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CONTAINING

DIRECTIONS FOR MIDWIVES,

AND

COUNSEL AND ADVICE

TO

CHILD-BEARING WOMEN.

WITH TABLES

USEFUL REMEDIES.

LONDON,

PRINTED FOR THE SOCIETY.

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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 relieve the needs 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 guidance of child-bearing women during the time of their pregnancy: how they should conduct themselves with regard to regimen, medical treatment, and other matters, such as, will be 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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New York

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GUIDE TO CHILD-BEARING WOMEN.

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BOOK I.—CHAPTER I.

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SECT. I. *Of the womb.*

In this Chapter I am to treat of the womb, which the Latins call *uterus*. Its parts are two; the mouth of the womb, and the bottom of it. The mouth is an orifice at the entrance of 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 stretched, and its thickness diminisheth proportionably to its distension; and therefore it is a mistake of anatomists, who affirm that it

substance womb's thicker a little before a woman's labour; for any one's sense will inform him, that the more distended it is, the thinner it must be; and the nearer a woman is to the time of her delivery, the shorter her womb must be extended.

The Author of Nature has placed the womb in the belly, that the heart 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 heat through the hardness of the bowels; and it is placed in the lower part of the belly for the convenience of a child's being thrust out at the full time.

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

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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 fetus, as young one, and is afterwards contracted and closed again, to thrust forth both it and the after-burden, and it is so retire to its primitive rest. Hence also then enabled to expel any obnoxious humours which may sometimes happen to be contained within it.

Below I have done with the womb, which is the field of generation, and ought therefore to be the main particularly taken care of, (for as the seeds of plants can produce no plants, nor spring, unless sown in ground proper to receive and cherish 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



(solid 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 compass the principal parts of the body; the outermost of which ariseth from the peritonæum, or oval, and is very thin; without smooth, and within aged, that it may the better cleave to the womb, so it is looser 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 raised during pregnancy, and also that it may the easier close again after delivery.

The veins and arteries proceed both from the hypogastria and the spermatic vessels, of which I shall speak by and by; all these are inserted and terminated in the proper membranes of the womb. The arteries supply it with food for nourishment, which, being brought together in too great a quantity, runs through the substance of it, and distils as it were a dew at the bottom of the cavity; from whence it proceed both the liquor in ripe organs, and the blood which nourisheth the

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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 from the sides, are conducted in the uterine walls, and by these, those that are pregnant do purge away the superfluity of the uterus, 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 superfluous 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 body 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 parts: so that the womb cannot be afflicted with any pain but the stomach is immediately sensible thereof, which is the cause of those heakings 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. These above are called the broad ligaments, because of their broad and membranous figure, and are nothing else but the prolongation of the peritonæum, which growing out of the side of the liver, towards the ribs, 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 procyption, as will sometimes happen when the ligaments are too much relaxed, and do also contain the testicles, and so well safely conduct the different vessels as the quantities in the womb. The lowermost are called round ligaments, taking their original from the side of the womb near the liver, from whence they pass the groin, together with the prolongation of the peritonæum, 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 feet 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 smooths the membrane which wraps with itself fat in them



light. These two ligaments are long, round, and nervous, and grow 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 bottom to be inserted in the manner aforesaid. It is by these vessels 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 pulve, yet it is fastened, for greater security, by its neck, both to the bladder and rectum, between which it is situated.—Whence it ensues 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 derive 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 serves by accident to receive and expel the impurities of the whole body, as when women have abundance of whites; and to purgeway, from time to time, the superfluous of the blood, as when a woman is not with child.

BOOK, 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 boldly, the arguments on each side, and leave the judicious reader to judge for himself.

Though it is agreed, 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 preservation of the child, it is evident from hence, that the woman has several vessels, which had been given her in vain if she wanted no seed; but since nature forms nothing in vain, it must be granted they were made for use of seed and preservation, and so all in their proper places, to operate, and contribute virtue and efficiency to the seed.

Yet against all this, our modern authors affirm, that the accounts are very erroneous, the

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as much as the testicles in women do not afford seed, but are two eggs, like those of birds and other creatures; neither have they any such stiffness as men, but are indeed an ovarium, or receptacle for eggs, whereas these eggs are nourished by the sanguinary vessels disposed through them; and from thence can be more, as they are fertilized by the man's seed, are conveyed into the womb by the oviducts. And the truth of this, say they, is so plain, that if you had them, the liquor will have the same taste, colour, and consistence, with the taste of birds' eggs. And if it be objected, that they have no shells, the answer is easy; for the eggs of birds, while they are in the ovary, say, as if 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 foam which nature has provided for their support untill hatched, they being hatched no other the body; but those of women being hatched within the body, have no need of any other force than the womb to nourish them. /

They also farther say, that in the generation of the foetus, or young ones, two principles, active and passive; the active is the man's seed elaborated in the testicles, out of the arterial blood and animal spirit; the passive principle is the woman's egg, impregnated by the man's seeds; for to say that women have

even seed, say they, is aversive. But the manner of conception is this, the superfluous part of man's seed, pushing up to the surface or outside of the woman (which contains divers eggs, sometimes more, according to Aristotle), impregnates it there, which, being conveyed by the vessels to the bottom of the womb, presently begins to swell bigger and bigger, and dilates in the measure that is plentifully not thicker, after the same manner that the seeds in the ground work in the fermentation thereof, to make them a yeast.

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.

CHAP. 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 procreant seed is received.

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ed and retained, that an infant may be engendered and formed out of it. There are two sorts of conception; the one according to nature, which is followed by the generation of the infant in the womb; the other false, and wholly against nature, in which the seed changes into water, and produces only false conceptions, molds, or other strange matters. Now, there are three things principally necessary in order to a true conception, so that generation may follow, viz. *diversity of sex, congression, and accession 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 discharging his seed into the womb. When they allege of pullets laying eggs without a cock's seedling them is nothing to the purpose; for these 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.

BOOK II. *What a Woman ought to order herself
after Conception.*

My design in this treatise being briefly, 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 superlativisms, 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 enlarge the size of the child, and may thus hurt 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 comes 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, wrecks and shoals the danger, if he steers with providence; but if not, it is a disaster to his boat

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to suffer 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, constitution, 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 dissipates the spirits too much, and causes many weaknesses; and by being too cold and foggy, it may bring down rheums and distillations on the lungs, and so cause her to cough, which, by its impetuous motion, flowing downwards, may make her miscarry. She ought always to avoid all noisiness 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 swelling of rue, wild, pennyroyal, nastur, helixama, &c.

But, with respect to their diet, women with child have generally no great business, and so

many different longings, that it is very difficult to prescribe an exact diet for them.

I think advisable, that they may have simple meats and drinks which are so themselves suitable, though perhaps not so pleasant or wholesome as some others, and, at the same time, so pleasant; but this liberty must be taken care of with this caution, that what they eat must not be itself unwholesome; and also, that they may take care of every thing they take care of every thing. Let a child-bearing woman take herself to her usual diet with such longings as we have spoken of; let her take simple food, and in such quantity as may be sufficient for herself and her child; which her appetite may in a great measure regulate; for it is always harmful for her to eat long, or eat too much; and, therefore, rather let her eat a little and often, especially in the evening, avoid eating too much at night, because her stomach being too much filled, causes heartburn, dyspepsia, and thereby renders difficult her breathing. Let her most be ever still and quiet, such as the tenderest parts of her, her breasts, her feet, her hands, her arms, her legs, her neck, her face, her eyes, her ears, her nose, her mouth, her tongue, her throat, her chest, her back, her hips, her buttocks, her thighs, either boiled or roasted, as also her fish; her kidneys are also very good for her, and let her put into her broth the following herbs, as some, lettuce, marrow, water-cress, &c. for they will purge and purify the blood. Let her avoid whatever is hot and dry, and

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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 expose herself on hard and uneasy seats. Let her use moderately good (very sweet, and of easy digestion) and let her wine be not 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, flays, watchings, weanings, sorrows, anger, and all other perturbations of the mind. Let none present any strains or unchastities thing to her, nor so much as seems to, but she should desire it, and not be able to get it, and so either cause her to miscarry, or the child to have some ill faculty in that respect. Let her house be kept loose with prayers, psalms, or masses, in her bedchamber; and let her use the following dietary, to strengthen the womb and the child: -

* Take conserve of berries, sugar, and red wine, each two ounces; of hales as many; seven peal and musk, each one ounce;

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Complexion



First Mouth



Second

Third



Fourth Mouth



Fifth Mouth

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with an ounce; nutmeg of wood shew, a scruple; pearl prepared, half a drachm; red coral, ivory, each a drachm; periwinkle stones, each a scruple, rounded nutmegs, two drachms; and with syr. p of apples and quince make an electuary."

Let her observe the following Rules.

"Take pearl prepared, a drachm; red coral prepared and ivory, each half a drachm; periwinkle stones, each a scruple; yellow coral peels, nut, cinnamon, cloves, each half a drachm; saffron, a scruple; wood shew, half a scruple; nutmegs, six drachms; and with six ounces of sugar dissolved in rose-water, make rolls." *Let her also apply strengtheners to the head, of nutmeg, mace, mastic, made up in bays, or a tincture dipped in wine-vinegar, sprinkled with powder of pearl. If she happens to desire sleep, chalk, or nutt, for many women with child do; give her bread baked with sugar; and if she happens to long for any thing else that she cannot obtain, let her drink a large draught of pure cold water.*

Rules for the Fourth Month.

To this month and the next, be sure to keep from bleeding; for though it may be safe and proper at other times, yet a well will be to

at the end of the fourth month; and yet if blood abound, or some accidental disease happen, which requires evacuation, you may use a sucking-glass, with some stimulus, 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 having herself too warmly, but give herself more liberty than she used to do; for, increasing her abstinence in too strict a mould, she hinders the infant from taking its due growth, and often makes it come before its time.

Rules for the Fourth Month.

In this month she you might to keep the child-bearing women from lying-in, unless in extraordinary cases; but when the month is past, blood-letting and purging 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 purgatives may be used only from the beginning of this month to the end of the sixth; but at her this time that in purging she use no violent medicines, nor any heating, or astringent, which is dangerous as I have said to the child, and upon the month of the mother; neither let her use calopistons, acrimony, nor turbidities; nor any use of wine, vinegar, sheebull, eggs, &c, and

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comes; but *Spica Solani* prepares to her, with a little of electricity of the juice of roses.

Rules for the Fifth, Sixth, and Seventh Months

In these months child-bearing women are troubled with coughs, heart-burning, sitting, 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 uterus, or the thin part of that blood passes into the veins of the breast, or filling 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 aqua, and strengthen the head as in a catarrh, and give sweet lactones, as in a cough. Palpitation and burning arise from vapours that go to it by the arteries, or from blood that ebullishes, and cannot get out at the womb, but ascends, and aggraves the heart; and in this case, confine she till be well both inwardly and outwardly. Watchings from sharp dry vapours that trouble the animal spirits, and in this case use lactones, and let the women walk bare feet at bed time, and let her take syrup of poppies, dried roses, decoctions of sweet almonds, and white poppy seed. If she be troubled with pains in her loins and hips, as in three months she is subject to be, from the weight of her

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of it, who is now grown big and heavy, and so stretches the Ligaments of the womb, and parts separated, let her hold it up with winding bands about her neck. About this time also the woman often happens to have a flux of blood, either natural, white, or hemorrhoids, from purity of blood, or from the weakness of the child that takes it not in; or else from evil humour in the blood, that rises up nature to send it forth. And sometimes it happens that the vessels of the womb may be loosed, either by some violent motion, fall, cough, or tread, be of heat, (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 pletory, 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 it is gone beyond her time. But if it flows by the inward veins of the womb, there is more danger by the opening of the womb, if it come from evil blood; the danger is like from sweating, which is to let fall upon back. If it arise from pletory, open a vein, but with great caution, and use acetous, of which the following will do well:—Take pearls prepared, a scruple; red coral, two scruples;

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17th Month



18th Month



19th Month

20th Month



21st Month



22nd Month

rice, nutmeg, each a drachm; cinnamon, half a drachm; make a powder fine, with sugar, & olive oile. Or give this powder in broth: "Take red coral, a drachm; half a drachm, precious stones; red amber, half a drachm; both, a drachm; sealed earth, tormented roses, each two scruples, with sugar of roses, and essence Clostial; with pearl, five drachms; make a powder." You may also strengthen the child at the breast; and if there be a swelling, abate the humours; and if you may do it safely, evacuate: you may likewise use milke in her hands and about her neck. In a flux of humours, bleed near off the point; and let her drink hot wine with a little oil nutmeg. In these cases the breasts are also subject to be hard; but if it be without any apparent cause, the breast of a child, or woman, seldom with oil, or with the decoction of willow, or marsh-mallows, necessary, or indeed, put up in a clyster, will not be easier, but in less quantity than is given in other cases: viz. of the decoction five ounces, of mastic distilla one ounce. But if she will not take a clyster, one or two pulks of new laid eggs, or a little yeast-pottage warm, a little rose and sugar, or a good deal of milk, will be very convenient. But if her breasts be distended, and swelled out with wind, white bread-crust and yellow red root, into a powder, and mingled with honey and sugar, administered the manner

of an electuary, will do very well. Also, if the thighs and feet swell, let them be treated with *expiridium* (which is a liquid medicine made with vinegar and rose-water, mingled with oil.)

Rules for the Fifth Month.

The fifth 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 abstain her diet, so she must increase her exercise; and because when women walk child, by reason that sharp humours stir the belly, are accustomed to weaken their spirits and strength, they may well take before meat an electuary of lavender or rose-water, cinnamon, or dill-seed; and sometimes they may take a little honey: as they will laugh and converse their most, they may take green ginger carded with sugar, or the seeds of corra and oranges distilled; 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 take a little honey. But let her beware of salt and powdered meat, for it is rather good for her now the child.

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Rules for the Nymph Nook.

In the ninth month let her have a care of taking any great weight; but let her move a little more, to dilate the parts and stir up natural heat. Let her take care of sleeping, and neither sit too much, nor lie on her side; neither ought she to bend her back much, but the child be unfolded in the most liberal manner, by which means it often perishes. 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 choose yonges with asper, or eggs with runne, before meat; as also the yolk of eggs, fish and broth of chickens, hens, partridges and pheasants; amongst well roasted meats, with rice, hard eggs, milk, and such like other things, are proper. Baths of sweet wine, with a small quantity of salts, ought to be used by her three or four times a week; and after the baths, let her belly be anointed with oil of sweet almonds well beaten; but for her private parts it is better to anoint them with the fat of lard, goose, or ducks, or with oil of figs, and the decoction of linseed and musk-mallows, boiled with oil of almonds and musk-mallows, or with the following Liniment.

* Take of mallows and musk-mallows, cut

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and bread, of such an ounce; of linseed one ounce; let them be boiled in one twenty ounces of water to ten; then let her take three ounces of the linseed broth; of oil of sweet almonds of sweet oil of almond one ounce; of these take three ounces." Let her bathe with this, and anoint herself with it warm.

If the last ten days before the birth she do every morning and evening bathe and anoint her belly with a mixture 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 washed three times with this composition.

"Take three ounces of linseed, and one handful each of melons and watermelons sliced, then let them be put into a bag and in a cloth be boiled." Let the woman with child, every morning and evening, take the liquor of this decoction in a Linnen cloth, taking great heed that no wind or vapour come to her nostrils, and then let her wipe the part as aforesaid with a linnen cloth, and she may anoint the children 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 melons and watermelons, of each one handful;

aromatics, hard mercury, madder-leafs, of each a handful; of brood, 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 head; nor let her sit on it longer than about half an hour, but her strength languish and decay; for it is better to use a chair than to stay too long in it.

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

CHAP. III.

*Of the Parts proper to a Child in the Womb,
How it is formed there, and the Manner of its
Situation there.*

In the last chapter I treat of conception, showing what it was, how accomplished, its signs, and how she who has conceived ought to govern herself during the time of her pregnancy. Now,

before I come to speak of her delivery, it is necessary that she should be first made acquainted with the parts proper to a child in the womb, and also, that she be shown how it is formed; and the manner of its situation and development 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 nourishers, or vital vessels, and the protectors. By the first it is nourished, and by the second shielded and defended from wrong. Of each of these I shall speak distinctly; and, first,

Of the Nourishers, or Vital Vessels.

These are four in number; viz. arteries, two veins, and the wood, which is called the umbilicus.

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1. The vein is that by which the infant is connected, 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 connecting its food that we have. This vein arises from the liver of the child, and is divided into parts when it has passed the neck; and these two are divided and subdivided, the branches being upheld by the *clia*, 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 artery of the mother; and the vital blood is carried by these to the child, being ready connected by the mother.

