give 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 fore-finger, threatens ruin to the party, and that it shall befal him by means of lascivious women and bad company. Two crosses upon this line, one being on the fore-finger 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 hollow, and the lines 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 quarreling, often in broils, and of a hot and fiery spirit, by which he shall suffer much damage. If deep and large 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 chine bone, if the flesh be any thing 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 all over the body, is weak, lustful, and fearful upon little or no occasion, of a good understanding, and an excellent invention, but a little eater, faithful, but of various fortune, and meets 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 and licentious. 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 most other creatures have pendant behind. Now a great calf, and he whose legs are of a great bone, and hairy 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.

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 a weak intellect, which renders the understanding vain. But feet that are thin and lean, and of a soft skin, show the person to be weak of body, but of a strong understanding, and of 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 or the 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 are 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 or 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 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 or 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.

Judgments drawn from the Stature of Man.

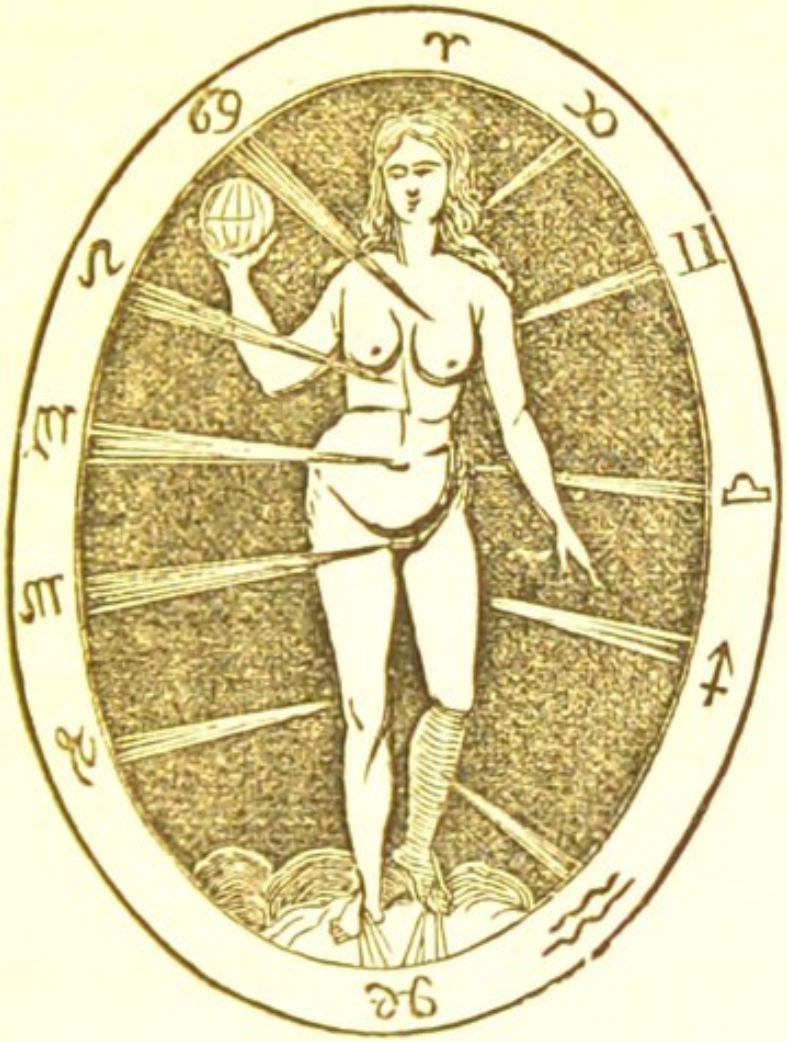
Physiognomy draws several judgments also from the stature of man, which take as followeth: if a man be upright and straight, inclined rather to leanness than fat, it shows him to be bold, cruel, proud, clamorous, hard to please, and harder to be reconciled when displeased, very frugal, deceitful, and 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, 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 rule 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 judgments given thereby concerning the dispositions and inclinations of men and women, drawn by the said art, from every part of the bodies 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 over bodies inferior; by superior powers I understand the 12 Signs of the Zodiac, whose signs, characters, and significations are as follow.



Aries, the Ram, which governs the head and face.

Taurus, the Bull, which governs the neck.

Gemini, the Twins, 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 Balances, governs the reins 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 ancles.

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; and have placed the twelve signs in their houses, as in the first house Aries, in the second Taurus, in the third Gemini, &c. And besides their assigning the twelve signs to 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, substance, 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 honour.

The eleventh of friendship.

The twelfth is the house of affliction and woe.

Now, astrologically speaking, a house is a certain space 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 situate. 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 thus; 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 or planet, so governing, is 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.

THE MIDWIFE'S VADE-MECUM,

CONTAINING

PARTICULAR DIRECTIONS FOR MIDWIVES, NURSES, &C

Those that take upon them the office of midwives, ought to take care to fit themselves for that employment by the knowledge of those things that are necessary for the discharge thereof. And such persons ought to be of the middle age, neither too young nor too old; and of a good habit of body, not subject to disease, fears, or sudden frights. Nor are the qualifications assigned to a good surgeon improper for a midwife, viz. a lady's hand, a hawk's eye, a lion's heart; to which may be added, activity of body, and a convenient strength, with caution and diligence; not subject to drowsiness or impatience. She ought also to be sober, affable, courteous, chaste, not covetous, or subject to passion, but bountiful and compassionate; and, above all, she ought to be qualified as the Egyptian midwives of old, that is, to have the fear of God, which is the principal thing in every state and condition, and will furnish her, on all occasions, both with wisdom and discretion.

When the time of birth draws near, and the good woman finds her travailing pains begin to

come upon her, let her send for her midwife in time, better too soon than too late, and get those things ready which are necessary upon such occasions. When the midwife comes, let her first find whether the true time of her birth be come; for by not properly observing this, many a child hath been spoiled, and the life of the mother endangered; or at least given her double the pain needful. For unskilful midwives, not minding this, have given things to force down the child, and thereby disturb the course of her natural labour; whereas nature works best in her own time and way. I do confess, it is somewhat difficult to know the true time of women's labour, they being troubled with pains long before their true labour comes, even some weeks before; the reason of which I conceive to be the heat of their reins; and this may be readily known by the swelling of their legs; and therefore, when women with child find their legs swell overmuch, they may be assured that their reins are too hot. For the cure whereof, let them cool the reins, before the time of their labour, with oil of poppies, and oil of violets, or water-lilies, by anointing the reins of their backs with them; for such women whose reins are over hot, have usually hard labours. But in this case, above all the remedies that I know, I prefer the decoction of them in water; and then having strained and clarified it with the white of an egg, boil it into a syrup with its equal weight of sugar, and keep it for use.