3. A *urachus* or *stomach production* is led from the bottom of the bladder of the infant to the navel, and this is called *urachus*; and its use is to convey the urine of the infant from the bladder to the bladder. 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 manifested there is such a thing; for *Boerhaave*, *Caesalpinus*, the ordinary doctor of anatomy to the College of Physicians at Montpellier, in *Francia*,

records the history of a man, whose urine, being a long time stopped, at last burst out through the urethra. And Johannes Ferrius speaks of the same thing that happened to a man of thirty years of age, who, having a stoppage at the neck of the bladder, his urine issued out of his nose many months together, and that without any prejudice at all to his health: which he ascribes to the El tying of his nose, whereby the urethra was not well dried. And Valerius Celsus quotes such another instance in a man of thirty-four years of age, at Norimberg, in Germany. These instances, though they happen but seldom, are sufficient to prove that there is such a thing as an urethra in man.

Three four vessels before mentioned, viz. one vein, two arteries, and the urethra, do join near to the nose, and are united by a skin, which they have from the chloia, and so become like a gut or tube, and are altogether void of sense, and this is that which women call the nose-string. The vessels are thus joined together, that so they may neither be broken, severed, nor strangled; and a few due lobes is born use of no use, save only to make up the Squamæ which stops the hole of the nose, and some other physical use, &c.

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Of the Sacrotum, or After-Birth.

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

1. The *first* is called *placenta*, because it resembles the form of a cake, and is knit both to the naval and chorion, and makes up the greatest part of the *acrotum*, or *after-birth*. The flesh of it is like that of the *mat*, 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 *amnion*, covers the child round, both above and underneath, and on both sides, which the *chorion* doth not. This skin is that which is most commonly called the *acrotum*, as it is thick and white, provided with many small veins and arteries, arising in the *placenta* before named, being very light and slippery. Its use is not only to cover the child round about, but also to receive and safely bind up the roots of the veins and arteries or naval vessels before described.

3. The third thing which makes up the *acrotum* is the *velveta*, 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 placenta, where it is knit to the umbilicus, from whence it receives the veins; and its office is to keep it separate from the womb, that the saltness may not offend the tender skin of the child.

4. The fourth and last covering of the child is called amnion; and it is white, soft, and transparent, being nourished by some very small veins and arteries. Its use is not only to envelop 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. *Arteria* is that which receives blood from the heart, and distributes it in several branches to all parts of the body. *Arteries* proceed from the heart, and in continual motion, and by their continual motion quicken the body. *Nerve* is the same with *artery*, and is that by which the brain affords sense and motion to the body. *Muscle's* property signifies a rope like; but in this section it is used to signify a spongy piece of flesh,

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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 membrane which encompasses the child in the womb. The amnion is the skin that holds the urine of the child during the time that it abides in the womb. The vesicle is the vessel that conveys the urine from the child in the womb to the alantoid. 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 sperm whereof the seed is full, which nature quickens by the heat of the womb, stir up to action. The natural 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 sent to the nutritive, and with these the seed is enclosed round, and the membrane 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 in the vesicle is the nest; the chorion; and they surround the



and round idea remains. Soon after this (for the vessel thus shut up is the vena cava not idly) the naval vein is bred, which passeth these skins, but is yet very tender, and carries a drop of blood from the veins of the mother's womb to the seeds; from which drop the renal vein, or chief vein, grows, 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, the blood administered to every part of it, so from both.

This vein being formed, the neural vessels are soon after derived; then the great artery, of which all others are but branches; and then the heart, for the liver furnishes the arteries with blood as from 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 lungs, &c. in the ventricles or clear bones, and then the skull, &c. As in the time in which the external part of work is made 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 to the matter therein, and proceed to

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Position of a Child on the Breast just before Birth.

Fig. 102

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 posture it lies there; and yet this may arise as a great source from the different spaces 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 womb, the child is almost always situated the feet is directed by below the mother.

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 see the chief cause of all ill births, will be more easily perceived by the midwife attending practice. 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 some will, to appearance, a woman's belly seems higher than usual, and that she is pregnant



as 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 arms moderately turned towards the thighs folded, and a little raised, so which the legs are so raised, that the heels touch the buttocks; the arms are landing, and the hands placed upon the knees, towards which the head is curving forwards, so that the chin touches the breast; in which posture resembles one sitting to see a scene, 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 feet downwards; and proportionably to its growth, it extends its members by a little and little, which were nearly 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, turning as it were over its head, so that then the feet are uppermost, and the face towards the mother's great gut; and the bending of the infant on the

woman, with its head downwards, towards the
 lower end of a woman's pelvis, is prescribed
 by nature, that it may be thereby the better dis-
 posed 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
 heaved against the inward side 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
 so true, there are diverse 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 be across;
 and sometimes neither of them will come right.
 Yet, however the child may be situated in the
 womb, or in whatever posture it presents itself
 at the time of birth, if it be met 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.

CHAP. 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, at 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 underrunning difficulties, is subject to many Intermittens, and an 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, inasmuch 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

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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, or 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 amnion and chorion. These pains, which are often mistaken for labour, are removed by warm cloths laid to the abdomen, and the application of a styaco or tea, by which the pain is relieved, preservation

labour are rather diminished 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 mouth slimy humours, which nature has appointed to moisten and smooth the passage, that its forward motion may be the more easily dilated when there is occasion; which, beginning to open at that time, causes that clime to fall away, which proceeds from the glands, called osamenta. There are signs preceding the labour; but when she is presently distinguished labour, the agitations, great or no about the region of the womb and loins, which, coming and retreating by intervals, are answered in the bottom of the abdomen by compressive throes, and sometimes the face is red and inflamed, the blood being much heated by the induration a woman makes to bring forth her child; and likewise, because during those strong throes her respiration is intercepted, which causes the blood to have recourse to her face; she keeps her parts are cooled by the infant's head lying in the birth, which, by often thrusting, causes those parts to descend upwards. For

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is much subject to vomiting, which is a sign of labour and speedy delivery, though by ignorant people thought otherwise; for good pains are steadily 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 midwives call *show*, it is no in little 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 fetus, containing the water, prevent themselves, and are strongly forced down with each pain, through which lane one may perceive them sometimes to retreat, and then again pass forward the finger, being more or less hard and extended, according as the pains are stronger or weaker. These membranes, with the water in them, when they are before the head of the child, which the midwives call the *passing of the water*, resemble to the touch of the finger those eggs which have no shell, but are covered only with a single membrane. After this, the pains still redoubling, the membranes are broken by a strong



expulsion of the waters, which flow away, and then the head of the infant is presently felt naked, and presents itself at the intended 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 waters abundant, which contained these waters, being broken by the passing forward of the birth, the child is no longer able to resist long in the womb afterwards, than a naked man in a sleep of snow. Now, these waters, if the child is unpreparedly after them, facilitate the labour, by making the passage slippery; and, therefore, let us endeavour (as some have foolishly done) endeavours to drive 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 hinder it may be easily 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 comes.*

When it is known that the true time of her labour is come by the signs laid down in the foregoing section, of which these that are next to be mind on are pains and strong throes. In

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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 womb 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 prevents (as we said before), especially if it be the head of the child, by its roundness and hardness; I say, if these things occur 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 best to help her, be sure to see she be not strait-laced: you may also give her one strong spirit 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 arising thereby will be, that they excite the gut to discharge itself of its superfluities, 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 endoscourse 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

stock; but a pallet-bed, glazed, 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 in these seasons.

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 seasons more at liberty, and live as it were 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, before her delivery, if her strength will permit, let her walk up and down her chamber; and that she may have strength so to do, it will be necessary to give her some good strengthening things, such as jelly, broth, mashed eggs, or some spoonful 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 os with her finger, to know whether the waters are ready to break, and whether the birth will follow soon after. Let her also assist the woman's passions with excellent oil, hog's grease, and fresh butter, if

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she find they seem 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 advances, because when she changes her ordinary groans into loud cries, it is a sign the child is very near the birth; for at 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 lean, 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 smooths 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 quakes and shakings 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 farther her throes and pains by pressing downwards.

When the waters of the child are truly and



gathered (which may be prevented through the watchfulness to prevent themselves to the inward motion) to the bigness of the whole distention, 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 distress of the labouring women 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; ~~and~~ if it be any other part, she will find it unequal, ragged, and soft or hard, according to the nature of the part it is. And thus being the true time when a woman ought to be delivered, if nature be not wanting to perform its office; therefore, when the midwife feels the birth thus coming forward, let her hasten to assist and deliver it,

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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, to admit a case those things that hasten nature may be safely administered. For which purpose, make use of penny royal, dittany, juniper-berries, red coral, betony, and dierisus, brewed 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: magwort 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 tansy, brewed, 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 to speedily deliverance to women so treated.

1. A decoction of white wine made in tansy, and drunk.
2. Take wild tansy, or silver weed, bruise it, and apply it to the women's nostrils.
3. Take five stones, and heat 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 as suppos'd 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 against palsy) that being drunk by a woman with child it cleareth not only the womb, but also the child in the womb, of all gross humours.

6. A scruple of nutmeg 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 nutmeg in any convenient liquor; also eight or nine drops of spirit of myrrh, given in any convenient liquor, gives speedy deliverance.

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

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

9. Take penny weeds, and beat them into powder, and mix the powder with oil, with which oil anoint the lutea and partures of the woman and child; it will give her deliverance speedily, and with less pain than can be long said.

10. Take a wallow's nest, and dissolve it in water, strain it, and drink it warm; it gives delivery with great speed and much ease.

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Note this also in general, that all things that move the uterus, are good for making the delivery easy; such as myrtle, white scales in wine wine, or h^y-water, two scruples or a drachm; or resin lignea, ditto, each a drachm; cinnamon half a drachm, saffron a scruple; give a drachm: or take horse mineral a drachm; and give it in sack: or take resin lignea a drachm; ditto, saffron, of each a drachm; cinnamon, horse, of each a drachm and a half; saffron a scruple; and give her half a drachm: or give her some drops of oil of lavender convenient liquor; or two or three drops of oil of cinnamon in warm water. Some prepare the pessaries thus:—Take the pearl-string and dry it in an oven, take two drachms of the powder, cinnamon a drachm, saffron half a scruple, with juice of rose make trochisks; give two drachms: or make the pessaries in wine, and take it in a pot; then wash it in warm water and wine; take half a drachm of red pepper, galangal, of each half a drachm; plantain and radish seed, of each half a drachm; lavender seed four scruples; make a powder: or take ladanum two drachms; mace, nutmeg, benzoin, of each half a drachm; make an electary, each six grains; make a powder, or trochisks for a time. Or two pessaries to provoke the birth; take gal-



were dissolved in vinegar, an ounce; myrrh two drachms; with oil of cast make a pomery.

An Ointment for the Breast.

Take oil of helle two ounces, juice of orange 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, stœas Lyoid a drachm; round licewort, 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; cauter. otherwise dangerous.

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 feels 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 let 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 stand 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 had

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Diaphragm of the human body

labour, rather than a man-midwife should be sent for, to assist in delivery 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: each person may rather be termed butcher than midwife. But supposing the woman's labour to be natural, I will next show what the midwife ought to do, in order to her delivery.

CHAP. 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 characterize 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 accidents: for, when the time of her birth is come, nature is not dilatory in the bringing of a forth,

without some of accident intervene, which renders it unnatural. The third is, that the child be alive; for all will grant, that the being delivered of a dead child is very unnatural. The fourth 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 water be broke of themselves, let there rather be a quilt laid upon the pallet behind than a feather bed, having thence some lace, and cloths as many folds, with other such things as are necessary, and that may be changed according to the urgency requiring it, so that the woman may not be surrounded with the blood, water, 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 thus, 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 sides, across her neck 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, she better
 fit assist as nature may require, let her take
 courage, and help her pains the best she can,
 bearing them down when they take her, while
 she rests herself by holding her breath, and bearing
 them up as far as possible, in like manner as
 when she breathes freely by her ordinary
 breathing.

The next thing to be considered is the
 time of day when she should be delivered,
 and in what manner she should be
 attended, and how she should be
 supported during her labour.



to examine whether there be more children in the womb; for sometimes a woman may have twice 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 feels there another watery gathering, and a child in it preventing to the passage; and if she feels it so, she must have a care of going to finish 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 thigh; 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 lochia. But of that I shall treat in another section; and first show what is to be done to the new-born infant.

Section II. Of the Cutting of the Child's Navel-String.

THOUGH this is accounted by many but a trifling, yet great care is to be taken about it; and it shows some of the best art and skill of a mid-

wife 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 navel upon its head, and in 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 vessel is a weak child (the vital and natural spirits being communicated by the mother to the child by its umbilical); 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 as there can scarcely agree in, and which every midwife 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 French-fingers, of an odd long or three-bands, tied with a single knot at each of the ends, to prevent their untangling; and with this thread as recommended (which the midwife must have in readiness before the woman's labour, as also a good pair of scissors, that as they 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, retreating it again, if it be necessary; then let her cut off the end and another inch below the ligature, towards the afterbirth, so that there only remains but two inches of the string, in the middle of which will be the knot we speak of, which must be so close knit as not to suffer a drop of blood to exude out of the vessels; but one must be taken, not to knit it so close as to cut it in two, and therefore, the thread must be pretty thick,

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and partly strait cut, is being better too strait than too loose; for some who have miserably lost their Tees, with all their blood, before it was discovered, because the naval-string was not well tied, therefore great care must be taken that no blood escapes through; for if there do, a new head must be made with the rest of the string. You need not fear to bind the naval-string very hard, because it is void of sense, and that pain which you have falls off in a very few days, sometimes six or seven, or sooner, but never tarries longer than eight or nine.

4. The last thing I considered was the sweat or uneasiness, or what follows cutting the naval-string. As soon as the naval-string is cut off, apply a little rosin or fat to the place to keep it warm, lest the cold enter into the body of the child, which is most certainly will do, if you have not bound it hard enough. If the fat or rosin you apply to it be dipped in the oil of rose, it will be the better; and then put another small rag there or four times double upon the stitches; upon the top of all, put another small binding; and then swathe it with a linen swathe, four fingers broad, to keep it steady, but by moving too much, or by being constantly staid from side to side, it comes to fall off before the naval-string which you tie it with is falling off. It is the usual



rather of advice to put a piece of lint over it, which we commonly call under; but I would advise them to put a little unguent on it, because of its drying quality.

FIG. III. *How to bring easily the after-labour down.*

A woman cannot be said to be fully delivered, though the child be born, till the after-burden be also taken from her: hence delivering from most women, who, when they have brought forth their young two foetus, or three six, has some pain, and the membranes which come next 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 action.

As soon as the child is born, before the milk will enter the orifice the membranes, but 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 uterus, drawing likewise with that very gently, seeing the delicate feeling of the two string towards it, or somewhat of cold to it.

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 next will separate the haire, and special care must be taken that it be not drawn forth with too much violence, but by breaking the string near the burden the midwife being oblig'd to put the whole hand into the womb to deliver the woman; and she need so be a very skillful person that undertakes it, but she must, to which this burden is sometimes very strongly fasten'd, be drawn away with it, as it has sometimes happen'd. 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 assisting 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 circumstance are usefull now that were then.

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

3. A little belladonna in powder, to make her swoon, is in this case very proper.

4. Treacy and the stone water, applied as before directed, are also of good use in this case.

5. If you take the best vervein, 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 both heriford and magwort have the same operation, taken as the former.

6. Alexander boiled in wine, and the wine drunk, the sweet cervile, sweet cirfy, angelica root, and mustardwort, are excellent remedies in this case.

7. Or, if this fail, the smoke of marijohda, rendering a woman's privities by a funnel, has been known to bring away the after-birth, even when she miscarrys by her hand.

8. Boil magwort in water till it be very soft; then take it out, and apply it in the manner of a pessary to the neck 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.

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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 unassisted. 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 distinguishedly 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 cause of feeling is distributed to the whole body by the nerves, and the more of the womb being so great that it must of necessity be distended at the time of the woman's delivery, so distending these nerves 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 os uteri more full of nerves than of hers. The best way to remove these 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 indigestion 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 spirit; as 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 strict; or too old, and then, it's 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 breadth 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 child also hinders labour, by preventing the true pains; and all great and untrue pains, as when the woman is taken with a violent fever, a cold, or a flux, frequent convulsions, bloody stools, or any other great distemper. — Also, at-

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moments retained some 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 cervix too strict, and the neck of the womb not sufficiently open, the passages pressed and straitened by tumours in the adjacent parts, or when the bones are too firm, and will not open, which may much endanger the mother and child; or when the passages are not stopp'd, by reason of the waters being broke too soon, or the membranes being too thin. The womb may also be out of order with respect to its bad situation, or construction, having its neck too strict, hard, and callous, which may easily be so naturally, or may come by accident, being many times caused by a tumour, an impostume, blood, or suppurated 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 hydroptic; 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 assistance: one more, and that is, the ignorance of the midwife, who, for want of understanding in her business, bids her nurse do her work instead of helping her.

Having thus looked into the cases of hard labour, I will now show the indications with which how she may administer some relief to the labouring woman under those 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 as a remedy readily may be applied; as, for instance, when it happens by the mother's being too young or too stout, she must be greatly treated, and the passages anointed with oil, hog's lard, or fresh butter, to relax and dilate them the more, but there should happen a rupture of any part when the child is born; for sometimes the peritonæum breaks, with the skin from the pelvis to the fundament.

But if the woman be in pain with her first child, let her lower parts be anointed to mollify the inward or fire, which, in such a case being more hard and callous, does not easily yield to the direction of labour, which is the true cause why such women are longer in labour,

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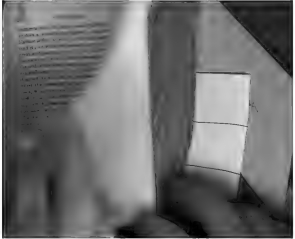
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and also why their children, being forced against the inward orifice of the womb (which, as I have said, is a little callous) are born with great lumps and bruises on their heads.

Those women that are very weak and misshapen, 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 lump. As for those that are very lean, and have hard labour from that cause, let them wash 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 jilly broths, and a little wine with a touch in it. If she have 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 objections; let her walk about her chamber, that the weight of the child may help them forward. Make food, or have strong consultations, she



must be then helped by a speedy delivery; the operation I shall relate in the system of unassisted labours. If she be inactive, let her use glysters, which may also help to digest the child, at those times very tedious, because attended with various pains, and because such bowels are 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 shoulders a little with her hand, and try if by that she procure any benefit; if she does 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 posture of the woman, let her be placed at several, in a posture more suitable and convenient for her; also if it proceed from the misapplication of the womb, as from its oblique situation, &c. it must be removed, as well as it can, by the placing her body accordingly; or, if it be a various contraction, having the womb too hard, too yellow, and too small, it must be scented 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 mother 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 maintain the parts with fomentations, decoctions, and excellent 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 fingers' 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 membranes are broken, 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 happens 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 farther 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.*

WHERE 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 swells, or falls flat, or hangs down. 2. A great sickness possesses the stomach of the mother, especially about the navel. 3. Her urine is thick, and a stinky sticking 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 dreams of dead men, and is delighted 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 to bed, the child smags 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 quart of whey risen and burn it, and add three-

to half an ounce of cinnamon, but no other spice whatsoever; and when she has drunk it, if her trembling 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 rebooths 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 no wise helpful to them. It will be necessary, therefore, that she make some comfortable things to prevent her fainting, by reason of the great 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. dill, betony, betony, pennyroyal, sage, fennel, cumin, cumin, my 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 sweetned with the juice of the garden-radish. Or take the mummy in the summer, when it can be most plentifully had, and before it runs up to the flower, and having broken it well, had 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.



The an industrious midwife, who would be prepared against all events, ought to have always by her. As to the means 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 stone, held near the privities, whose magnetic virtue renders it exceedingly necessary in this occasion, for it draws the child any way, with the same facility that the lodestone 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 see in death that part of the after-birth is left behind in the body (for in such cases as these, every time, it rots, and comes away piece-meal), let her continue drinking the same decoction till her body be cleansed.

A decoction made of the herb mustowort, used as you did the decoction of hyssop, works the same effect. Let the midwife also take roots of polichon, and stamp them well; wash 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 magnetic faculty; but in this case

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they must be stronger, because the motion of the child ceases.

Take saffron, round hirkwort, trachelis of myrrh, chosen roots, camomile, saffron, each half a drachm; make a powder, give a drachm.

Or take may purge first, and then apply an excellent, anointing her about the womb with oil of lilias, sweet almonds, camomile, hen and goose-grass. Also foment, to get out the child, with a decoction of mercury, orris, wildewort-herb, anise, broom flowers. Then anoint the privities and loins with ointment of new-bread. Or, take soliquantula, agaric, hirkwort, of each a drachm; make a powder; add an ounce of dissolved in wine, or gill, each two drachms; with oil of hellebore make an ointment. Or this preserye:

Take hirkwort, orris, black hellebore, soliquantula, myrrh, each a drachm; powdered anemone dissolved in wine, or gill, each two drachms. Or take a fume with an ounce of leaf herra, or gill anise, or water, and let it be taken in with a funnel.

To take away pain, and streng her the parts, foment with the decoction of sage-wort, rullow, mercury, with wood myrrh, St. John's wort, each half an ounce, squawke two drachms, deer's root an ounce; with wine make an ointment. Or,

Take wax six ounces, spemardell an ounce; melt them, dip her thence, 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.

CHAP. VI.

Of Unnatural Labour.

In showing the story 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 woman do being 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 ordains, 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 appear first, or

and I have not in a straight line, it is a more difficult birth, even though the child is first. Therefore, if the child comes first, and, or with the assistance, it is contrary to nature, &c. to speak more fully, which I will consider.

There are four general ways a child may prevent itself. 1. When any of the low parts of the body prevent themselves. 2. When, by transportation, any of the higher parts of a body first present themselves. 3. When the arms, or the feet, or the hands of the wife, or, & the feet prevent themselves. To these the different causes are that a child can prevent itself from coming.

How to deliver a Woman of a Dead Child, by Manual Operation.

If manual operation is necessary, let the woman be against the woman of the absolute necessity for such an operation; and if the child has already lost its life, there is no more left for the saving of her life, or her health, for her encouragement. It is not, with the divine blessing, to be done; and that the pain of the operation will not be so great as she fears. To stir up the woman's pains by gentle manual operation, to excite her throes

we must gently put it back, and be hath liberty to introduce his hand quite into the wound, then sliding it along, to draw 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 putrid, the operator needs not be so careful 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 wound, 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 as 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 so often, 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 liquor; he must therefore take a proper instrument, and put it up as far as he can, without violence, between the wound 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





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The breast gently put in back, and be both liber-
 ally an intention be hand quite into the work;
 Then sliding it along, to find the best, let her
 draw it back by them, being very careful to
 keep the head from being locked into the per-
 sone, and that it be not separated from the
 body, which may be effected the more easily,
 because the child being very rotten and putri-
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 keep the breast and face downwards as he is in
 living births. But if, notwithstanding all these
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 it cannot well be put back, it is better to draw
 it out, and then to prevent the women too
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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 when it is well fixed in the head, he may thoroughly draw it forth, keeping the ends of the fingers of his left hand fast upon the opposite side, the better to help to disengage it, and by waggling 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 stirred, to finish the operation, being careful not to pluck the umbilical too hard, but to 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 got back, it is then (being first well secured the child is dead) best to take it off by the shoulder-pole, by tearing 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 finish the child by the feet and bring it away.

But although the operator be sure the child

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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 unusual 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 mothers are very often obliged, because of the awkward situation, 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 smearing the passage with oil or hog's grease, to endeavour to draw it by degrees, using her fingers to this purpose, spreading them each 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 paired, 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, feeling the child's feet, let her draw it forth in the manner I shall presently shew; 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 posture it comes: for, by that means, she

will soon come to know where to find the other, which, as soon as she knows and feels, 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 most dangerous nature, for she may sooner split both mother and child, than draw them forth; but this may be easily prevented, if she has slide the hand up by the first leg and thigh to the waist, 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 both in this manner; taking the inward hold of the arms and thighs, as soon as she can come at them, drawing them up till the legs come forth. While this is doing, let her always be wrap the parts in a single cloth, that so her hands, being always greasy, slide not on the mother's body, which is very slippery, because of the various 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: but, if they should be upwards, there would be some danger of its being stopped by the ribs, near the shoulders; 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 as 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 have no turn, desiring the woman at the same time to bow down, that notwithstanding, 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 separates not the body from the head, as I have known it done by the midwife,) discharging it by little and little from the hollow of the passage with the fingers of each hand, sliding them on each side opposite the other, sometimes above, and sometimes under, till the work be ended; endeavouring to dispatch it as soon as possible, lest the child be suffocated, as it will unavoidably be, if it remain long in that posture; and this

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being well and carefully reflected, she may soon after detach away the afterbirth, 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 happens to be dead, it is sometimes so petrified and congeal'd, that with the best 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 several are two or three days practitioners of midwifery have, one after the other, left the operation unaccomplish'd, as not able to effect it, after the utmost industry, skill and strength; so that the woman, not being able to be deliver'd, perishes. To prevent which fatal accident, let the following operation be observ'd.

When the infant's head separates from the body, and is left alone behind, whether through petrification or otherwise, let the operator immediately, without any delay, while the womb

is well open, direct up his right hand to the mouth of the head (for an other hole can thro' the back), and having found it, let him put one or two of his fingers into it, and the thumb under the chin; then let him draw it by little and little, holding it by the jaws; but if that fails, as sometimes it will, when pinched, 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 *proctat*, 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 *h*, for fear of hurting the words; 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 as 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 discharge it.

There is also another method, with more ease and less hardship; thus the former: let the operator take a silk fillet or lincos silk, of about

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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 he himself put it up with his right as that it may be beyond the head, to observe it as a thing such a stone, and afterwards draw forth the fillet by the two ends together; it will then be easily drawn forth, the fillet not blocking the last passage, because it takes up little or no space.

When the head is etched 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-blood, 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 machined 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 swells while it is retained in it, and cannot be closed till the strange body be voided, and this it doth by contracting and compressing itself together, as has been more fully before explained.

Then, the after-birth remaining that

staring to the womb during the operation prevents it from receiving easily either bruise or hurt.

ERR. IV. How to deliver a Woman when the Child's Head is presented to the Birth.

THERE are some who 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 so 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, but the child should advance farther into the 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, raising her to lean a little upon the right side to the child's O

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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 fingers of the other hand put forward the child's birth, as in natural labour.

Some children present their face first, owing their heads 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 last appear most red, which is occasioned so 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 Swelling will wear away in three or four days' time, by anointing it often with oil of sweet almonds. To deliver the birth, the same way must be

be used as in the former, when
rest with the a. l. c. *concomitant*
midwife or operator would be
as much as possible the

SECT. V. How to Hold

Child presents the
the Head.

Encourage the child to
part together with his head,
it is usually with one or both of
the hands the being, the
up part of that part, *concomitant*
for the head alone, *concomitant*
they generally *concomitant*
a day, and therefore *concomitant*
style *concomitant*. Thus,
Thus, the first thing to be
curved, *concomitant*
ness, *concomitant*
therefore if a operator *concomitant*
on the bed, with *concomitant*
most gentle will put *concomitant*
with his own as much as
them, if they both *concomitant*
the child's head, and the
head be as *concomitant*
as natural posture, *concomitant*
say, that it may *concomitant*

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might a Nete raised above low level, and (which situation might also to be observed when the child is to be put back into the womb), let the middle of the forehead of the child by the feet, and draw it forth, as is directed in the second section.

This alone, though somewhat troublesome, yet is much better than when the child presents only by the head; for then the child must be quite turned round before it can be drawn forth; but as 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 wonder there are many authors that have written of Libanus, who would have all wrong births reduced to a natural figure; which is, to turn it then 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 whenever a child presents itself wrong to the birth, in what posture soever, from the shoulders to the feet, it is the

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Fetus in situ, showing the position of the fetus in the uterus.

best way, and easiest done, is 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 assistance necessary to be used in turning the child on the womb, do so much weaken both the mother and the child, that there remains not afterwards strength enough to contend the operation to the work of nature; for, usually, the woman hath no more throes or pains fit for labour after she has been 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 insensibly by the feet; and to let 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; Let

It is not an unnatural labour truly 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 it much more so when there are several, and render it not only more painful to the mother and children, but to the operator also; for they often trouble each other, and hinder both their births. Besides what, the womb is so filled with them, that the operator can hardly move his hand without much violence, which he must do, if they are to be turned or thrust back to give them a better position.

When a woman is pregnant with two children, they rarely present to the birth together, the one being generally more forward than the other; and that is the reason that but one is felt, and that many times the midwife knows not 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, preventing them selves both right, and therefore, before I show the manner of unnatural labours, 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 its death than likelihood of its coming out of the womb that way.

But if, when the first is born naturally, the second should likewise offer its head to the birth, it would 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 thrust 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 nature of this second child be not broken, as it often hap-

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eye and flight up to the wrist, he finds they
 both belong to one body; of which being thus
 assured, he may begin to draw forth the near-
 est, without regarding which is the strongest
 or weakest, bigger or less, being as dead, hav-
 ing first put aside that part of the stone which
 which offers to have the more way, and so dis-
 patch the first as soon as may be, observing the
 same rule as if there were but one, that is, keep-
 ing the breast and face downwards, with every
 circumstance directed in that action when the
 stone comes with its foot-flat, and not fetch the
 burden till the second stone is down. And
 therefore, when the operator hath drawn back
 one stone, he must separate from the burden,
 having tied and cut the cord-strings, and then
 fetch the other by the flat in the same manner,
 and afterwards being away the after-burden
 with the two strings as hath been before show-
 ed. If the stones present any other part but
 the flat, the manner may follow the same me-
 thod as is directed in the foregoing section,
 without any other alteration, and the stones are fully
 to be drawn.



CHAP. VII.

RECIPIENTS FOR CHILD-BEARING WOMEN IN
THEIR LIE-IN-OUT.

RECI. I. *See 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 be the more easy 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 causes great pain.

Having thus placed her in bed, let her take a draught of burnt white wine, having a dashen of spiritus mellis thrown. The best variety of spiritus mellis is good for a woman in this condition, being it is what she either eats or drinks, bringing 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



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parts being greatly distended till the birth of the infant, it is good to encourage the perspiration of an infirmation time. Let there also be outwardly applied, all over the bottom of her abdomen and breasts, the following ointment and cataplasms: Take two ounces of oil of sweet almonds, and two or three new-laid eggs, yolks and whites, scurry them together in an earthen pipkin over hot embers, till they come to the consistency of a pudding; which being spread upon a cloth, must be applied to those parts, and frequently warm, having first taken away the cloaths (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 diminishes 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 obstructions, causes swelling in the womb, and hurts the nerves. As to her diet, let it be hot, and let her eat but a little at a time. Let her avoid daylight 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 colds, sadness, and trouble of mind.

If the womb be hot, which may be easily perceived by the torquity of the blood (which will then easily come away in clots or stinking, or if you suspect any of the after-burdens to be left behind, which may sometimes happen,) make her drink of herbaries, marrow, pennyroyal, and madder of thyrsus, boiled in white wine and sweetened with sugar.

Figs 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 use the cinnamon in all her meats and drinks, for it generally strengthens the womb.

Let her stir as little as may be, till after the 20th, 30th, or 40th 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 rigidor made only with the decoction of mallows and a little brown sugar.

When she hath laid in a week or more, let her use such things as close the womb, of which best grain and barley are very good; and to these you may add a little polyporus, for it will do her good, both loaves and roots being bruised.

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

I. The first common and usual accident that troubles women in their Lying-in, is acidity. They proceed from cold and wind contracted in the bowels, with which they are usually 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 excreta, contained as well in them as in the stomach, have been so constantly agitated from side to side during the time of labour, by the thrust 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 hives so 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.

I. Beat an egg soft, and pour out the yolk of it; wash which mix a spoonful of cinnamon water, and let her drink it; and if you mix in it two grains of aniseeds, it will be better;

and pet sweets taken in any thing she drinks, will be as effectual as the other.

3. Ours the lying-in woman, immediately after delivery, eat of sweet almonds and syrup of mullein-her mixed together. Some prefer oil of sweet-almonds, provided it be made of such that are very good; but it tastes worse than the other in kind. This will kindly dissolve the lochia by its viscosity, and by that means bring away that which is contained in them more easily.

4. Take and boil onions well in water, then steep 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 poultice made in walnut oil may be applied to it, without any thing too hot to stand. And for the better evacuating the wind out of the intestines, give her a slyster, which may be repeated as often as necessity requires.

5. Take hyacinthine, beat them to powder, put the powder upon a doublecloth of muslin, and let her receive the smoke of them up her privities.

6. Take tar and hen's grease, of each an equal quantity, beat them together, and whilst it is

boiling, add a little pepper's-pong to it. Spread some of this upon a linen cloth, and apply it to the soles of the feet of her that is troubled with after-pains, and it will give her speedy ease.

Lastly, Let her take half a drachm of bay-bowen beaten into a powder in a draught of muscad or tea.