There are two skins that compass the child in the womb; the one is the *amnios*, and this is the inner skin; the other is the *allantois*, and

this is the skin that holds the urine of the child during the time that it abides in the womb. Both these skins, by the violent stirring of the child near the time of its birth, are broken: and then the urine and sweat of the child contained in them fall down to the neck of the womb; and this is that which the midwives call *the waters*, and is an infallible sign that the birth is very near; for the child is no more able to subsist in the womb after those skins are broken, than a naked man is in the cold air. These waters, if the child come presently after them, facilitate the labour, by making the passage slippery; and therefore the midwife must have a care that she force not the waters away, for nature knows better the true time of the birth than she, and usually retains the waters till that time.

GENUINE RECEIPTS FOR CAUSING SPEEDY DELIVERY

A LOADSTONE held in the labouring woman's hand. Take wild tansey, bruise and apply it to the woman's nostrils. Take also date stones, and beat them to powder, and let her take a drachm of them in white wine at a time.

Take parsley, bruise it, and press out the juice, and put it up (being so dipped) into the mouth of the womb, and it will presently cause the child to come away, though it be dead, and the after-burden also; besides, it cleanseth the

womb, and also the child in the womb, of all gross humours.

Let no midwife ever force away a child, unless she is sure it is dead. I once was where a woman was in labour, which being very hard, her midwife sent for another midwife to assist her, which midwife sending the first down stairs and designing to have the honour of delivering the woman herself, forced away the body of the child, and left the head behind; of which the woman was forced afterwards to be delivered by a man-midwife.

After the child is born, great care is to be taken by the midwife in cutting the navel string, which, though by some is accounted but a trifle, yet it requires none of the least skill of a midwife, to do it with that prudence and judgment that are requisite. And that it may be done so, you must consider, as soon as the child is free from its mother, whether it is weak or strong; if the child be weak, put back gently part of the vital and natural blood in the body of the child by its navel (for both the vital and natural spirits are communicated by the mother to the child by its navel-string); for that doth much recruit a weak child; but if the child be strong, you may forbear.

As to the manner of cutting the child's navel-string, let the ligature or binding be very strong; and be sure not to cut it off very near the binding, lest the binding unloose. You need not fear to bind the navel-string very hard, because it is void of sense, and that part of the navel-string which you leave on falls off of its own accord in a few days; the whole course of nature being now changed in the child, it having another way

ordained to nourish it. It is no matter with what instrument you cut it off, so it be sharp and you do it cleverly. The piece of the navel-string that falls off, be sure you keep it from touching the ground; remember what I have before told you concerning this matter, and if you keep it by you it may be of use. The navel-string being cut off, put a little cotton or lint to the place, to keep it warm, lest the cold enter the body of the child, which it will be apt to do if it be not bound up hard enough.

The next thing to be done, is to bring away the after-birth, or secundine, else it will be very dangerous for the woman. But this must be done by gentle means, and without delay, for in this case especially delays are dangerous; and whatever I have set down before as good to cause speedy delivery, and bring away the after-birth. And after the birth and after-birth are brought away, if the woman's body be very weak, keep her not too warm: for extremity of heat doth weaken nature and dissolve the strength; but whether she be weak or strong, let no cold air come near her at first; for cold is an enemy to the spermatic parts. If cold goes into the womb it increases the after-pains, causes swelling in the womb, and does great hurt to the nerves.

If what I have written be carefully observed by midwives, and such nurses as keep women in their lying-in, by God's blessing, the child-bed woman may do very well, and both midwife and nurse gain credit and reputation. For though these directions may in some things thwart the common practice, yet they are grounded upon experience, and will infallibly answer the end.

But there are several accidents that lying-in women are subject unto, which must be provided against; and these I will speak of next.

The first I shall mention are after-pains, about the cause of which, authors very much differ; some think they are caused by the thinness, some by the sliminess, and others by the sharpness of the blood; but my own opinion is, they proceed from cold and water. But whatever the cause may be this I know, that if my foregoing directions be observed, they will be very much abated, if not quite taken away. But in case they do happen, boil an egg, and pour out the yolk of it, with which mix a spoonful of cinnamon-water, and let her drink of it; and if you mix it with two grains of ambergris, it will be better.

The second accident lying-in women are subject to is excoriation in the lower part of the womb. To help this, use oil of sweet almonds, or rather oil of St. John's wort, to anoint the part with.

Another accident is, that sometimes, through very hard labour, and the great straining to bring the child into the world, the lying-in woman comes to be troubled with the hemorrhoids or piles. To cure this, let her use polypodium bruised, and boiled in her meat and drink.

A fourth thing that often follows is, the retention of the menses; this is very dangerous, and, if not remedied, proves mortal. But for this, let her take such medicines as strongly provoke the terms; and such are peony roots, dittany, juniper-berries, betony, centaury, sage, savory, pennyroyal, feverfew.

The last thing I shall mention is, the overflowing of the menses. This happens not so often as the foregoing, but yet sometimes it does; and in such cases take shepherd's purse, either boiled in any convenient liquor, or dried and beaten to powder, and you will find it very good to stop them.

Having thus finished my Vade-Mecum for Midwives, before I conclude I will add something of the choice and qualifications of a good nurse; that those who have occasion for them, may know how to order themselves, for the good of the children whom they nurse.

1. Let her age be between 20 and 30, for then she is in her prime.

2. Let her be in health, for her sickness infects the milk, and the milk the child.

3. Let her be a prudent woman, for such a one will be careful of the child.

4. Let her be not too poor; for if she wants, the child must want too.

5. Let her be well bred; for ill bred nurses corrupt good nature.

6. If it be a boy that is to be nursed, let the nurse be such a one whose last child was a boy, and so it will be the more agreeable; but if it be a girl, let the nurse be one whose last child was a girl.

7. If the nurse has a husband, see that he be a good likely man, and not given to debauchery; for that may have an influence upon the child.