II. Another accident to which women in child-bed are subject is the hæmorrhoids, 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 saphena vein.

2. Let her use polyposium in her meat and drink, brosed and laded.

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 scales, 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 cannot well be stool, let her take an ounce of cream thistle drawn at night going to bed; she needs no change of diet after.

III. Retention of the menses is another accident happening to women in child-bed; and which is of so dangerous a consequence, that, if

not timely remedied, it proves mortal. When this happens,

1. Let the woman take such medicines as strongly provoke the terms, such as dating, betony, pennyroyal, fennel-seed, nutmeg, juniper-berries, penny-roots.

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

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

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

5. Take twelve penny-roots, and beat them into a very fine powder, and let her drink them in a draught of hot sweeten posset, and let her meat after. And if this last medicine do not bring them down the first time she takes it, let her take so much more three hours after, and it will do it.

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

1. Take shepherds' purse, either beat it 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 pointes.

2. The flowers and leaves of Jewell-grass, or si-

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that of them, being dried and beaten into a powder, and a drachm of three 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 moderate burning of the uterus in women.

V. Emorrhages, bruises, and rents of the lower part of the womb are often cured by the violent detraction and separation of the four extraneous in a woman's labour. For the heating thereof,

As soon as the woman is left, if there be only simple contusions and excoriations, then let the emollient cataplasms, 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, be laid a little over warm rubies, continually stirring it till it is cooled, 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 curdling and clotting of the milk is another accident which happens to women on child-bed; for, in the beginning of child-bed,

the woman's milk is not purified, because of the great commotion her body suffered during her labours, which affected all the parts, and it is thus mixed with many humours. Now that it descends to the milk ducts, for the most part, proceeds 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 these cases remaining in the breast after evacuation, without being drawn, looses 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 coarsens, curdles, and acides, in like manner as we see rancid put into ordinary milk turn it into curds. The curdling of the milk may be also caused by having taken a green cold, and not keeping the breasts well covered.

But from what cause soever this curdling of the milk proceeds, the most certain remedy is, speedily to draw the breasts until it is milked and dried. But in regard that the infant, by reason of weakness, cannot draw enough, the woman being hard milked when her milk is curdled, 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

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must not each day as give, but little nourishment, and keep her body open.

But if the case be such, that the woman notwithstanding can not be a nurse, it is necessary to apply other remedies for the curing of this distemper: for thus it will be best not to draw the breasts: for that will be the way to bring more milk into them. For which purpose, it will be necessary to empty the body, by bleeding the arms: besides which, let the humours be drawn down by strong clysters and bleeding in the feet: nor will it be amiss to purge gently; and to digest, dissolve, and dissipate the curdled milk, apply a cataplasm of pure honey, or that of the bear breast dissolved in a decoction of sage, milk, meal, and flour, mixing with it oil of carraways, with which oil let the breasts be well anointed. The following Balsom is also good to scatter and dissipate the milk.

A Balsom to Scatter and Dissipate the Milk.

That the milk flowing back to the breasts may without offence be dissipated, you must use this ointment: Take pure wax two ounces, lavender half a pound; when the wax is melted, let the balsom be made, whose best choice must be dipped, and, according to their largeness, be laid upon the breasts; and so on it

shall be dispersed, and pain no more, let active linen cloths be dipped in the distilled water of scorns, and put them upon them."

Note. That the cloths dipped into distilled water of scorns 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 rise from abundance of milk, and therefore an inflammation, let her use the former ointment, but abstain from using the distilled water of scorns.

CHAP. VIII.

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

When the child's breathing hath been cut, according to the rules prescribed, let the nurse presently cleanse it from the excrescences, and thick mucus which she brings into the world with it; of which some are within the body, as the crabs in the bladder, and the excrescences found in the guts; and others without, which are thick, white, and runny, proceeding from the abundance of the waters. There are children sometimes nursed all over with fire, that one would think they were rubb'd over with soft

dyes, and some women use of so many a be-
 lief, that they really think it so, because they
 think some women wash their hair with oil.
 If you have occasion for the hair to be clean-
 ed with wine and water a little warmed, wash
 every part therewith, but chiefly the head,
 because of the hair, that on the sides of the
 crown, temples, and forehead; which parts
 must be gently washed with a linnen or a
 soft sponge dipped in lukewarm wine. If the
 dandruff or excoriation stand 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 tooth luster washed with
 water, and afterwards well dried off; also make
 tents of the rags, and wetting them in the
 liquor, draw the rags and tents; but for the
 forehead, wipe them only with a dry softing and
 dipping it into water, but it should be washed
 with wine.

The hair of the face should be washed, and shaved
 with a razor, and afterwards washed with
 water, and dried with a soft cloth.

The hair of the body should be washed with
 water, and dried with a soft cloth.

The hair of the feet should be washed with
 water, and dried with a soft cloth.

The hair of the hands should be washed with
 water, and dried with a soft cloth.

The hair of the arms should be washed with
 water, and dried with a soft cloth.

The hair of the legs should be washed with
 water, and dried with a soft cloth.

The hair of the feet should be washed with
 water, and dried with a soft cloth.

that all be right without, and that the outside of the body be cleaned, but she must chiefly observe whether it discharges the excrement contained within, and whether the passage be open; for some have been born without having had performed. Therefore, let her examine whether the vents of the arms and stool be clear, for want of which some have died, not being able to void their excrements, because truly care was not taken at first. As to the urine, all children, as well males as females, do void water as soon as they are born, if they can, especially if they feel the heat of the day, and sometimes also void the excrements, but not so soon as the urine. If the infant does not urinate 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 body. A sugar almond may be proper for this purpose, mounted over with a little beiled honey; or also a small piece of Castile-sap rubbed over with fresh butter; also give the child for this purpose a little syrup of rose or violet at the mouth, mixed with some oil of sweet almonds drawn without a lie, anointing the belly also with the same oil or fresh butter.

The vents being thus washed and cleaned the child, according to the before-mentioned directions, let her begin to suckle in such

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ing clothes, and when she dresses the head, let her put small rags behind the ears, to dry up the flux which usually engenders there, and so let her do also in the folds of the arms-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 her give them this caution, that they swathe not the child too tight 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 attended 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 rag 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 or set down, for it is necessary it should be thus swathed, 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 fours, as most other animals do.

CHAP. IX.

SECT. I. Of *Gripes and Pains in the Bowels of young Children.*

THIS I mention first, as it is often the first and most common disorder which happens to 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 maternal 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 disorders, causing gripes and pains; and not only because it is not so purged the blood with which it was nourished in the womb, but because the stomach and the intestines cannot make a good digestion, being accustomed to it. It is also caused sometimes by a rough

phlegm, and sometimes by worms, for physicians often, that worms have been found in children even in their mother's womb.

Care. If it proceed from the too sudden change of nourishment, the remedy must be to forbear giving the child suck for some days, but 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 increments or the intestines, which, by their long stay, increase these pains, give them at the mouth a little oil of sweet almond, and spray of rose; if it be worms, lay a cloth dipped in oil of wormwood, mixed with ox-gall upon the belly, or a small emulsion mixed with the powder of rue, wormwood, colocynth, alone, and the seeds of citrons incorporated with ox-gall and the powder of hyacinth. Or give it oil of sweet almonds, with sugar-candy, and a scruple of anniseed; it purges new-born babes from green stools and striking phlegm; and, if it be given with sugar-candy, it allays the griping pains of the belly. Also, anoint the belly with oil of lilac, or pearly stony, with oil of rosemary.

See, II. Of *Worms in scalybra Infants*.

WASTING is an accident that many children bring into the world along with them, and a



often occasioned by the labour of the mother; by the violence and length whereof they suffer at work, 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 fire be increased, 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 shake every part of its body well with warm cloths, to bring back its blood and spirits, which, being raised 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 becomes more body, its cry will become strong.

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

Average defect that new-born infants are liable to is, to have their fundaments closed up; by which they can never evacuate the new excrements impeded by the muck they suck, nor that which was arrested in their situation before birth, which is certainly mortal without a speedy remedy. There have been some female children who have had these fundaments quite closed, and yet have voided the excrements of the gate by an orifice, which nature, to supply that defect, had made within the neck of the womb.

Now, 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 arrested, which, if one touch with the finger, there is a softness like waxen, and thereabout it might 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 looks the closest, the opening is very easy,

and the children may do very well; for then an operation or opening may be made with a small incision—made, cross ways, that it may the better receive a round form, and that the place may not afterwards grow together, taking care not to perforate the sphincter or muscle of the rectum. The incision being thus made, the excoriation will certainly last some time. 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 face bent into the new-made fundament, which, at first, had been moistened with honey of rose, and towards the end, with a drying electuacium or ointment, such as sugar-milk album, or psyllium, observing to cleanse the bottom of the excoriation, and dry it again as soon and as often as it excoriates there, that so the aperture may be preserved from turning into a fistula, or ulcer.

But if the fundament be stopped up in such a manner, that neither milk nor appearance of it can be seen or felt, then if a operation is made, the same difficulty, and even when it is done, the danger is much greater, that the infant will not survive it. Thus if it be a female, and it needs facts in circumstances by the way I have mentioned before, it is better not to meddle, than by not venturing to remedy or to operate, run an extreme hazard of the child's death.

where the protrusion is easily suggested; and because the remedies applied cannot lodge there, being soon washed with spittle. But if it arise from too hot quality in the nurse's milk, care must be taken to temper and cool, providing her cool diet, bleeding and purging her also, if there be occasion.

Take lentils baked, powder them, and lay a little of them upon the child's gums. Or take Saffron flower half an ounce, and with oil of roses make a Salve. Also wash the child's mouth with barley and phlegm-water, and honey of roses, or syrup of dry roses, mixing with them a little vegetable of lemons, as well to loosen and cleanse the various humours which close to the inside of the child's mouth, as to cool those parts which are already swollen. This may be done by means of a small flax rag fastened to the end of a little stick, and dipped therein, whereby the sore may be gently rubbed, being careful not to put the child in too much pain, but an inflammation makes 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 warm, and the evacuations too long retained.

If the sores appear malignant, let each remedy be used to do their work speedily, that the

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evil qualities that arise from being thereby incessantly corrected, their malignity may be prevented; and in this case touch the sleeve with plain water, sharpened with the spirit of vinegar; 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 mucus with rhubarb.

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

THE brain in infants is very moist, and hath many excrements which cannot send out at the proper passage; they get often to the ears, and there cause pain, 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 consequence, because they may bring forth witchings and epilepsy; for the moisture breeds worms there, and loosens the spongy brain, and by degrees causes insensible deafness.

Cure. Apply the pain with movement speed, but have a care of using strong remedies. Sometimes only use warm milk about the ears, with the direction of poppy tops, or oil of violets; to take away the moisture, use honey of roses, and let aquaviva be dropped into the ears; or take very a honey, half an ounce; and mix two ounces; also, saffron, saffron, each a dram; mix them at the fire; or drop in tempered oil with a little more.

SECT. VI. Of Rubens, and Inflammation of the Buttocks, Groin, and the Thighs of a Young Child.

It shall be no care taken to change and wash the child's bed as soon as it is soiled with the excrement, and to keep the child very clean, the urinary will be gone to cause rubens, and begin a smarting in the buttocks, groin, and thighs of the child, which, by reason of the pain, will afterwards be subject to inflammation, which follow the same way, through the delivery and tenderness of their skin, from which the outward skin of the body is in a short time separated and worn away.

Cure. First, keep the child cleanly; and, secondly, take off the sharpness of its urine, as to keeping it cleanly, she must be a carry case that needs to be taught how to do it;

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for if she lets it have but dry, clean, and warm beds and cloths, as often and as soon as it has soiled and wet them, either by its urine or excrements, it will be sufficient. And in 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 washed with plain-water, with a fourth of lavender added to it, each time the child's excrements are wiped off; and if the pain be very great, let it only be detergent with like-water milk. The powder of a goat to dry it, or a little milk dust sowed upon the parts afterwards, may be proper enough, and is used by many women. Also, unguentum album, or diaper-plaster, spread upon a small piece of leather, in form of a plaster, will not be amiss.

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



SECT. VII. *Of Feeding in young Children.*

Feeding in children proceeds sometimes too much with milk, and sometimes from too much, and is often from a milk which is almost as dryness retains, as if it were a gale, for the most part, and is not very nutritious; and they that are fed with such milk, are the least; for the milk is not very sweet, and milk being the best food for the young, and the most easily had, or the most easily digested. It is better to wean the child, than to feed him; but if weaning be not possible, or if the strength, or constitution be such, that wean must.

Cure. If this be found, which is called yellow, or green, or watery, was dissolved, and still continued, the child should not use the milk, as has been said, but should be fed with a mixture of strength, of which the quantity should be given, and the child should be fed with gruel, or with a mixture of gruel, or with some of the other, or with bread, or with bread dipped in milk, or with an ounce, of water,

with respect to the name, and the condition of the milk must be strictly observed: the name must be cautioned that she eat no green fruit, nor things of hard consistence. 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 mallows, myrrhine, 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, quince, myrtle, with a little assages diacoria. Also a clyster with oil of roses, myrtles, marsh-mallows, each two drachms; with oil of myrtle and wax make an ointment. Or take red roses and mallow, of each a handful; express roasts 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 evacuations white, give syrup of marsh-mallows and quince, with mint-water. Use outwardly mint, marsh-mallows; or take rose seeds an ounce, cummyn, white seed, each two drachms; with oil of marsh-mallows, and wax, make an ointment.



FIG. 3. Of the Falling and Convulsion in Children.

THIS is a distemper that is often fatal to young children, and frequently proceeds from the brain, so when the humours that cause it are bred in the brain, originating either from the parents, or from vapours or bad humours that touch the membranes of the brain: it is also sometimes raised by other distempers, and by bad diet: likewise the toothache, when the brain swells, causes it, and so does a sudden fright. As to the distemper itself, it is manifested 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 tooth; if these are all absent, it is certain that the brain is first affected; if it comes from the swelling or swelling, it ceases when they cease 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 penny roots, gathered in the decrease of the moon, a scruple; with leaf gold make a powder; take penny roots a drachm; penny roots, malice of the oak, silk's heads, man's skull, water, each a scruple; musk, two

guine; 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, procure a vent; in 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 encreased and elk's hoof. In the fit, give scyloptic water, or lavender water, and rub with oil of amber, or hang a penny root, and elk's hoof macerated, 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 manner of the back, and fortitude of the nerves; it is a wild-born dancer, and often kills.

Wash the body, when in the fit, with decoction of sassa, hly roots, penny and camomile flowers, and anoint it with rose's and goss's grease, oil of warm, orris, lilac, fetus, turpentine, musk, storax, and colubint. The sunflower is also very good, boiled in water, to wash the child.



PROPER AND SAFE REMEDIES
FOR
CURING ALL THOSE DISTEMPERS
THAT ARE PROCEED
TO THE FEMALE SEX.

CHAP. 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 congeal-

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ruption, so if it be too much, it nourishes not the seed, but drowns with its heat and hides the conception. This preternatural heat is sometimes from the bath, and causes barrenness; but if it be accidental, it is from hot excess, 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, hard, or sharp; are subject to head-aches, and abound with choler; and when the distemper is strong upon them, they have but few terms, which are out of order, being bad and hard to flow, and in time they become hypochondriacal, and for the most part barren, leaving sometimes a frovy of the womb.

Cure. The remedy is to use coolers, so that they offend not the vessels that meet upon the flux of the terms. Therefore, take the following inwardly, saffron, saffron, saffron, water hyacinth, sweet, lettuce, cucumber, and sprays and conserve made thereof. Also take conserve of saffron, violet, water lily, burrage, such as quince, conserve of roses, half an ounce, dispartion eight, fractional, each half a denier; and with syrup of violet, or juice of citrons, make an electary. For outward applications, make use of ointment of roses, six-



lets, water lilies, gourd, rancid marrow, applied to the back and loins.

Let the air be cool, her garments thin, and her food mild, lettuce, maccary, 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 please.

Spec. II. Of the Cold Distemper of the Womb.

This distemper is the reverse of the foregoing, and equally as strong in generation, being caused by a cold quality obstructing to excess, and proceeds from a too cold air, rest, slothness, and cooling medicines. The terms are phlegmatic, thick, and stony, and do not flow as they should; the womb is windy, and the seed crude and watery. It is the cause of sterility, and barrenness, and hard to be cured.

Cure. Take galingal, cinnamon, nutmeg, mace, cloves, each two drachms; ginger, mella, madow, nutmegs, each an ounce; grains of paradise, long pepper, each half an ounce; heat three, and put them into a quart of wine for eight days; then add sage, wild, bala, motherwort, of each three handfuls: let them stand eight days more, then pour off the wine, and heat the herbs and theriaca, and then pour off the wine again, and distil them. Or you may use this: take cinnamon, nutmeg, cloves,

more grapes, cubeba, cardamom, grains of paradise, each an ounce and a half; galbani an drachm, long pepper half an ounce, reddest fine drachms, beava three, and add six quarts of wine; put them on a slow fire, daily stirring them; then add of mint two handfals, and let them stand fourteen days; pour off the wine, and bruise them, and then pour on the wine again, and distil them. Abatement with oil of rose, rose, myrtle, bay, cinnamon, cloves, mace, and nutmeg. Let her diet and air be warm, her meat of easy concoction, seasoned with onion, fennel, and thyme; and let her avoid raw fruits and milk diet.

SECT. III. *Of the Influxion of the Wind.*

THE Influxion of the Wind is a stretching of it by wind, called by some a windy male; the wind proceeds from a cold matter, whether thick or thin, condensed in the veins of the womb, by which the heat thereof is obscured, and which either flows thither from other parts, or is gathered there by cold meats and drinks. Cold air may be a producing cause of it also, as women that lie-in are exposed to it. The wind is contained either in the cavity of the veins of the womb, or between the muscles, and may be known by a swelling in the region of the womb, which sometimes extends to the navel, legs,



and diaphragm, and then and slides on the wind upwards or downwards. 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 signs be wanting, they may suspect it to be an inflation, which is this in a farther degree, that no conception the swelling is irreducible; 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 maile, because in it as there is a weight and heaviness in the abdomen, and when the patient moves from one side to the other she feels a great weight which moves; but not so in this. If the inflation continues without the eury 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 not her 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 chalybeate, with a little castor, and draw a Clyster that expel wind. If this distemper happens to a woman in travail, let her not purge with diffidence, 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 spleen vein be opened; after which, let her take the following electuary: take ounces of honey and rosemary, of each an ounce and a half; crushed stigmas, citra ped. maculat, each half an ounce; diacoria, digested, each a drachm; all dissolved six drops, and with syrup of citrons make an electuary. For external application make a cataplasme of rue, rue-wort, camomile, dill, calament, new pennywort, thyme, with oil of rue, helle, and camomile. And let the following distillate, to expel wind, be put into the womb; take sugar castor, crocusmas, each two drachms, boil them in wine to half a pint. She may likewise use sulphur, both and Spa waters, both inward and outward, because they expel wind.

SECT. IV. *Of the Structure of the Womb and its Vessels.*

THIS is another effect of the womb, which is a very great obstruction to the breeding of children, by closing both the flow of the veins and conception, and is rooted in the vessels of the womb, and the neck thereof. The causes of this are reticulations 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



work that it never attends the humours, which, by reason thereof, either flow from the whole body, or are gathered into the wound. Now, the vessels are made smaller or closer several ways: sometimes by inflammation, ulcers, or other tumours; sometimes by compressions, scars, or by fish or mussels that grow after a wound. The signs by which this is known are, the stoppage of the terms, not coming, and redness attending in the hole, which are all shown by particular signs; for if there is a wound, or the vessels are pulled out by force, phlegm comes from the wound; if stoppage of the terms be from an old obstruction by tumours, 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 scissure, 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 if it must be let blood, as will be hereafter directed in the stoppage of the terms. There are the following medicines take of safford and French seed, each a drachm; rosemary, pennyroyal, culivient, luteous flowers, each an ounce; saffron, half a drachm, with wine. Or take virginian roots, parsley roots, each an ounce; pennyroyal, culivient, each a handful; wall-flowers, gillyflowers, each two

handful; boil, strain, and add syrup of marsh-malt an ounce and a half. For a fermentation, take pennyroyal, mace, cloves, nutmeg, rosemary, sage, two handfuls; eggs, Rosemary, Bay, camomile-flowers, each a handful; boil them in water, and ferment the green and bottom of the abdomen; or let her sit up to the neck in a bath, and then walk about the green with oil of rose, lavender, &c.

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

THIS is another evil effect of the wound, which is both very troublesome, and also an inducement to conception. Sometimes the womb falls into the middle of the thigh, nay, almost to the knee, and may be known then by its hanging out. Now, that which causes the womb to change its place is, that the ligaments, by which it is bound to the other parts, are not in order; for there are four ligaments, two above, broad and membranous, that come from the pubis, 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 loosened, and it falls down by its own weight. It is drawn on one side when the uterus are disordered from drawing, and the veins and arteries



we fall, namely, those that go to the womb. If it be a male on one side, the liver and spleen receive it; by the liver vein on the right side, and the spleen on the left, as they are more or less filled. Others are of opinion, it comes from the relaxation of the connection of the Glans rock 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 dropy could not be said to have the womb fall down, if it came only from looseness; but in them it is caused by the softness of the water, which does more than it contains. Now, if there be a little tumour, within or without the peritonæ, like a skin stretched, or a weight laid upon the peritonæ, it is nothing else but a descent of the womb; but if there be a tumour like a goose's eye, and a hole at the bottom, and there is at least a great pain in the parts to which the womb is fastened, as the liver, the bottom of the bladder, and the os uterum, 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 excrementa and urine are stopped, and there a fever and several circumstances, all of one proving mortal, especially if it happen to women with child.

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Cure. For the cure of this distemper, first put up the womb, before the air alters it, or it be swollen or indurated: and for this purpose give a Clyster to remove the excrementa, 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 if rest it so without violence; if it be swollen by alteration and cold, foment it with a decoction of mallow, albes, linn, flaxseed, ramanilla leaves, bay berries, and sweeten it with oil of linn, and hen's gress. 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 do not sprinkle upon it the powder of marsh, frankincense, and the like; thus, take frankincense, marsh, each two drachms; arsenic, steeped in milk, a drachm; musk, pomegranate leaves, asperula dracosis, 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 rust or sponge, and put it into the womb, dipped in sharp wine, or juice of roses, or by powder of musk, with gallium and belladonna. Apply also a ruyg's pessary, with a good linn, under the navel or paps, as to both Clitryes, and lay the Clyster to the back to take excrement, two ounces; sweet liquid, half an ounce; Opus. b, fructus.



roses, prick, hole, each two drachms; then with
 wax make a plaster; or, take leadenness, a
 drachm and a half; mastick, and for skarveness,
 each half a drachm; wood aloes, of rose, spike,
 each half a drachm; ash-coloured webbergs,
 four grains; wash, half a scruple; make two
 round plasters to be laid on on both sides of the
 neck; make a lane of small' skin pulled, or
 of paper, and let it be taken in by the throat.
 Use also astringent fumigations of laurele
 leaves, plantain, horse tail, myrtle, each two
 handfuls; worm-wood, two handfuls; goose
 graze flowers, half an ounce; boil them in
 wine and water. For an injection take com-
 ley root an ounce, prepare with, two drachms;
 yarrow, magnet, each half an ounce; boil them
 in red wine, and inject with a syringe. To
 strengthen the womb, take lavender, baye, of
 each a drachm; myrrh, half a drachm; make
 a powder for two doses, and give it with sheep
 piss. Or, you may take ashwey, pimperneck,
 crab's eyes prepared, each a drachm; mace,
 half a drachm; and give a drachm in powder;
 but no receipt must be used with great success,
 but by attending the nature, a worse method
 follow. To keep it in its place, make rollers
 and ligatures as for a rupture; and put your
 fingers into the bottom of the womb, that may
 force it to remain. Let the diet be such as has
 astring, astringent, and giving qualities; as,

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such, quinces, pears, and green plums; but let the summer fruits be avoided; and let her wine be stringent and red.

CHAP. II.

OF THE STATE RELATIVE TO WOMEN'S MONTHLY COURSE.

SECT. I. Of Women's Monthly Course in General.

THAT divine Providence, which, with a wisdom peculiar to itself has appointed women to conceive, and to bear and bring forth children, has provided for the nourishment of children during their sojourn 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 humors called *menstrua* and *menes*, from their monthly flux of excrementitious and expulsi- ble blood. Now, that the matter flowing forth is excrementitious, it is to be understood only with respect to the redundancy and superfluousness, being an excrement only with respect to its quantity; for as to its quality, it is as pure and uncorrupt as any blood in the veins; and this appears even the final issue of it,

which is the propagation and conservation of mankind; and also from the generation of it, being the superfluity of the last element of the fleshy parts. If any ask, if the menses be not of a hurtful quality, how can they cause such tremendous effects? If they fall upon trees and herbs, they make one barren, and mostly the other. I answer, this malignity is contained in the womb; for the woman wanting active heat to digest the superfluity, sends it to the matrix, where sitting itself till the month of the womb be dilated, it becomes corrupt and acidified; which may easily be, considering the heat and moistness of the place; and as the blood being out of its proper vessels, offends in quality.

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

HARMS, in the former part of this work, treated of the suppression and overflow of the monthly terms, I shall suggest 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 civility; 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 depressed excretion, and flowing sometimes twice a month, the cause is in the blood, which wires up the expulsive faculty of the womb, or also 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 passions themselves too hot relate. If it be from heat, this red sharp humourous, it is known by the distemper of the whole body. The increase 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 thus succeed. If it proceed from the retentive faculty, and looseness of the vessels, it is to be corrected with gentle acrimony.



As to the courses flowing after the usual time, the crassness and thickness of the blood and the smallness of its quantity, with the swiftness of the passage, and the weakness of the expulsive faculty. 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 courses 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 easy 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 calomel, and indeed the officer also purges the ladies. She may also use Rhenus and peruvian, apply sucking-glasses without scarification to the inside of the thighs, and rub the legs and anodyne the arctes, 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 venas.

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Remedies for Disorders in Women's Paps.

Make a mixture of bees' meal and salad oil, and lay it to the place affected. Gravel with the juice of poplaris. This must be done when the paps are very sore.

If the paps be hard and swollen, take a handful of rue, colwort 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.

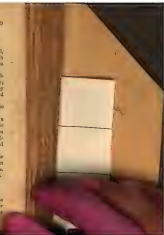
If the nipple be stiff and sore, anoint twice a day with Florence oil till healed.

If the paps be flabby and hanging, brode a little henlock, and apply it to the breast for three days; but let it not stand above seven hours. Or, which is safer, rose juice well boiled, with a little muscus added thereto, and anoint.

If the paps be hard and dead, make a plaste of lead pretty thin, to narrow the breast; let this stand seven hours each day, for three days. Or sometimes brushed, and used in like manner.

Receipt for Preserving Milk.

Draw ayrd, drawn as tea, for twenty-one days. Or set unseasoned. Also the juice of amber vine, a glassful once a day for seven days, is



very good, for it quickens the memory, strengthens the body, and causes 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 by the left arm removes long-continued pains and headaches. It is also good for those who have gut 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 Sowers.

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

Bleeding may be performed from the month of March to November. No bleeding is De-

center, January, or February, unless an occasion require it. The months of March, April, and November are the three chief months of the year for bleeding in; but it may be performed with safety from the 5th of March to the 15th of November.

To prevent the dangers that may arise from the unskillful drawing of blood, let none open a vein but a person of experience and prudence. There are three sorts of people you must not let draw blood: first, ignorant and inexperienced pretensors. Secondly, those who have had tight and treacherous hands, whether skilled or unskilled. For when the hand trembles, the lancet is apt to startle from the vein, and the flesh is thereby damaged, which may hurt, curdle, 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 unskilled may cut an artery, to the great damage of the patient. Besides, what is still worse, these pretended bleeders, who take it up at their own hand, generally keep unskilful and rusty lancets, which will prove harmful 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 at once as he sees the patient, and he can give you suitable advice concerning your disorder.

FORM OF A MALE CHILD IN THE UTERUS.



EXPLANATION.

A The uterus, as situated to near its full extent, containing the fetus extended in the axis.—**B B**. The superior part of the ovarium.—**C C**. The ovaries.—**D D**. The remaining posterior parts of the ovar follicles.—**E**. The corpus.—**F**. The inferior part of the system.—**G G**. The vagina situated to its full extent.—**H**. The uterus, situated to its full extent.—**I I**. Part of the umbilical cord.—**K K**. The placenta at the superior and posterior parts of the uterus.—**L**. The Membranes.—**M**. The foetal membrane.

ARISTOTLE'S BOOK OF PROBLEMS,

WITH NOTES

ANATOMICAL, METEOROLOGICAL, AND PHYSICAL,

CONCERNING

THE STATE OF MAN'S BODY.

Q. Among all living creatures, why hath man only his countenance filled 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 best work worst, 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 more 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 liv-

ing creature, is ordained to the Kingdom of heaven, and therefore hath his forehead and Ears up to heaven, because that, despising earthly and worldly things, he ought often to contemplate on heavenly things. 4. That the reasonable man in his acts ought, and finally ordained towards God; and therefore he hath a figure looking upward. 5. Man is a man-eater, that is, a little world, and therefore he hath flesh consumed all other living creatures, and they obey him. 6. Naturally there is more every thing and every work that form and figure given which is fit and proper for its nature; as unto the heavens roundness, to the tree a pyramidal 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 humors by the passing 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 use 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 hairs are nourished with bones, as dogs, but they

cannot digest without oil or hair, but cold them unperfected, being too hot for nourishment.

Q. It is answered, that the brain is purged in three different ways, of superfluous watery humours by the eyes, of choler by the nose, and of phlegm by the hair, which is the opinion of the best physicians.

Q. Why have men longer hair on their heads than any other living creatures? **A.** Arist. de Generat. Anim. says, that men have the moistest 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 hot, 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 so in man, unless by a scar or wound.

Q. Why have women longer hair than men? **A.** 1. Because women are colder 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,



softness, 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 abound, 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 soft, and some grey; therefore the hair which grows out of a thick gross skin, is thick and gross; that which growth out of a subtile and delicate 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 closed, 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 staid, by reason of their coldness. 2. Because for the most part, the hair of men have harder and thicker hair than others, by reason of their heat, and because their pores are always open, and therefore they have harder matter than others. For this reason also, those beards which have hard hair are the best, because such have proceeded from heat and choice, examples of which we have in

the hair and hair; and sometimes, those heads that have soft hair are foolish, because they are cold, as the hair and the head. 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 aliveness 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, so men have the mouth of the bladder in that place, where the urine is excreted, of which the hair is the breast is engendered, and especially that about the neck. But in women, as general, it is said, not the humidity of the bladder and of the matrix, or womb, is joined, and nourish in that part, north place, and therefore is the hair

ed 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 lentz, which is the case with some effeminate men, who are beardless from the same cause, and have complexion like women.

Q. Why doth the hair grow on those who are hang'd? A. Because their bodies are exposed to the sun, which by its heat doth dissolve all moisture into the face or vapour of which the hair doth grow.

Q. Why is the hair of the beard thicker and grayer 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 humour and excrement, which are the matter and cause of the hair of the body, is expelled with their monthly courses, which excrement,

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remaining in men, through exposed parts is in hair.

Q. Why doth man, above all other creatures, see 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 quickened by the heat of the heart; and thereby there might be a temperance in both. A proof of this is, that of all living creatures man hath the most hoary 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 it is then repaired ascending from the stomach warmer and purer and unconsumed for want of natural heat, and thus partly, of which participation all knowers the whiteness doth follow which is called grayness or hoariness. Whence it doth appear, that hoariness is a nothing else but a whiteness of hairs caused



by a petrification of the humours about the roots of the hair, through the want of natural heat in old age. Sometimes all greyness is raised by the roughness of the complexion, which may happen in youth; sometimes through one grow first and rare, as appears in wrinkles, scales, and thorns.

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 humid matter, that is of matter corrupted with the fumes of the woman; and therefore it wears white sooner than any other.

Q. Why do wolves grow gray? A. To understand this question, note the difference between greyness and griseness: greyness is raised through defect of natural heat, but griseness through decaying and heat. The wolf being a devouring animal hunt, he eateth gluttously without chewing, and enough at once for three days; in consequence of which, gross vapours are engendered in the wolf's body, which cause griseness. Greyness and griseness have the difference, greyness is only in the head, but griseness all over the body.

Q. Why do horses grow gray and grey? A. Because they are for the most part in the sun, and heat naturally causes petrification;

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Therefore the matter of hair doth partly, and in consequence they are quickly parted.

Q. Why do men become bald, and thus let fall their locks in winter? A. The want of moisture is the cause of both, which is parted by man's becoming cold through winter, because by that he lets forth his natural humidity without; and by that comes to natural pleasure the moisture is consumed which is the nutriment of the hair. Thus, men and women do not get bald, because they do not part from this moisture; and therefore men and women 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 renourish; for moisture doth give nutriment to the hair, and coldness doth let it pass.