8. In the last place, let the nurse take care that she be not with child herself; for, if so, she must of necessity either spoil her own, or yours, or both.

To a nurse thus qualified, you may put your child without danger. And let such a nurse take the following directions, for the better governing and ordering herself in that station.

Approved Directions for Nurses.

1. Let her use her body to exercise. If she hath nothing else to do, let her exercise herself by dancing the child; for moderate exercise causeth good digestion; and I am sure good blood must needs make good milk, and good milk cannot fail making a thriving child.

2. Let her live in good air; there is nothing more natural than this. It is the want of this makes so many children die in London; and even those few that live are not of the best constitutions, for gross and thick air makes unwieldy bodies and dull wits.

3. Let her be careful of her diet, and avoid all salt meats, garlics, leeks, onions, and mustard, excessive drinking of wine, strong beer, or ale, for they trouble the child's body with choler: cheese, both new and old, afflicts it with melancholy, and all fish with phlegm.

4. Let her never deny herself sleep when she is drowsy, for by that means she will be more wakeful when the child cries.

5. Let her avoid all disquiets of mind, anger, vexation, sorrow, and grief; for these things very much disorder a woman, and therefore must needs be hurtful to her milk.

6. If the nurse's milk happens to be corrupted by an accident, as sometimes it may be, being either too hot or too cold, in such cases let her

diet be good, and let her observe the cautions which have already been given her. And then, if her milk be too hot, let her cool it with endive, succory, lettuce, sorrel, purslain, and plantain; if it be too cold, let her use beverage, vervain, buglos, mother of thyme, and cinnamon; and let her observe this general rule, that whatsoever strengthens the child in the womb, the same attends the milk.

7. If the nurse wants milk, the thistle, commonly called the lady's thistle, is an excellent thing for the breeding of milk, there being few things growing (if any) that breed more and better milk than that doth; also the hoofs of the forefeet of the cow, dried and beaten to powder, and a drachm of the powder taken every morning in any convenient liquor, increase milk.

Choice Remedies for increasing Milk.

If any nurse be given to much fretting, it makes her lean, and hinders digestion; and she can never have store of milk, nor what she hath be good. Bad meats and drinks also hinder the increase of milk, and therefore ought to be forborne. A woman that would increase her milk, should eat the best of food, (that is, if she can get it,) and let her drink milk wherein fennel seeds have been steeped. Let her take barley-water, and burrage, and spinach; also goats' milk, and lamb sodden with verjuice. Let her also comfort the stomach with confection of aniseed, carraway, and cummin seeds, and also use those seeds sodden in water; also take barley-water and boil therein green fennel and

dill, and sweeten it with sugar, and drink it at pleasure.

Hot fomentations open the breasts, and attract the blood, as the decoction of fennel, smallage, or stamped mint applied. Or, take fennel and parsley, green, each a handful, boil and stamp them, and barley-meal half an ounce, gith seed a drachm, storax, calamint, two drachms, oil of lillies two ounces, and make a poultice.

Lastly, take half an ounce of deer's suet, and as much parsley roots, an ounce and a half of barley-meal, three drachms of red storax, and three ounces of oil of sweet almonds; boil the roots well, and beat them to pulp, then mingle the other amongst them, and put it warm to the nipples, and it will increase the milk.

And thus, courteous reader I have at length finished what I have designed; and can truly affirm, that thou hast here those receipts, remedies, and directions given unto thee with respect to child-bearing women, midwives and nurses, that are worth their weight in gold, and will assuredly answer the end, whenever thou hast occasion to make use of them, they not being things taken on trust from tradition or hearsay, but the result and dictates of sound judgment and experience.

In the Works of the renowned and famous philosopher, ARISTOTLE, you have got laid before you a Collection of the best Observations on the Secrets of Nature, that ever the world was favoured with on that subject. Let me

now entreat you, who have read them, and all those who may hereafter do so, to mark well what is therein contained, and thereby direct your future conduct, which you will find to your advantage. Whatever young and inconsiderate persons may think or say of what is herein contained, it is absolutely necessary to be known; and, when reduced to practice, may prove the happy means of preventing many fatal and lamentable consequences, which ignorance and inconsideration produce. Farewell.

SYPHILIS, OR VENEREAL DISEASE.

USEFUL REMEDIES.

OF THE VIRULENT GONORRHŒA.

The Virulent Gonorrhœa is an involuntary discharge of infectious mucus from the parts of generation in either sex. It generally makes its appearance within eight or ten days after the infection has been received; sometimes it appears in two or three days, and at other times not before the end of four or five weeks. Previous to the discharge, the patient feels an itching, with a small degree of pain, in the genitals. Afterwards a thin glary matter begins to distil from the urinary passage, which stains the linen, and occasions a small degree of titillation, particularly at the time of making water; this gradually increasing, arises at length to a degree of heat and pain, which are chiefly perceived about the extremity of the urinary passage, where a slight degree of redness and inflammation likewise begins to appear.

As the disorder advances, the pain, heat of urine, and running, increase, while fresh symptons daily ensue. In men, the erections become

painful and involuntary, and are more frequent and lasting than when natural. This symptom is most troublesome when the patient is warm in bed.

The pain which was at first only perceived towards the extremity, now begins to reach up all the urinary passage, and is more intense just after the patient has done making water. The running gradually recedes from the colour of semen, grows yellow, and at length puts on the appearance of mucus.

When the disorder has arrived at its height, all the symptoms are more intense; the heat of urine is so great, that the patient dreads the making water; and though he feels a constant inclination that way, yet it is rendered with the greatest difficulty, and often only by drops; the involuntary erections now become extremely painful and frequent; there is also a pain, heat, and sense of fulness about the seat, and the running is plentiful and sharp, of a brown, greenish, and sometimes of a bloody colour.

By a proper treatment, the violence of the symptoms gradually abate; the heat of urine goes off; the involuntary and painful erections, and the heat and pain about the seat, become easier; the running gradually decreases, grows whiter and thicker, till at last it entirely disappears.

By attending to these symptoms, the gonorrhœa may be generally distinguished from any other disease. There are however, some few disorders for which it may be mistaken, as an ulcer of the kidneys or bladder, the *fluor albus*, or whites, in women, &c. But in the former of

these, the matter comes away only with the urine, or when the sphincter or the bladder is open; whereas in a gonorrhœa the discharge is constant. The latter is more difficult to distinguish, and must be known chiefly from its effects; as pain, communicating the infection, &c.