Q. Why are not blind men naturally bald? A. Because the eye doth nourish it, and that moisture which should pass through by the substance of the eye doth become a sufficient nutriment for the hair, and therefore they are seldom bald.

Q. Why doth the hair stand on end when men are afraid? A. Because in time of fear the heat doth go from the outward parts of the body into the inward to help the heart, and so the pores in which the hair is fastened are shut up; after which stopping and shutting up of

the press, the standing up of the hair doth K. I. live.

Of the Head.

Q. Why is a man's head round? **A.** Because it contains in it the mostest parts of the living creature; and also that the brain may be defended thereby, as with a shield.

Q. Why is the head not exactly (ly long, but somewhat round? **A.** To the end that the three senses and parts of the brain might the better be distinguished: that is, the sense in the forehead, the discerning or reasonal part in the middle, and memory in the hindermost part.

Q. Why doth a man lift up his head towards the heaven when he doth imagine? **A.** Because the imagination is the fore part of the head or brain, and therefore is lifted up itself, that the vessels or cells of the imagination may be opened, and that the spirits which help the imagination, and use fit for that purpose, having their entrance thither, may help therein a greater.

Q. Why doth a man, when he travaith or thinketh of things past, look towards the earth? **A.** Because the cell or vessel which is belongeth to the earth or chamber of the memory; and therefore that belongeth towards the heavens

when the head is bowed down, and so that soil is open, to the end that the spirits which perfect the memory should serve us.

Q. Why is not the head dusky, like other parts of the body? A. Because the head would be too heavy, and would not stand steadily. Also, a head loaded with such humours as 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 narrow passs from the brain to the mouth of the stomach, and therefore these two parts do always be griped together.

Q. Why have women the headache oftner than men? A. By reason of their monthly course, which runs not unt troubled with; and by which a heat, motion, and venous flame is produced, that will pass up wards, and so cause 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 subtilized and thinned of all colours, which the white colour can best do, because it is most a style.

Q. Why are all the senses in the head? A. Because the brain is there, on which all the

arises depend, and are directed by it; and, consequently, it maketh all the spirits to feel, and governeth all the members.

Q. Why cannot a person escape death if the heart 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 man.

Q. Why is the brain moist? A. Because it may easily receive an impression, which is necessary to be done, as it appeareth it was, which doth easily receive the print of the soul 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 temper'd.

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 our eye, the other may remain.

Q. Why have children great eyes in their youth, which become small as they grow up? A. It proceedeth from the want of use, and from the accustoming and uniting together of the

light and humour; the eyes being lightened by the sun, which both lightens the rays humour thereof and purges them; and, in the absence of the sun, these humours become dark and black, and therefore not so good.

Q. Why does the blackish grey eye see better in the day time, and well in the night? A. Because greyness is light and shining of itself, and the spots with which we see are weakened in the day-time and strengthened in the night.

Q. Why are men's eyes of diverse colours? A. By reason of diversity of humours. The eye hath four coverings and three humours. The first covering is called *conjunctiva*, which is the outermost, strong and hot. The second is called a *horny skin* or covering, of the likeness of a horn, which is a clear covering. The third, *vein*, of the likeness of a black grape. The fourth is called a *colobum*. The first humour is called *aqueous*, from its likeness unto the white of an egg. The second *glazial*; that is, clear, like unto crystallum. The third, *serous*; 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? And why do such as behold the stars look through a truck with one eye? A.



The matter is hurried in the proportion as it is; and the reason is, as it hath appeared in The Book of Causes, because that every sense and strength united and knit together is stronger than when dispersed and separated. Therefore all the force of seeing disposed in two eyes, the one being shut, is gathered into the other; and as the Light is divided in two; 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 more tears? A. Because that while they drink and laugh without measure, the air which is drawn in doth not pass out through the windpipe, and so much force is directed and sent to the eyes, and by that power passing out, doth stir up the humour of the eyes; which humour being so excited brings tears.

Q. Why do such as weep much, urine but little? A. Because the natural humidity of a man and of urine are of one and the same nature; and therefore, when weeping doth increase, urine decreases. And that they need one nature is plain to the sense, because they are both salt.

Q. Why do some that have clear eyes see nothing? A. My reason of the application and neglectance of the senses with which we see; the two temples being destroyed, the strength

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of the light cannot be carried from the lens to the eye.

Q. Why is the eye clear and smooth? The glass? A. 1. Because the things which may be seen are better lenses 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 watery nature; and as the water is clear and smooth, as 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 that 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 Hens' whelps and dogs' whelps? A. Because such beasts are not yet of perfect ripeness and maturity, and the course of nature doth not work in them. Thus, the swallow, whelps,

If they were taken out when they are young in their youth, would grow in again. And thus 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 see glass? And why doth a bushick 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 bandkerchief; and, because the eyes are full of insensible holes, which are called pores, thence the air collecteth a passage and enters 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 unaltered 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 within. 2. The bushick is a very venomous and poisonous animal, and thence passeth 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 they cause death. And thus is also the reason why the bushick, be-

ing upon a shield perfectly well made with hot strong pitch, or any hard smooth thing, doth kill steel; because the humours are beaten back from the hard smooth thing unto the handle, by which beating back he is killed.

Q. Why is the sparkling in our eyes and wolves' eyes seen in the dark and not in the light? A. Because that the greater light doth darken the heart; and therefore in a greater light the sparkling cannot be seen; but the greater the darkness, the more it is seen, and is made more strong as I shew'd.

Q. Why is the sight revealed and rebolish'd by a green colour? A. Because green doth hardly move the sight, and therefore doth seem for it; but this doth not black nor white colours, because these colours do vehemently stir and stir the organs and instrument of the sight, and therefore make the greater violence; and by how much the more violent the thing is which is hit 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. I. Because the nose is, as it were, the sick of the brain, by which the phlegm of the brain is purged; and therefore is doth stand forth,



but the other parts should be dried. 2. For cause the nose is the honey of the face, and dries well.

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; you, some may here object.

Q. Why have vultures and mormons 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 the instrument; and, therefore, vultures, eagles, 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 Lungs. 2. Because the air which proceeds from the mouth doth ascend belly, because of the vapours which rise from the stomach, but that which we breathe from distance is not so heavy. 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 ρ should thereby be purged, and the humors, from an-

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perfection; because, as the lungs are purged by coughing, so is the brain by sneezing; and therefore physicians give sneezing medicines to purge the brain; and thus it is, such such 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 blood? A. Because the passages or ventricles of the brain are stopped; and if they could sneeze, their apoplexy would be cured.

Q. Why does the heat of the sun prevail sneezing, and not the heat of the fire? A. Because the heat of the sun doth dissolve, but not consume, and therefore the vapour dissolved is expelled by sneezing; but the heat of the fire doth dissolve and consume, and therefore doth rather hinder sneezing than prevail.

Of the Ear.

Q. Why do horses move their ears, and not men? A. Because there is a certain muscle near the malleus-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 see that muscle or fleshy sinew, and therefore do cover their ears.

Q. Why is man prognosticated by the prickling up of ass's ears? A. Because the ass is of a melancholic constitution, and the approach of rain produces that effect upon such a constitution. Is the time of man all beasts prick up their ears, but the ass before it comes.

Q. Why have some animals no ears. A. Nature gives each unto every thing that which is fit for it; but if she had given hardness, their flying would have been hindered by them. Larks want soft ears, because they would hinder their swimming, and have only certain holes 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 bats, 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 end 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, his ears incline towards the same figure; but the heads of beasts are somewhat long, and so the ears are drawn into a long likeness.

Q. Why hath nature given all living creatures eyes? A. 1. Because with them they should see. 2. Because by the eye children especially is purged; for as the head is purged of phlegmatic superfluity by the nose, so from children by the eye.

Of the Mouth.

Q. Why hath the mouth lips to compass it? A. Because the lips covered defend the teeth; for it would be dangerous 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 sight we see the difference of things.

Q. Why hath a man a mouth? A. 1. To taste the mouth is the gate or door of the stomach. 2. Because the meat is chewed in the mouth, and prepared as I made ready for the first digestion. 3. Because the air drawn into the belly of the mouth for the refreshing of the heart is made pure and subtle.

Q. Why are the lips movable? A. For the purpose of hearing the voice and words, which cannot be perfectly done without them.

Eye, as without a, b, c, there is no writing, so without the lips no voice can be well formed.

Q. What causes pain to jaws or jaws? A. It proceeds from the thick firm and vapourous fluid of the jaws; by the expansion of which is caused the stretching out and expansion of the jaws, and opening of the mouth.

Q. Why doth a man gasp when he awakes after sleeping too much? A. It proceeds from the imagination. And this is proved by the circumstance of the sea, who, by reason of his indolence, doth retain his asperity for a long time, and would rather not see 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 heat 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 fall, or be taken out, and other bones do

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ing when they grow no more? A. Because all other bones are organized of the humidity which is called redness, and so they breed in the womb of the mother; but the teeth are organized of another humidity, which is reserved and increased from day to day.

Q. Why do the fore-teeth fall in youth, and grow again, and not the other teeth? A. From the descent of matter, and from the dryness; 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 to fashion, which is fitted for that purpose.

Q. Why do the fore-teeth grow sooner? 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 absorption of phlegm, with a stinking humor.

Q. Why are children's teeth yellow, and of the colour of saffron, when they are young, and become white when they grow up? A. Because horses have abundance of watery humors in them, which in their youth are digested and converted into greenness; but in old age heat dominates, and the watery humors remain, whose proper colour is white.



Q. Why did nature give living creatures teeth? A. To come in light with, and for defence of their lives, as cats whiskers and hoofs; rats some in cut with, as rats knives; rats some for the forming of voice, as rats nose.

Q. Why do horned beasts want three upper teeth? A. Horns and teeth are caused by the same matter, that is, nutrimental luxuriantly, and therefore the matter which passeth into horns turneth not into teeth, consequently they want the upper teeth. And beasts want also milk therefore, to supply the want of teeth, they have two stomachs, from whence it comes, and they chew it once; then it goes into the other to be digested.

Q. Why are some creatures brought forth with teeth, as all kind lights; 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 nurtured 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. To cause the tongue in the veins whereby we taste, and through the vessels, in the pores of the

tongue, doth proceed the sense of tasting. Again, it is observed, that foody particles sent into the mouth by the tongue from the lungs, softening 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 humors; and choler is very bitter, as appears by the gall; therefore, this bitter humor doth infect their tongues; and so the tongue, being full of these notes, doth judge every thing bitter.

Q. Why doth the tongue water when we hear new and sharp things spoken of? A. Because the imagination retains no power is of greater force than the power and faculty of hearing; and when we imagine a taste, we increase the power of tasting as a man; there is nothing felt by the taste, but by means of the spirit the tongue doth water.

Q. Why do some persons stammer and slip? A. Sometimes through the weakness of the tongue and brain, as in children, who cannot speak plainly nor pronounce many letters. Sometimes it happeneth by reason of the striking of certain nerves which go to the tongue, which are corrupted with phlegm.

Q. Why are the tongues of serpents and mad dogs treacherous? A. Because of the malignity



and tenacity of the visciduous humour which predominates in them.

Q. Why is a dog's tongue good for medicines, and a horse's tongue pernicious? A. By reason of some secret property, or that the tongue of a dog is full of pores, and so doth draw and take away the viscosity of 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 continued moving of the tongue, whereby heat is expended, which doth make this superfluous white; this is seen in the bath of water.

Q. Why is spittle insensory 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 had an insipidness? A. Because it is well digested, and made white.

Q. Why do some abound in spittle more than others? A. This doth proceed of a plethoric complexion, which doth predominate in them, and such are liable to a quotidian ague, which arises from the predominance of phlegm; the contrary, in those that are thin, because

heat abroad in them, which causes the laxity of the spittle; and so the defect of spittle is a sign of heat.

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 root of the tongue, which, according to the physicians, is the seat of the phlegm.

Q. Why are heads when going together for conversation very full of foam and froth? A. Because then the lights and heart are in great motion of heat; 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 spiritus from being carried to the tongue.



Of the Scent of the Mankind.

Q. Why are fruits, before they are ripe, of a bitter or sour taste, and afterwards sweet? A. A sourness or taste proceeds from coldness and want of heat in gross and thick humors; 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, an 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 humors, and by this humidity sensibility is washed away; but a sharp or sour taste, by reason of the cold which predominates in it, does breed overmuch, and prick and offend the parts of the body in gurgling, 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 draw and draw, and therefore it is the cause of appetite.

Q. Why do we desire it more at than we

how far 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 boat is not suffocated so long as it continues with its lungs, in which some part of the air remains also.

Q. Why doth the air seem to be expelled and put forth, seeing the air is invisible, by reason of its variety and thickness? 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 looses. 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 fumes, 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 very parts of the body, as the lungs. The breath of lycens is so infected, that it would poison birds if near them, because the inward parts are very corrupt.

Q. Why are lycens hoarse?

A. Because the vocal instruments are corrupted, that is, the ligula.

Q. Why do persons become hoarse?

A. Because of the rheum descending from the brain along the conduct of the ligula; and sometimes



through impetuosity of the throat, or fibres 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 sweeter voice than a man? A. By reason of the composition of the veins the vocal arteries of voice are formed, as appears by this multitude, that a small pipe sounds shriller than a great. Also in women, because the passage where the voice is formed is made narrower and closer, by reason of cold, it being the nature of cold to hard; but in men, the passage is open and wider through heat, because it is the property of heat to open and dissolve. It proceeds in women through the moisture of the lungs, and weakness of the heat. Young and downward 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 vessels darkened and loosened; and this is proved by the multitude of the string of an instrument let down or loosed which give a great sound; and also because creatures that are gelded, as swine, sheep, &c. have softer and sweeter voices than others, by the want of their seeds.

Q. Why do small birds sing sweet and louder

then great ones, as appears in the lark and nightingale? *A.* Because the quills of small birds are white and soft, and the organs conduct air, as appears in a pipe; therefore their notes following easily at close they sing very soft.

Q. Why do bees, wasps, hornets, 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, causes 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, so the intent that by it and by its nerves, 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 ear-



poins and fishes? *A.* Because they want hearts, and therefore want that assistance which we have spoken of, as also they have a neck in some lateral part of them, which is not the unpaired coronary.

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 receives matter, 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 voracious, and therefore for strength have short necks; as apparatus in the ear, which has a short neck and strong.

Q. Why is the neck hollow, and especially below, 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 *Oesophagus* and the other is the wind pipe.

Q. Why is the artery made with rings and circles? *A.* The better to bow and give a good standing.

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 better and swifter work.

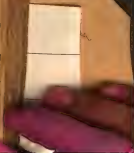
Q. Why are the arms thick? A. That they may be strong to lift and bear burdens, and thrust and give a strong blow; so their bones are thick, because they contain much marrow, so they would be easily corrupted and injured.

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 moisture and help to the aforesaid grief.

Q. Why have brutes 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 use



use of, because many things are done by the hands, and not by any other part.

Q. Why are men accustomed, 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 so master 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 pollex, or pullex, that is, to stand in strength.

Q. Why are the fingers of the right hand smaller than the fingers of the left? A. It proceeds from the heat that predominates in those parts, and renders great agility.

Of the Nails.

Q. From whence do nails proceed? A. Of the coronary and lunulars, which are nourished 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 thick

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and pale? *A.* Because the heat of the heart decaying, attracts 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 cheer well tempered; but if they be palish or black, they signify melancholy.

Q. Why do white spots appear in the milk? *A.* Through mixture of phlegm with the milk itself.

Of the Paps and Breasts.

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 woman being carried with child, 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 women, and above the breasts in men? *A.* Because women goes upright, and has two legs only; and therefore if her paps were below her breasts, they would hinder her going; but breasts having four feet parents that inconsistency.

Q. Why have not men as great paps and



breastless women? *A.* Because men have not monthly terms, and therefore have no vessel disposed for them.

Q. Whether are great, small, or milked-out paps best for children to suck? *A.* In great ones the best is disposed, and there is no good digestion of the milk; but in small ones the power and force is strong, because a vessel 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 14 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 are 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 covered 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 nourish'd, and consequently is weak.

Q. Why doth the hardness of the paps betoken the health of the child in the womb? *A.* Be-

cause the Lactææ are converted into milk, and that milk doth callidly nourish the child, and docerly strength is signified.

Q. Why are women's paps hard when they be with child, and soft at other times? A. Because they swell them, and are puff'd up; and the great venere 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 veins doth the milk of the paps come to the matrix or womb? A. There is a certain knitting and coupling of the paps with the womb, and there are certain veins which the midwives do cut in the time of the birth of the child, and by those veins the milk flows in at the nose of the child, and so it returns 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 runny, 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 flow-



are are red, of which it is engendered? *A.* Because blood which is well purged and uncoagulated becomes white, as apposite 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 now 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 nourishment abundantly engendered, there is much milk; because it is nothing else but that blood purged and dried.