Regimen.—When a person has reason to suspect that he has caught the venereal infection, he ought most strictly to observe a cooling regimen, to avoid every thing of a heating nature, as wines, spiritous liqours, rich sauces, spices, salted, high-seasoned, and smoke-dried provisions, particularly salt itself in every shape; as also all aromatic and stimulating vegetables, as onions, garlic, shalot, nutmeg, mustard, cinnamon, mace, ginger, and such like. His food ought chiefly to consist of mild vegetables, milk, broths, light puddings, panado, gruels, &c. His drink may be barley-water, milk and water, or clear whey. Of these he ought to drink plentifully. Violent exercise of all kinds, especially riding on horseback, and venereal pleasures, are to be avoided. The patient must beware of cold, and when the inflammation is violent, he ought to keep his bed.

Medicine.—A virulent gonorrhœa can rarely be cured speedily and effectually at the same time. The patient ought, therefore, not to expect, nor the physician to promise it. It will often continue for two or three weeks, and sometimes for five or six, even where the treatment has been very proper.

Sometimes, indeed, a slight infection may be carried off in a few days, by bathing the parts in warm milk and water, and injecting frequently up the urethra a little sweet oil or linseed tea,

about the warmth of new milk. Should these not succeed in carrying off the infection, they will at least have a tendency to lessen its virulence.

To effect a cure, however, astringent injections will generally be found necessary. These may be various ways prepared, but I think those made with the white vitriol are both more safe and efficacious. They can be made stronger or weaker as circumstances may require; but it is best to begin with the more gentle, and increase their power if necessary. I generally ordered a drachm of white vitriol to be dissolved in eight or nine ounces of common or rose water, and an ordinary syringe-full of it to be thrown up three or four times a day. If this quantity does not perform a cure, it may be repeated, and the dose increased.

Whether injections be used or not, cooling purges are always proper in the gonorrhœa. They ought not, however, to be of the strong drastic kind. Whatever raises a violent commotion in the body, increases the danger, and tends to drive the disease deeper into the habit. Procuring two or three stools every second or third day for the first fortnight, and the same number every fourth or fifth day for the second, will generally be sufficient to remove the inflammatory symptoms, to diminish the running, and to change its colour and consistence. It gradually becomes more white and ropy, as the virulence abates.

When the inflammatory symptoms run high, bleeding is always necessary at the beginning. This operation, as in other topical inflammations, must be repeated according to the strength

and constitution of the patient, and the vehemence and urgency of the symptoms.

Medicines which promote the secretion of urine, are likewise proper in this stage of the disorder. For this purpose, an ounce of nitre and two ounces of gum-Arabic, pounded together, may be divided into twenty-four doses, one of which may be taken frequently in a cup of the patient's drink. If these should make him pass his urine so often as to become troublesome to him, he may either take them less frequently, or leave out the nitre altogether, and take equal parts of gum-Arabic and cream of tartar. These may be compounded together, and a tea-spoonful taken in a cup of the patient's drink, four or five times a day. I have generally found this answer extremely well, both as a diuretic, and for keeping the body gently open.

When the pain and inflammation are seated high, towards the neck of the bladder, it will be proper frequently to throw up an emollient clyster, which, besides the benefit of procuring stools, will serve as a fomentation to the inflamed parts.

Soft poultices, when they can conveniently be applied to the parts, are of great service. They may be made of the flour of linseed, or of wheat-bread and milk, softened with fresh butter or sweet oil. When poultices cannot be conveniently used, cloths wrung out of warm water, or bladders filled with warm milk and water, may be applied. I have often known the most excruciating pains, during the inflammatory state of the gonorrhœa, relieved by one of these applications.

Few things tend more to keep off inflammation in the spermatic vessels, than a proper suspensory for the scrotum. It ought to be so contrived as to support the testicles, and should be worn from the first appearance of the disease, till it has ceased some weeks.

The above treatment will sometimes remove the gonorrhœa so quickly, that the person will be in doubt whether he really laboured under that disease. This, however, is too favourable a turn to be often expected. It more frequently happens, that we are able to procure an abatement or remission of the inflammatory symptoms, so far as to make it safe to have recourse to the great antidote, *mercury*.

Many people, on the first appearance of a gonorrhœa, fly to the use of mercury. This is a bad plan. Mercury is often not at all necessary in a gonorrhœa ; and, when taken too early it does mischief. It may be necessary to complete the cure, but it can never be proper at the commencement of it.

When bleeding, purging, fomentations, and the other things recommended above, have eased the pain, softened the pulse, relieved the heat of urine, and rendered the involuntary erections less frequent, the patient may begin to use mercury in any form that is least disagreeable to him.

If he takes the common mercurial pill, two at night and one in the morning will be a sufficient dose at first. Should they affect the mouth too much, the dose must be lessened ; if not at all, it may be increased to five or six pills in the day. If calomel be thought preferable, two or three grains of it formed into a bolus, with a little of

the conserve of hips, may be taken at bed-time, and the dose gradually increased to eight or ten grains. One of the most common preparations of mercury now in use is the corrosive sublimate. This may be taken in the manner afterwards recommended under the confirmed lues or pox. I have always found it one of the most safe and efficacious medicines when properly used.

The above medicines may either be taken every day, or every other day, as the patient is able to bear them. They ought never to be taken in such quantity as to raise a salivation, unless in a very slight degree. This disease may be more safely, and as certainly cured without a salivation as with it. When the mercury runs off by the mouth, it is not so successful in carrying off the disease, as when it continues longer in the body, and is discharged gradually.

Should the patient be purged or griped in the night by the mercury, he may take half a drachm of the opiate confection dissolved in an ounce of cinnamon-water, to prevent bloody stools, which are apt to happen should the patient catch cold, or if the mercury has not been duly prepared. When the bowels are weak, and the mercury is apt to gripe or purge, these disagreeable consequences may be prevented by taking, with the above pills or bolus, half a drachm or two scruples of diascordium, or of the Japonic confection.