Q. Why is not milk wholesome? *A.* 1. Because it mashes in the stomach, whereof as we had heard in beef. 2. Because the milk doth grow sour in the stomach, where all humours are bred, and infect the breath.

Q. Why is milk bad for such as have the hotheads? *A.* Because it is easily turned into great quantities, and hath much terrestrial substance in it, for which ascending doth cause the hotheads.

Q. Why is milk the 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-moats made of a new-milked cow good? *A.* Because milk of that

time is very spongy, except many lamellae, 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 phlogistic.

Q. Why have not birds and fish milk and eggs? A. Because eggs would hinder the flight of birds. And although fish have neither eggs nor milk, the females cast much spawn, which the male touches with a small gel, 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 rules 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 vertebrae? 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 backbone is 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 heart is broken, fish can live no longer.

Q. Why doth a man die soon after the marrow is lost 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 abundance 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 these 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 indiscretions, such as the dropsy, plague, &c.

Q. Why are the Jews much subject to the disease? A. Because they eat much phlegmatic and cold meats, which breed melancholy blood, which is purged with the flux. Another reason is, motion on one hand, and least digestion; but since Jews never move, labour, nor sweat much, such bleedings seldom come from them.

and blood's digestion, creating malnutritive blood, which is by this means purged out.

Of the Heart.

Q. Why are the lungs light, spongy, and full of holes? A. That these may be received into them for sucking the heart, and supplying 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 struck by blowing it out, so because the lungs draw the air to cool the heart, and cast it out, but 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 who do not drink at all, yet the filth and excrementous humours.

Q. Why is the head 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 middle of the planets, to give light to them all.

Q. Why only in man 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 five angulated, for the heart hath five and six lobes? A. Because the heart is the beginning and original of life, and without it no part can live. Four of the lobes are seated in the woman, there is angulated a little small vein, which compasses the neck, 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 hearts bold that have little hearts? A. Because in a little heart the heat is well mixed and vigorous, and the blood touching it, hath 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 bear? A. The heart is dispersed in such a one, and not able to heat the blood which cometh to it, by which means he is bold.

Q. How is it that the heart is continually moving? A. Because in it there is a certain

apert which is more subtle than air, and by reason of its thickness and refraction makes 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 throating and moving, resting, 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 shell cannot contain it, but pulls 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 such also upon an infant in the least part, by which means it is in continual motion; the first motion is called dilatation, that is, extending the breast or heart; the other apert, 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 its thick compact substance heart is strongly moved and quited. And because the heart with its heat should moderate the coldness of the breast, it is made of that the flesh up to keep a strong heat.

Q. How comes the heart to be the hottest part of all living creatures? A. It is so cause

parted 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 both mixes blood there spirital; which spirit is engendered to give life and vivify the body.

Q. Why is the heart long and sharp like a pointed?

A. The round figure hath an angle, therefore the heart is round, for fear any poison or harmful 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 nature at that capacity for it, as appears in worms and fish that have the backbone instead of the heart.

Q. Why does the heart beat in some creatures with the head is off, as in birds and hens?

A. Because the heart lives first and does last, and therefore lasts longer than other parts.

MEDICAL



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 veins 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 venous humour goes out of the stomach, that turns the heart and parts adjoining, that occasion 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, in 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 there, and breed ill humours, so that a man would never want agues, which humours are extracted and reformed, and not kill in any such corners, by the roundness of the stomach.

Q. How comes the stomach to be full of mucus? *A.* Because the stomach can be stretch-

and enlarged; and so is the stomach when it is full; but when empty it is drawn together; and therefore nature provides these means.

Q. How comes the stomach to digest? A. Because of the heat which is in it, and some 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 provides appetite.

Q. Why are we commonly cold after dinner? A. Because when the heat goes to the stomach to further digestion, and to the other parts, grows cold.

Q. Why is it harmful to study soon after dinner? A. Because when the heat labours to help the imagination in study, it ceases from digesting the food, which ceases 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 digester is in the bottom of the stomach, because the hot does not rise.

MEDICAL



such as eat fat meat are very sluggish, by reason that digestion is hindered.

Q. Why is all the body wrong, when the stomach is unwell? A. Because the stomach is knit with the brain, heart, and liver, which are the principal parts in man; and when it is not well the others are indisposed. Again, if the first digestion be hindered, the others are also hindered; for in the first digestion is the beginning of the inferiority 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 vitality; 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; so that 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 travail; for the first morsel, having made close the mouth of the stomach, doth provoke the appetite.



Q. Why do physicians prescribe that we should not eat too much at a time, but by little and little? A. Because when the stomach is full, the great duct opens in it, which is a dangerous thing. Another reason is, that a very green wood doth poison the liver, so much meat choakes the natural heat and puts it out; and therefore the best physic is to use temperance in eating and drinking.

Q. Why do we divers change of meats according to the change of times; as in winter, beef, pork, mutton; in summer, light meats, 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 hard digestion.

Q. Why should not the meat we eat be as hot as pepper and garlic? A. Because so hot meat doth inflame the blood, and changes it to a liquor; 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 harm the stomach, and inclines to often drinking; our meat doth the same; and over sweet meats do corrupts and chokes the veins together.

Q. Why is it a good custom to eat chives after meat, and pears after all meat? A. Because,

by reason of its sweetness and thickness it treadeth down towards the bottom of the stomach, and so patteth down the vent; and cleaveth like of poore. Note, that new cheese is better than old; and that old soft cheese is very bad, and causeth the headache and stopping of the liver: and the older the worse. Whosoof it is said, that cheese digreth all things but to-ill.

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 diverse 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, heaving, head-ache, belly-ache, and great thirst. It is very harmful too, at the same meale, to drink

wine and milk, because they are productive of Syphilis.

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 easier to digest. The stomach is like unto a pot which hath both 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 heating; therefore a light supper is best.

Of the Blood.

Q. Why is it necessary that every living thing hath both blood here also a liver? A. Because the blood is first made in the liver, its seat, being drawn from the stomach by certain principal veins, and so engendered.

Q. Why is the blood red? A. 1. It is like the part in which it is made, viz. the liver which is red. 2. It is likewise sweet, because it is well digested and rectified; but if it hath a bi-

the earthy matter mixed with it, that makes it somewhat salt.

Q. How is women's blood thicker than men's?

A. Their veins are thicker, looser, more open, and join 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 osesings; others, by a small skin in the bladder, which opens and lies in the urine. Urine is a certain and not doubtful 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 our nature 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 rasking wine.

Q. Why do physicians forbid us to labour

prevents acidities? A. 1. Because motion renders the virtue and power of digestion. 2. Because stirring immediately after dinner causes the different parts of the body to draw the heat to them, which often breeds sickness. 3. Because motion makes the food dissolved 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, raising the equality of the stomach to dissolved.

Q. Why is it wholesome to vomit? A. It purges the stomach of all noxious humours, repelling those, 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 flows inward, and helps digestion; but when awake, the heat returns, and is dispersed through the body.

Of the Gall and Spleen.

Q. How comes being creature to have a gall? A. Because choleric humours are received into it, which through their acidity helps the heat to assist appetencies, and it helps digestion.

Q. How comes the jaundice to proceed from the gall? A. The humour of the guts is bilious 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 grossly 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 Hippocrates? "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 spleen is, the spleen draws much melancholy to it, being its proper seat, the which melancholy proceeds from sadness, and is there retained, and the cause being, therefore doth so likewise. And by the same reason the gal-



esses anger, for children soon are often angry, because they have much gall.

Of Monsters.

Q. Doth nature make any monsters? A. She doth; if she did not, there 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 sheep-herd, would have burnt him with the cow; but Albertus, being wiser 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 fathers, some like their mothers, some to both, and some to neither? A. It is most of the father, whilſt

concerns that of the mother, the child doth resemble the father; but if the mother's predominance, 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 blackamoor; 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 skull in casting rods of divers colours into the water when he sleep went to rest.

Q. Why do children born in the eighth month for the most part die quickly; and why are they called the children of the month? A. Because the moon is a cold planet, which her darkness over the child, and therefore doth kindle 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, because the child's soft and tender body is wringed and put together coming out of the narrow and strait passages of the matrix; and especially, the breast being wet, and the head being pressed and



wrinkled together, in the case that some humour 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 new 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 roved, that it is capable of receiving shape and form.

Q. Doth the child in the womb void excrementary urines 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 umbil; therefore, makes no urine, but excreta, which is hot urine, and is received in a skin on the matrix, which at the birth is cast out.

Of Abortions and Prolonged Birth.

*Q. Why do women that eat unwholesome
meats easily miscarry? A. Because they breed
poisoned seed, which, the most aborting, doth
cast it out of the womb, as unfit for the most
solid shape which is adapted to receive the
seed.*

*Q. Why doth weeping or heaving cause the
casting of the child, as some foolish women do
on purpose? A. The vapour is burning, and
doth easily burst 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 on a time of joy a wo-
man 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 a sixth months? A. Because
the ligaments are stronger and well fastned.*

Of Diver Mammals.

Q. Why has not a man a tail like a horse?

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 spongy, receives great moisture into it, and more is drunken men than in sober; therefore the tongue, through when drinking, is full of red humours; and the faculty of tasting is rendered out of order; also, through the thickening of the taste itself, drink when by drunkards is not properly felt. And by this may be also understood why drunkards have not a perfect speech.

Q. Why have waterhogs bristles long ears? A. The ears proceed from a cold and dry substance, called a gristle, which is apt to become hard; and because waterhogs bristles 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 shut, 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 be nine days old? A. Because seeing them of another colour, they think they are of another kind.

Q. Why are sheep and pigeons wild? A. They want milk, the cause of anger.

Q. Why have birds their sinews inward? A. Because, if outward they would hinder their flying and lightness.

Q. How comes it that birds do not make water? A. Because that superfluous which would be converted into urine, is turned it to 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 exclude the vapours by night, but it doth in the day: therefore the noise is more fit than in the day; and the noise being fit, the hearing is better suited, which is said to be caused by a sound.

Q. For what reason doth a man laugh sooner when touched in the arm, or than in the other parts of the body? A. Because there is in that place a meeting of many sinews, and the more we touch, which is the flesh, is more subtle than in other parts, and therefore of less feeling. When a man is moderately and quietly

troubled them, 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. I. 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 appears, that such as eat and drink too much, do sleep much and long, because there is a 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 still dispersed and ill coloured? A. Because it is too much

sleep mucus is gathered together which cannot be consumed, and so it seeks even to go out through the superficial parts of the body, and especially it resorts to the face, and therefore in the case of bad colour, as appears in such as are phlegmatic, and who sleep more sleep than others.

Q. Why do some imagine in their sleep that they eat and drink sweet things? A. Because the phlegm flows up by the jaws with ducts and drops to the throat; and this phlegm is sweet after a sore throat, and that seems 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 does turn to the high parts of the body, then they think they are in the water and drowned; but when that substance drieth into the internal parts, then they think they escape. Another reason may be, somewhat vaporous and drinkiness; and therefore, when men are overmuch filled with meat, the dunes and vapours ascend and gather together, and they think they are drowned and strangled; but if they cannot ascend so high, then they seek to escape.

Q. May a man perceive a dream, by an external cause? A. It may be done. If a man

speak softly at another's ear and awake him not, that of the stirring of the spirits there are throbbings and beatings 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 *atra bila*, which is placed in the liver. The second is melancholy, called *atra bila*, whereof most 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 luscious; hath his hair for the most part smooth; is bold, retaineth that which he hath recovered; is shame-faced, given to music, a lover of science, kind, 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, courteous, given to keep up dishes, and are weak in the act of venery.

Q. What are the properties of a choleric man? A. He is soon angry, furious, and quarrelsome, given to war, pale-coloured, and un-

quiet, 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, anxious, his veins hidden, smokes little, and digests less, dreads cold and moist things, is sad, fearful, exceedingly covetous, and incontinent.

Q. What dreams do follow these complexions? A. Pleasant every dream do follow the sanguine; fearful dreams the melancholic; the violent 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 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 drought of blood, is an enemy to nourishment, and brings 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 chouse

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 secondarily from the brain; and these 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. Fewer the watery and gross humours are purged by the eyes, exclusively by the ears, colder 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 as a sudden? A. Such have very small and close veins, by reason of their fatness, so that the air and the blood can hardly have free course in them; and therefore the natural heat, wanting the refreshment of air, is put out, and as a vein, grieved.

Q. Why do galls and scabs grow where they

are gathered? *A.* It proceeds from the heat 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 cools sooner 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 meet water in a man's face when he sneezeth? *A.* Because that through the coldness of water the heat may run to the heart, and so give strength.

Q. Why are these waters hot and most delicious which run towards the sunny part? *A.* Because they are account of riches with themselves, and made purer and whiter, the sun heating 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 cold humors, are small and narrow: and therefore, receiving but little air, cause the voice to be effeminate.

Q. Wherefore doth it proceed that most of

sleep doth weaken the brain and the body? A. Much watching doth engender cholera, the which being hot doth dry up and lessen the humours which serve the brain, the head, and other parts of the body.

Q. Why doth vinegar so readily stanch 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 be crasser than 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 several heat is longer preserved in them than in cold countries.

Q. Why is well-water seldom or never good? A. All water which standeth still in the spring, and is never heated by the sun-beams, is very loamy, and hath much earthy matter in it; and therefore, wanting the heat of the sun, is unwholesome.

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 so that they smother the pap; now the heart, the fountain of life, being thus obscured and obscured with the lungs, cannot stirrains its own proper operation,

as being somewhat heated with the lungs lying upon it, and therefore wanting the refreshment of the air which the lungs do give it. The the blowing of a pair of bellows, is stroked and affected; 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 expand the cold.

Q. Why doth a drunken man think that all things about him do turn round? A. Because the spirits which govern the sight are mingled with vapours and fumes, arising from the liquors he has drunk; the vapours do heat round all the eye to be in continual motion; and the eye being round, account all things about it to seem to go round.

Q. Whence 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 heavy of itself, yet the salt draws 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 moisture, and



thick hot vapours, which do corrupt the blood; and hot bread is thicker than cold, because heat is the mother of blackness, and because the vapours are not gone out of it.

Q. Why do lettuce make a man sleep? A. Because they ascend gross vapours.

Q. Why do the drops of wine and oil go to the bottom, and those of honey swim yppositely? A. Because the drops of wine and oil are earthly, and if refuse go to the bottom; but honey is a liquid that cometh from the stomach and belly of the bee, and in there is some salt purified and made subtle; so which ascend the drops are most light and hot, and therefore go uppermost.

Q. Why do cats' and walves' 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 kinder 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 motion, and judging the same to be pleasant and delightful, therefore the imagination dothwith the like of it is moved, and stir up the body by the gesture.

Q. Why do some sleep more soundly than others? 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 consumes the phlegm and humors which it finds most ready and most at hand; and therefore we suffer hunger better than thirst, because the heat hath nothing to refresh itself with.

Q. Why doth the hair fall after a great sickness? A. Where the sickness is long, as in an ague, the humors 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 eyebrows are thin for want of heat, and therefore the hair doth grow dense, by reason of the thinness of the eyes.

Q. What is the reason of yawning? A. Of gross vapors, which occupy the nasal apertures of the head, and of the coldness of the brain, causing sleepiness.

Q. What is the reason that some flowers do open with the sun rising, and shut with the



setting? A. Cold cloth clean and short, as bath between, but the neck of the wet cloth open and enlarged. Some compare the arm to the head of the body; for as the arm grows like the head cloth grows like, and conceals all things; but not keeps it, warming and conveying all things.

Q. Why doth grief cause men to grow old and gray? A. Age is nothing else but dryness and want of humors of the body; grief then causes abstraction, and least dryness; age and grayness follow immediately.

Q. Why are gelded horses weaker than such as are not gelded? A. Because they have less heat, and by that means less force and strength.

THE IMBLES

OR

MARCUS ANTONIUS' EMBARRAS SAGACITATIVE,

Q. What is it esteemed, in the judgment of the most wise, the luckiest thing to lose a man's self? A. To lose nothing as to know.

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 will, 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 will.

Q. Why is a man, though endowed with reason, the most wretched of all living creatures?

A. Because only man is desirous of honour; and so it happens that every one endeavours to seem good, and yet naturally shuns labour, though he attains no virtue by it.

Q. Why is man the president 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 leaves their leaves in the middle of their branches, and man his lodging to the left side? A. To moderate the cold on that side.