To prevent the disagreeable circumstance of the mercury's affecting the mouth too much, or bringing on a salivation, it may be combined with purgatives. With this view, the laxative mercurial pill has been contrived, the usual dose of which is half a drachm, or three pills night

and morning, to be repeated every other day; but the safer way is for the patient to begin with two or even with one pill, gradually increasing the dose.

To such persons as can neither swallow a bolus nor a pill, mercury may be given in a liquid form, as it can be suspended even in a watery vehicle, by means of Gum Arabic, which not only serves this purpose, but likewise prevents the mercury from affecting the mouth, and renders it in many respects a better medicine.

It happens very fortunately for those who cannot be brought to take mercury inwardly, and likewise for those whose bowels are too tender to bear it, that an external application of it will answer equally well, and in some respects better. It must be acknowledged, that mercury, taken inwardly for any length of time, greatly weakens and disorders the bowels; for which reason, when a plentiful use of it becomes necessary, we would prefer rubbing in, to the mercurial pills. The common mercurial or blue ointment will answer very well. Of that which is made by rubbing together equal quantities of hog's lard and quicksilver, about a drachm may be used at a time. The best time for rubbing it in is at night, and the most proper place the inner side of the thighs. The patient should sit beside the fire when he rubs, and should wear flannel drawers next his skin at the time he is using the ointment. If ointment of a weaker or stronger kind be used the quantity must be increased or diminished in proportion.

If, during the use of the ointment, the inflammation of the genital parts, together with the

heat and feverishness, should return, or if the mouth should grow sore, the gums tender, and the breath become offensive, a dose or two of Glauber's salts, or some other cooling purge, may be taken, and the rubbing intermitted for a few days. As soon, however, as the signs of spitting are gone off, if the virulency be not quite corrected, the ointment must be repeated, but in smaller quantities, and at longer intervals than before. Whatever way mercury is administered, its use must be persisted in as long as any virulency is suspected to remain.

During this, which may be called the second stage of the disorder, though so strict a regimen is not necessary as in the first or inflammatory stage, yet intemperance of any kind ought to be avoided. The food must be light, plain, and of easy digestion; and the greatest indulgence that may be allowed, with respect to drink, is a little wine diluted with a sufficient quantity of water. Spirituous liquors are to be avoided in every shape. I have often known the inflammatory symptoms renewed and heightened, the running increased, and the cure rendered extremely difficult and tedious, by one fit of excessive drinking.

When the above treatment has removed the heat of urine, and soreness of the genital parts; when the quantity of running is lessened, without any pain or swelling in the groin or testicle supervening; when the patient is free from involuntary erections; and lastly, when the running becomes pale, whitish, thick, void of ill smell, and tenacious or ropy; when all or most of these symptoms appear, the gonorrhœa is arrived at its last stage; then we may gradu-

ally proceed to treat it as a gleet, with astringent and agglutinating medicines.

OF GLEETS.

A gonorrhœa frequently repeated, or improperly treated, often ends in a gleet, which may either proceed from a relaxation, or from some remains of the disease. It is, however, of the greatest importance in the cure of the gleet, to know from which of these causes it proceeds. When the discharge proves very obstinate and receives little or no check from astringent remedies, there is ground to suspect that it is owing to the latter; but if the drain is constant, and is chiefly observable when the patient is stimulated with lascivious ideas, or upon straining to go to stool, we may reasonably conclude that it is chiefly owing to the former.

In the cure of a gleet proceeding from relaxation, the principal design is to brace and restore a proper degree of tension to the debilitated and relaxed vessels. For this purpose, besides the medicines recommended in the gonorrhœa, the patient may have recourse to stronger and more powerful astringents, as the Peruvian bark, alum, vitriol, galls, tormentil, bistort, ballustines, tincture of gumskino, &c. The injections may be rendered more astringent by the addition of a few more grains of alum, or increasing the quantity of vitriol as far as the parts are able to bear it.

The last remedy which we shall mention in this case, is the cold bath, than which there is

not a more powerful bracer in the whole compass of medicine. It ought never to be omitted in this species of gleet, unless there be something in the constitution of the patient which renders the use of it unsafe. The chief objections to the use of the cold bath are, a full habit, and an unsound state of the viscera. The danger from the former may always be lessened, if not removed, by purging and bleeding; but the latter is an unsurmountable obstacle, as the pressure of the water, and the sudden contraction of the external vessels, by throwing the blood with too much force upon the internal parts, are apt to occasion ruptures of the vessels or flux of humours upon the diseased organs. But where no objections of this kind prevail, the patient ought to plunge over head in water every morning, fasting, for three or four weeks together. He should not however, stay long in the water, and should take care to have his skin dried as soon as he comes out.

The regimen proper in this case is the same as was mentioned in the last stage of the gonorrhœa: the diet must be drying and astringent, and the drink Spa, Pyrmont, or Bristol waters, with which a little claret or red wine may sometimes be mixed. Any person may now afford to drink these waters, as they can be every where prepared at almost no expense, by a mixture of common chalk and oil of vitriol.

When the gleet does not in the smallest degree yield to these medicines, there is reason to suspect that it proceeds from ulcers. In this case recourse must be had to mercury, and such medicines as tend to correct any predominant

acrimony with which the juices may be affected, as the decoction of China, sarsaparilla, sassafras, or the like.

Mr. Fordyce says, he has seen many obstinate gleets, of two, three or four years standing, effectually cured by a mercurial inunction, when almost every other medicine has been tried in vain. Dr. Chapman seems to be of the same opinion; but says, he has always found the mercury succeed best in this case when joined with terebinthinate and agglutinating medicines. For which reason the Doctor recommends pills made of calomel and Venice turpentine; and desires that their use may be accompanied with a decoction of guaiacum or sarsaparilla.

The last kind of remedy which we shall mention for the cure of ulcers in the urinary passage, are the suppurating candles or bougies. As these are prepared various ways, and are generally to be bought ready made, it is needless to spend time in enumerating the different ingredients of which they are composed, or teaching the manner of preparing them. Before a bougie be introduced into the urethra, however, it should be smeared all over with sweet oil, to prevent it from stimulating too suddenly. It may be suffered to continue in, from one to seven hours, according as the patient can bear it. Obstinate ulcers are not only healed, but tumours and excrescences in the urinary passages taken away, and an obstruction of urine removed, by means of bougies. Obstinate gleets may be removed by the use of bougies.

OF THE SWELLED TESTICLE.

The swelled testicle may either proceed from infection lately contracted, or from the venereal poison lurking in the body; the latter indeed is not very common, but the former frequently happens in the first and second stages of a gonorrhœa; particularly when the running is unseasonably checked, by cold, hard drinking, strong drastic purges, violent exercise, the too early use of astringent medicines, or the like.

In the inflammatory stage, bleeding is necessary, which must be repeated according to the urgency of the symptoms. The food must be light, and the drink diluting. High-seasoned food, flesh, wines, and every thing of a heating nature are to be avoided. Fomentations are of singular service. Poultices of bread and milk, softened with fresh butter or oil, are likewise very proper, and ought constantly to be applied when the patient is in bed; when he is up, the testicles should be kept warm, and supported by a suspensory, which may easily be contrived in such a manner as to prevent the weight of the testicle from having any effect.

If it should be found impracticable to clear the testicle by the cooling regimen now pointed out, and extended according to circumstances, it will be necessary to lead the patient through such a complete antivenereal course as shall insure him against any future uneasiness. For this purpose, besides rubbing the mercurial ointment on the thighs as directed in the gonorrhœa, the patient must be confined to bed, if necessary,

for five or six weeks, suspending the testicle, all the while, with a bag or truss, and plying him inwardly with strong decoctions of sarsaparilla.

OF BUBOES.

Venereal buboes are hard tumours seated in the groin, occasioned by the venereal poison lodged in this part. There are two kinds *viz.* such as proceed from a recent infection, and such as accompany a confirmed lues.

The cure of recent buboes, that is, such as appear soon after impure coition, may be first attempted by *dispersion;* and, if that should not succeed, *suppuration.* To promote the dispersion of a buboe, the same regimen must be observed as was directed in the first stage of a gonorrhœa. The patient must likewise be bled, and take some cooling purges, as the decoction of tamarinds and senna, Glauber's salts, and the like. If by this course the swelling and other inflammatory symptoms abate, we may safely proceed to use the mercury, which must be continued till the venereal virus is quite subdued.

But if the bubo should, from the beginning, be attended with great heat, pain, and pulsation, it will be proper to promote its suppuration. For this purpose the patient may be allowed to use his ordinary diet, and to take now and then a glass of wine. Emollient cataplasms, consisting of bread and milk softened with oil or fresh butter, may be applied to the part; and, in cold constitutions, where the tumour advances slowly,

white lily roots boiled, or sliced onions raw, and a sufficient quantity of yellow basilicon, may be added to the poultice.

When the tumour is ripe, which may be known by its conical figure, the softness of the skin, and the fluctuation of the matter plainly to be felt under the finger, it may be opened either by a caustic or a lancet, and afterwards dressed with digestive ointment.

It sometimes however happens, that buboes can neither be dispersed nor brought to a suppuration, but remain hard indolent tumours. In this case the indurated glands must be consumed by caustic; if they should become schirrous, they must be dissolved by the application of hemlock, both externally and internally, as directed in the schirrous testicle.

OF CHANCRES.

Chancres are superficial, callous, eating ulcers; which may happen either with or without gonorrhœa. They are commonly seated in the glands, and make their appearance in the following manner:—First, a little red pimple arises, which soon becomes pointed at top, and is filled with a whitish matter inclined to yellow. This pimple is hot, and itches generally before it breaks: afterwards it degenerates into an obstinate ulcer, the bottom of which is usually covered with a viscid mucus, and whose edges gradually become hard and callous. Sometimes the first appearance resembles a simple excori-

ation of the cuticle; which, however, if the cause be venereal, soon becomes a true chancre.

A chancre is sometimes a primary affection, but it is much oftener symptomatic, and is the mark of a confirmed lues. Primary chancres discover themselves soon after impure coition, and are generally seated in parts covered with a thin cuticle, as the lips, the nipples of women, the *glans penis* of men, &c.

When a chancre appears soon after impure coition, its treatment is nearly similar to that of the virulent gonorrhœa. The patient must observe the cooling regimen, lose a little blood, and take some gentle doses of salts and manna. The parts affected ought frequently to be bathed, or rather soaked, in warm milk and water; and if the inflammation be great, an emollient poultice or cataplasm may be applied to them. The course will, in most cases, be sufficient to abate the inflammation, and prepare the patient for the use of mercury.

Symptomatic chancres are commonly accompanied with ulcers in the throat, nocturnal pains, scabby eruptions about the roots of the hair, and other symptoms of a confirmed lues. Though they may be seated in any of the parts mentioned above, they commonly appear upon the private parts, or the inside of the thigh. They are less painful, but frequently much larger and harder than primary chancres. As their cure must depend upon that of the pox, of which they are only a symptom, we shall take no further notice of them till we come to treat of a confirmed lues.

Thus we have related most of the symptoms

which accompany or succeed a violent gonorrhœa, and have also given a short view of their proper treatment; there are, however, several others which sometimes attend this disease, as a *stranguary*, or obstruction of urine, *a phymosis*, *pharphymosis*, &c.

A stranguary may be occasioned either by a spasmodic constriction, or an inflammation of the urethra and parts about the neck of the bladder In the former case, the patient begins to void his urine with tolerable ease: but, as soon as it touches the galled or inflamed urethra, a sudden constriction takes place, and the urine is voided by spurts, sometimes by drops only. When the stranguary is owing to an inflammation about the neck of the bladder, there is a constant heat and uneasiness of the part, a perpetual desire to make water, while the patient can only render a few drops, and a troublesome *tenesmus*, or constant inclination to go to stool.

When the stranguary is owing to spasm, such medicines as tend to dilute and blunt the salts of the urine will be proper. For this purpose, besides the common diluting liquors, soft and cooling emulsions, sweetened with the syrup of poppies, may be used. Should these not have the desired effect, bleeding and emollient fomentations will be necessary.

When the complaint is evidently owing to an inflammation about the neck of the bladder, bleeding must be more liberally performed, and repeated according to the urgency of the symptoms. After bleeding, if the stranguary still continues, soft clysters, with a proper quantity of laudanum in them, may be administered, and

emollient fomentations applied to the region of the bladder. At the same time, the patient may take every four hours. a tea-cupful of barley-water, to an English pint of which, six ounces of the syrup of marsh-mallows, four ounces of the oil of sweet almonds, and half an ounce of nitre, may be added. If these remedies should not relieve the complaint, and a total suppression of urine should come on, bleeding must be repeated, and the patient set in a warm bath up to the middle. It will be proper in this case to discontinue the diuretics, and to draw off the water with a catheter; but as the patient is seldom able to bear its being introduced, we would rather recommend the use of mild bougies. These often lubricate the passage, and greatly facilitate the discharge of urine. Whenever they begin to stimulate or give any uneasiness, they may be withdrawn.

The *phymosis* is such a constriction of the prepuce over the glands, as hinders it from being drawn backwards; the *paraphymosis*, on the contrary, is such a constriction of the prepuce behind the glands, as hinders it from being brought forward.

The treatment of these symptoms is so nearly the same with that of the virulent gonorrhœa, that we have no occasion to enlarge upon it. In general, bleeding, purging, poultices, and emollient fomentations, are sufficient. Should these, however, fail of removing the stricture, and the parts be threatened with a mortification, twenty or thirty grains of ipecacuanha, and one grain of emetic tartar, may be given for a vomit, and may be worked off with warm water or thin gruel.

It sometimes happens, that in spite of all endeavours to the contrary, the inflammation goes on and symptoms of a beginning mortification appear. When this is the case, the prepuce must be scarified with a lancet, and, if necessary, divided, in order to prevent a strangulation, and set the imprisoned glands at liberty. We shall not describe the manner of performing this operation, as it ought always to be done by a surgeon. When a mortification has actually taken place, it will be necessary to foment the parts frequently with cloths wrung out of a strong decoction of camomile-flowers and bark, and to give the patient a drachm of the bark in powder every two or three hours.

With regard to *priapism*, *chordee*, and other distortions of the *penis*, their treatment is no way different from that of the gonorrhœa. When they prove very troublesome, the patient may take a few drops of laudanum at night, especially after the operation of a purgative through the day.

OF A CONFIRMED LUES

The symptoms of a confirmed lues are, buboes in the groin, pains of the head and joints, which are peculiarly troublesome in the night, or when the patient is warm in bed ; scabs and scurfs on various parts of the body, especially on the head, of a yellowish colour, resembling a honey-comb ; corroding ulcers in various parts of the body, which generally begin about the throat, from whence they creep gradually, by the palate,

towards the cartilage of the nose, which they destroy; excrescences or exostoses arise about the middle of the bones, and their spungy ends become brittle, and break upon the least accident; at other times they are soft and bend like wax; the conglobate glands become hard and callous, and form in the neck, armpits, groin, and mesentery, hard moveable tumours, like the king's-evil; tumours of different kinds are likewise formed in the lymphatic vessels, tendons, ligaments, and nerves, as the *gummata*, *ganglia*, *nodes*, *tophs*, &c.; the eyes are affected with itching, pain, redness, and sometimes with total blindness, and the ears with a singing noise, pain, and deafness, whilst their internal substance is exulcerated and rendered carious; at length all the animal, vital, and natural functions are depraved; the face becomes pale and livid; the body emaciated and unfit for motion; and the miserable patient falls into an atrophy or wasting consumption.

Women have symptoms peculiar to the sex; as cancers of the breast; the whites; hysteric affections; an inflammation, abscess, schirrus, gangreens, cancer, or ulcer of the womb: they are generally either barren or subject to abortion; or if they bring children into the world, they have universal erysipelas, are half rotten, and covered with ulcers.

The only certain remedy hitherto known in Europe for the cure of this disease, is mercury, which may be used in a great variety of forms, with nearly the same success, some time ago it was reckoned impossible to cure a confirmed lues without a salivation. This method is now,

however, pretty generally laid aside, and mercury is found to be so efficacious. rather more so, in expelling the venereal poison, when administered in such a manner as to run off by the salivatory glands.

The only chemical preparation of mercury which we shall take notice of is the corrosive sublimate. This was some time ago brought into use for the several diseases in Germany, by the illustrious Baron Van Swieten; and was soon after introduced into Britain by the learned Sir John Pringle, at that time physician to the army. The method of giving it is as follows; one grain of corrosive sublimate is dissolved in two ounces of French brandy or malt spirits; and of this solution an ordinary table-spoonful, or the quantity of half an ounce, is to be taken twice a-day, and to be continued as long as any symptoms of the disorder remain. To those whose stomach cannot bear the solution, the sublimate may be given in form of a pill.

Several roots, woods, and barks, have been recommended for curing the venereal disease; but none of them have been found, upon experience, to answer the high encomiums which had been bestowed upon them. Though no one of these is to be depended upon alone, yet, when joined with mercury, some of them are found to be very beneficial in promoting a cure. One of the best we know yet is sarsaparilla.

The mezereon-root is likewise found to be a powerful assistant to the sublimate, or any other mercurial. It may either be used along with the sarsaparilla, or by itself. Those who choose to use the mezereon by itself, may boil an ounce of

the fresh bark, taken from the root, in twelve English pints of water, to eight, adding, towards the end, an ounce of liquorice. The dose of this is the same as of the decoction of sarsaparilla.

We have been told, that the natives of America cure the venereal disease, in every stage, by a decoction of the root of a plant called the Lobelia. Sometimes they mix other roots with it, as those of the ranunculus, the ceanothus, &c.; but whether these are designed to disguise or assist it, is doubtful. The patient takes a large draught of the decoction early in the morning, and continues to use it for his ordinary drink through the day.

Many other roots and woods might be mentioned which have been extolled for curing the venereal disease, as the china-root, the roots of soap-wort, burdock, &c. as also the wood of guaiacum and sassafras; but as none of these have been found to possess virtues superior to those already mentioned, we shall, for the sake of brevity, pass them over

USEFUL MEDICAL RECEIPTS.

TO KILL WORMS.

Take an ounce of tin, finely powdered, and two drachms of Ethiop's mineral, mixed together; divide it into six powders, and take one of them in a little syrup twice a day; when they are used, work them off with a little rhubarb.

FRECKLES ON THE FACE.

To disperse freckles, take two ounces of lemon juice, half a drachm of powder borax, and one drachm of sugar, mix them, and let them stand a few days in a glass bottle till the liquor is fit for use; then rub it on the hands and face occasionally.

SIMPLE REMEDY FOR A PAIN IN THE SIDE.

At bed-time, take a fresh cabbage-leaf, hold it to the fire until it is quite warm, and then apply it to the part affected, binding it tight with a cloth round the body; let it remain for twelve hours or more, when it will generally be found to

have removed the pain ; it would be well, however, to repeat the application of a fresh leaf, on taking off the first, and let it remain as before.—This will seldom fail in its effect.

REMEDY FOR THE LUMBAGO.

Get some oil of cabbage, commonly called green oil, and rub it well in before the fire previously to going to bed, on the loins and back, and in two or three applications this troublesome disorder is generally removed.

LIP SALVE.

Take four ounces of white whey, one ounce of spermaceti, and half a pint of oil of almonds ; melt it in a water bath ; when melted, put in a small quantity of alkanet root, hid in a linen bag, to prevent it mixing with the other ingredients, the colour being the only part wanted, which the heat carries through the cloth or bag. Stir it with a knife till it gets red ; take out the alkenet root, and add a little essence of lemon or bergamot, run it into boxes for use.

DIARRHŒA.

Take of confection of catechu, two drachms; simple cinnamon-water, four ounces; syrup of

white poppies, one ounce; mix them together. One or two table-spoonfuls to be taken twice or thrice a day, as required; and for children under ten years of age, a dessert spoonful to be used; under two years, a tea-spoonful, also two or three times a day, as above stated.

OPENING PILLS.

Take four drachms of Castile soap, and the same quantity of succotrine aloes, make it into pills, with a sufficient quantity of syrup. Two or three may be taken when costive.

ANOTHER.

Take four drachms of the extract of jalap, the same quantity of vitriolated tartar, and form it into pills with syrup of ginger; five of these pills is sufficient for a purge; but to keep the body gently open, one may be taken night and morning.

DRAUGHT FOR A COUGH.

Beat two fresh eggs, mix them with half a pint of new milk warmed, two table spoonsful of capillaire, the same quantity of rose-water, and a little nutmeg. It must be warmed after the egg is added. Take it the first and last thing.

FOR A FEVER.

Boil three ounces of currants, two of raisins carefully stoned, and an ounce and a half of tamarinds, in three pints of water, till it is reduced to a quart, strain it, throw in a bit of lemon-peel, and let it stand an hour.

FOR TAPE-WORMS IN CHILDREN.

The following prescription is by the late Dr. Lettsom :—Beat up five drachms and a half of rectified oil of turpentine, with the yolk of an egg, and some sugar and water, and common syrup. Give this to a child having tape-worms. Two doses are sure of expelling them.

THE FOLLOWING IS A MOST EXCELLENT REMEDY FOR A COLD.

Take a large tea-cup full of linseed, two pennyworth of stick liquorice, and a quarter of a pound of sun raisins. Put these into two quarts of soft-water, and let it simmer over a slow fire till it is reduced to one ; then add to it a quarter of a pound of brown sugar-candy pounded, a table-spoonfull of old rum, and a table spoonfull of the best white wine vinegar, or lemon-juice. [The rum and vinegar are best to

be added only to the quantity you are going immediately to take, for if it is put into the whole, it will grow flat.] Drink half a pint at going to bed, and take a little when the cough is troublesome. This receipt generally cures the worst of colds in two or three days, and, if taken in time, may be said to be almost an infallible remedy. It is a most balsamic cordial for the lungs, without the opening qualities which endanger fresh colds in going out. It has been known to cure colds that have been almost settled into consumptions in less than three weeks.

CURE FOR THE GRAVEL.

Dissolve three drachms of prepared netron in a quart of cold soft water, and take half this quantity in the course of the day. Continue this medicine for a few days, and that painful complaint will be dislodged.—It may be taken at any hour, but is best after a meal. It is said, that the greatest martyrs to this disorder have been perfectly relieved by this simple remedy, which every person should remember, and note it in a pocket-book, as few families are without some individual afflicted with gravel in a greater or less degree.

INSTANT RELIEF FOR A PAIN AND LAX STATE OF THE BOWELS.

Take twelve drops of laudanum, half a gill of spirituous cinnamon water, or, if that cannot be immediately had, in the best brandy. This will seldom fail to give instant relief; but should it so fail in the first instance, it may be repeated in about an hour.

REMEDY FOR THE GOUT.

Considerable benefit has been derived from a liniment of olive oil, and the sulphuric acid, in case of gouty inflammation of the feet, than from any other application, and the gouty subjects to whom it has been recommended, speak in the highest terms of its efficacy.—A case of gout in the feet is related, wherein great relief is obtained by a large plaister of treacle, completely covering the inflamed part.

CHILBLAIN LOTION.

Take one drachm of sugar of lead, two ditto of white vitriol, reduce them to a fine powder, and add four ounces of water. Before using this lotion, it is to be well shaken, then rubbed well on the parts affected, before a good

fire with the hand. The best time for application is in the evening. It scarcely ever fails curing the most inveterate chilblains, by once or twice using. It is not to be used on broken chilblains. The above lotion has been sold for a considerable time at Exeter as a patent medicine with great success.

FOR COUGHS IN AGED PERSONS

Pour gradually two drachms of nitric-acid, diluted in half a pint of water, on two drachms of gum ammoniac, and triturate them in a glass mortar, until the gum is dissolved. A tablespoonful to be taken in sweetened water, every two or three hours.

FOR RECENT COLD IN THE HEAD.

Take twenty-five drops of laudanum, one drachm of sweet spirit of nitre, forty drops of antimonial wine, and half an ounce of water. To be mixed and taken at bed-time, the patient drinking freely afterwards of warm water-gruel, barley-water, or whey.

INFLAMED EYES.

Leeches should be applied to the temples, and when the bleeding has ceased, a blister may be

applied, and a little opening medicine taken. Shaking the head and bathing the feet in warm water will be found very beneficial.

WEAK EYES

May be relieved by washing them in cold water ; or dissolve four grains of the sugar of lead, and crude sal ammoniac in eight ounces of water, to which add a few drops of laudanum. With this mixture bathe the eyes night and morning Rose-water is also good for the eyes

TO REMOVE CORNS

Take four ounces of white diacolon plaster four ounces of shoemaker's wax, and fifty drops of muriatic acid or spirit of salts. Boil these ingredients for a few minutes in an earthen pipkin, and when cold, roll the mass out between the hands, or upon the marble slab, slightly moistened with olive oil.