Q. How come baby people to be more late

ful than any other? A. Because they are disposed to have great more of increments and need, as philosophy less need.

Q. What is the cause that the reflection of the matter, which appears to warm through itself and contraction, is more deepness than the denuding of the flowers? A. Because the more perfect an increment is, in its natural disposition, the worse it is when it is altered from that disposition, and down to the contrary quality, as is seen in vinegar, which is sharp 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 nature; for with them their superfluities go away, which would produce hair; and thereby the flesh is finer, consequently the more we are led to women than to men.

Q. What is the reason that when we think upon a horrible thing, we are stricken with fear? A. Because the context or imagination of things has force and nature. For that which, the force of things has some affinity with the things themselves; for the image and representation of cold and heat is such as the sense of things see. Or it is, because when we con-

perceiv'd any dreadful matter, the blood runneth to the internal parts, and therefore the external parts are cold, and shaketh with fear.

Q. Why doth a redish root help digestion, and yett itself remaineth undigested? A. Because the substance consisteth of diverse 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 an olive wood sheweth it softer in the length than adwast? A. Because in the wood there is a grain, whereby, if it be cut in length, is the very cutting, one part naturally separateth from another.

Q. What is the reason, that if a spear be striken on the end, the sound cometh sooner to one which standeth near, than to him who standeth far? 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 blow or spear being striken on the end, the air which is hidden moveth a sound in the greatest grain, which moveth for its passage; and, seeing the sound cannot go freely out, it is turned into the use of blow who is opposite; as those passages do not go from side to side, a sound cannot be distinctly heard there.

Q. Why are the flights and notes of the birds

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 of pulmonary, and takes it away from the upper; and thus she hath made the buttocks, the thighs, and calves of the legs fleshy.

Q. Why are the arable powers in the lower part, if the higher part of the brain be heart, the sensory seateth by it; if the lower 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 diverse 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 ANTHRODISETA.

Q. Why doth the sun make a man black, and not white, man soft, and not 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 sulphur, 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 stones hard to be cut? A. Because they are level of a sharp chisel, which cuts and graves; and because it doth run, dropping and graining, it makes round stones; for which reason it requires drying machines, as physicians use.

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 insipidness 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 breaks wind, which being put up in little rooms, forces its way out, and breaks the shells: the

Like happens in tubs, or earthen vessels, when raw wine is put into them: too much phlegm breaks the shell of an egg in scolding; it is the same with earthen pots too much heated; therefore some people wet an egg when they intend to roast it. Hot water, by its softness, doth dissolve its hardness by holes and little, and dissolves it through the thickness and passages of the shell.

Q. Why have children gravel breeding in their bladder, and old men in their kidneys and urine? A. Because children have strait passages in their kidneys, and an earthy 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 more itself, as the manner of it is. In old men it is the reverse, for they have wide passages of the reins, back, and kidneys, that the urine may pass away, and the earthy humour congeal and sink down; the colour of the gravel shows the humour whereof the stone comes.

Q. Why is it, if the stomach congeal and wax hard through heat, we see not ordinary things to dissolve it by softness, but light things, as parties, bread, and the like? A. It is thought to be cut by an excessive scorching heat, by which the stomach crumbles into sand, as in

the manner of other vessels, which, when they are over-heated or roasted, turn to sand. And by the means it happens that small stones are rooled together with sand, in making water. Sometimes cold drink throats out the stones, 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 veins of the back (through which the stone doth grow) is quenched with coldness.

Q. Why is the curing of an ulcer or hole in the kidney or bladder very hard? A. Because the ureas, being sharp, doth ulcers the ureas. These are worse to cure in the bladder than in the kidneys, because the urine stays in the bladder, but runs away from the kidney.

Q. Why do chaff and straw keep water hot, but make snow cold? A. Because the nature of chaff wants a manifest quality; soeing, therefore, that of its own nature it can be easily mingled, and contained 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 sometimes a pain in making water? A. Because sharp choler being out, and pushing the bladder of the ureas, doth pre-



whole and tie up the whole body to ease the part affected, and to equal the humour moderately. The doth happens most of all unto children, because they have most attachments, by means of their flesh filling.

Q. Why have some medicines of one kind contrary effects, as experience proves; for mustard doth expel, constrict, and also heat; and vinegar cools and heats? A. Because there are some invisible bodies in them, not by themselves, but by interposition; as steel constricted 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 matter's, and that nature hath given that virtue to those 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 concurre this.

Q. Why doth oil, being drunk, cause one to vomit, and especially yellow choler? A. Because, being light, and ascending upwards, it penetrates the stomach in the stomach, and lifts it up, and as the stomach being gross, withdraweth the aqueous virtue to vomit, and especially choler, because that is light, and one mouth of whole parts, and therefore the cause

swelled upward; for when it is mingled with any moist thing, it runs into the highest parts.

Q. Why doth not all mingle with moist things? A. Because, being plain, 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 heavy in cold weather, and wine and vinegar are not? A. Because that oil, being without quality, and like 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, suffreth 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 gum in the like like, are made dry with heat. The effect indeed is the same, but by two diverse means; the heat doth consume and eat the abundance of moisture; but the cold stopping and shutting with its crammach thickness, doth wring out the stilly humidity, like as a sponge wring with the hand doth wring out the water which it hath in the pores or small passages.



Q. Why doth a shaking or quivering arise so 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 condensed by time, and made hot and weak, at the least, vehemently, suddenly, and sharply flying into the inward part of the body, commove the humours which cause the tremor. So tremble both the effect, and many such like, which are hot and dry, when taken after commotion.

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 likewise transparent, doth shine much more, and sends 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 thro' the bright bodies by reflection, doth return again on the face of the eyes, so the image of him who looketh on it.

Q. What is the reason, that if you cast a stone into standing water which is over the surface of the earth it causes many ripples, and not if the water be deep on the earth? A. Because that the stone, with the vehement of its

rest, doth agitate the water in every part of it, until it come to the bottom; and if there be a very great vehemence in the fire, 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 reach; 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 receive that which they never heard. Some physicians do say, that there is one knitting and uniting of sinews belonging to the larynx disposition. But such as are dumb by accident are not deaf at all, for then there would be a local passion.

Q. Why doth itching arise when an ulcer doth wax white and phlegm comes? A. Because the part which is healed and crabs-mould doth pursue the vein of the humour which remained there against nature, and which was the cause of the ulcer, and so going out through the skin, and drawing up 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 equate to the whole, when he can not digest as he would, he hath 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 sneeze, and so provoke sneezing. The nose caused thereby proceeds from a vehement spirit or breath passing through the conduits of the nostrils, as belching doth the stomach, or bred by wind by the discharge, 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, wasting, 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 vessels are dissolved in the beginning; it may increase and augment by putrefaction. Those parts 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 ever grow gray? A. For this reason, because that though great motion they digest and dissolve the superfluous phlegm that breeds grayness.

Q. Why, if you put hot burnt barley upon a

horse's nose, is the hair which grows upon the nose not what you 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 superfluous matter that is gathered together through the weakness of the pores, or crudity of the nose.

Q. Why doth hair never grow on an alder or hick? A. Because the bark is thick thin, as is seen by the thickness of his hair; and if the nose be thicker than the skin itself, it stops the passage from whence the hair should grow. Horsemans have thinner skins, as is plain by their thick hair; therefore all passages are not stopped in their wounds and sores; and after the excrement which was gathered together here breaks a passage through those small pores, the hair doth grow.

Q. Why is Fortune painted with a death's head behind, the one side bald and the other hairy? A. The baldness signifies adversity; and hairiness prosperity, which we enjoy when Fortune pleaseth us.

Q. Why have some recommended flattery? A. Because flattery attacks forth below our eyes what we ought to be, though not what we are.

Q. Wherefore should virtuous men be painted gilded? A. To show that virtuous men should not be skild, but adored, and always in action.



Q. Why did the soldiers say it was better
fall into the hands of a man than a Tartar?
A. Tartars never do not eat us till we be dead,
but Tartars devour us alive.

Q. Why have staidie men hardly beaten
others? A. Because they are low, and their
poor legs.

Q. How comes it that such as have the
croup do ease themselves by holding their breath?
A. The breath retained doth heat the interior
parts of the body, and the croup 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 take hold 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 *dulcissimi* do occupy the place of
the houses, and the worst sort the rooms of the
good.

Q. Why do dolphins, when they appear
above the water, diffuse a storm or tempest ap-
proaching? A. Because at the beginning of a
tempest there do arise from the bottom of the
sea certain hot exhalations and vapours which

beat the dolphins, causing them to run up the solid air.

Q. Why did the Romans call Fabius Maximus the saviour of the people, and Marcellus the sword? A. Because the one saved 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 same joined together, because the gravity of the one would moderate the courage and boldness of the other.

Q. Why doth the shivering of the moon beat 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 causes 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 viscosity, and is more light and white, the earthy and heavy substances being separated from it.

Q. How comes much and pond water to be hot? A. By reason they are phlegmatic, and do corrupt in summer; the thickness of the water is turned into vapours, and the surface is both covered.



Q. Why are students and learned men soon so bald? A. It proceeds from a weakness of the spirits, or because warmth of digestion causes plagues to abound in them.

Q. Why doth much walking cool the brain-folds? 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 their 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 eyes do grow great, do high and gather milk, and also those places that are above their hips, in which the young boy would remain. Like wise men's breasts and shoulders, which then can bear great and heavy burdens; also their voices, in which their need may increase and abate, and in their grey necks, to let out and with ease. Further, all the body is made bigger and dilated, as the alteration and change of every part doth testify, and the hardness of the voice and hoarseness; for the rough artery, the wind pipe, being made wide in the beginning, and the exterior and outward part with being unequal to the throat, the air going out the rough narrow pipe doth then become unequal and sharp, and after hours, coming I do note the voice of a goat, wherefore it is by some called *Struthion*. The second she

happens to them only whose rough artery distillation doth flow; it happens by reason of the sleeping humidity that a light small thin filled especially crosses the nerves going forth of the spirit and air. Understood, that the weakness of parts is such by reason of the abundance of humidity. The like doth happen unto all such as unites hath given a rough artery, as unto women. After the age of fourscore they loose off that voice, because the artery is made colder and rougheth its natural smoothness and quality.

Q. Why do hard down, 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 beat, 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 boldly hold that it is not god-don: 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, as in like manner was he very sorry until he found out



the solution of that cause: as Eudymus says who first found out the course of the moon watching all night, and observing her course and marking her motion, did sleep in the daytime, 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. To say also that he was a shepherd, because that the desert and high places he did mark the course of the moon. And they gave him also a pipe, because that the high places are blown with wind, or else because he sought out the constancy of spheres. Prometheus, also, being wise even, sought the course of the stars, with knowledge of the elements, he was not in a place; and when he was as it were wanted with the desire of learning, then at last he came when Hercules did resolve unto him all doubts with his wisdom.

Q. Why do not swine cry when they are carried with their mouths upwards? A. Because that above all other beasts they love more to be beneath. They delight in fish, and that the earth, and therefore in the sudden change of their face, they be as it were alive again, and being covered with darkness light do keep that of hence; some say the wild-pigeon doth also rejoice by reason of the constancy of it.

Q. Why do swine delight in dirt? A. Be-

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the physicians do say, they are naturally delighted with it, because they have a great liver, in which there is, as Aristotle saith; the wisdom of the secret is the cause, for he hath reasoning which doth choose itself, and as it were strive with itself.

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 reason in it, the imagination acknowledging that which is known to them as it were with the head, as happens to men, doth force them to wave 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 consent it to be gently moved, as men do sometimes when they are angry, beating their hands on other parts; when the mind cannot be removed on that which doth hurt, it presently overcomes either a stroke, and turns the body 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 prevent various motions suddenly the air that reacheth the light.

Q. How doth brass show its greater force, by
 a. d. c. the fact to become more, as the wire is

become a fluid? *A.* In attributing wisdom to him that has it not; for it is harder to hold than to pull down; and ordinarily love and liberty are but an obstruction of it's need.

Q. How comes much labour and fatigue to be had for the night? *A.* Because it does the blood too much.

Q. Why is goat's milk preferred best for the stomach? *A.* Because it is thick, not airy; and they feed on wood and twigs, rather than grass.

Q. Why do grief and tension bring grey hairs? *A.* Because they dry, which brings on greyness.

Q. How come those to be most weary who have the thickest blood? *A.* Because the blood which is fit and thick makes the spirits flow and constant, whereas wanting the force of all creatures.

Q. What 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 inconsistency of man, who is quickly angry, and soon weary of a thing; hard to be gained, and slippery to keep.

Q. Why do serpents crawl the back run? *A.* Because they are very cool, dry, and full of nerves, and that body is of a contrary nature.

Q. Why has copper better to sustain it's work?



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A. Because a vapour does not rise so fast by breaking the laws.

Q. Why is our smell less in winter than summer? A. Because the air is thick, and less accessible.

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,

RELATIVE TO

PHYSIOGNOMY.

CHAPTER I.

SECT. I. *Of Physiognomy, showing what it is, and from what 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 uncon-

ounded 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 has time to deliver it to the world.

None is to be esteemed a foolish or idle art, seeing it is derived from superior wisdom; 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 faculty, either of a man or woman, are plainly foretold, if the person penetrating to the knowledge thereof be an artist, which, that my reader may barely 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 nose of the nose is directed by Venus; and finally Mercury, the signifier of eloquence, claims the dominion of the mouth, and that very partly.



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 protecting of the nose: Virgo claims the presidence of the right cheek, Pisces the left. And thus the face of man is partitioned 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 usually how to apply.

In the judgment that is to be made from physiognomy, there is a great difference between 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 very 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 disposition also of the greater parts of the body.

But does physiology give the same judgment on her, as it does of a man that looks like her? By no means, but for other reasons: in regard to 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 rules of physiology, 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.

CHAP. II.

Of the Judgment of Physiology.

HAIR that hangs down without curling, if it be of a fair complexion, thin and soft washed, signifies a man to be naturally kind-hearted, and of a weak body, but of a quiet and harmless disposition. Hair that is long, and thick, and short washed, denotes a man to be of a strong constitution, serious, bold, disdainful, and for it a most part, arrogant and vain, having silver hair

ty, and more foolish than wise, though they may favour him. The whose hair is partly curled and partly hanging down, is commonly a man of a very great soul, or else a very a knave. He is a fool. The whose hair grows thick and curly and has been, and may at the distance, certainly conclude that such a man will be a simple, vain, humorous, foolish, conceited clownish in his speech and conversation, a dull in his apprehension. The whose hair is curly curls very much, but bushes out, stands on end, if the hair be white, or of a yellowish colour, he is by nature proud and full of apprehension, ever angry, given to quarrels, and ready to do any mischief. The whose hair rises in the corner of his temple, and is gross and rough withal, is a traitor, is conceited of himself, inclined to malice, is commonly covetous, is very cowardly, and lover of new fashions. He who hath much hair, that is to say, whose hair is thick all over his head, is naturally true and very hardy, is 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 reddish complexion, is for the most part, like always, proud, conceited, detestable, and full of envy. He whose hair is extraordinary thin is for the most part a man without power, usually enterprise, a lover of honour, a

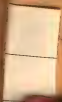
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much more inclined to do good than evil; industrious and careful to perform whatsoever is committed to his care, never in carrying on any business, and lawsuits. Hair of a yellowish colour shows a man to be good-natured, and willing to do any thing, fearful, shame-faced, and weak of body, but strong in the softness 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, chastity, and good manners. He whose hair turns grey or hoary in the time of his youth, is generally given to warren, vain, dissolute, and debauched. Note. That whatever a signification the hair has in men, it has the same in women also.

The forehead that stoops in a round, signifies a man liberally merry, of a good understanding, and generally inclined to virtue. He whose forehead is bushy, 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, temperance, but extremely bold and confident, and a great persecutor to love and honour. He whose forehead seems sharp, and pointed up in the corn-



see of his temples, so that the horns appear
 just such a little, in a man naturally weak, a
 feeble, and weak in the intellects. He who
 leans upon the temples in full of youth, is a
 sign of a great spirit, proud, watchful, and a
 great understanding. He whose nose is full
 upright, and has as it were a nose upon
 down the middle of the forehead, so that a
 man may think he hath two foreheads, is one that
 of a great spirit, a great wit, and of fortune, a
 yet of a hard fortune. He who has a full
 forehead, and a little round which, denotes
 him, or at least that has little on it, is hot
 choleric, high-spirited, full of choler, and a
 man stronger beyond all bounds, and yet of
 good wit, and very apprehensive. He who
 forehead is long and high, and jutting
 and whose face is squared, almost sharp
 pointed towards the chin, is one naturally
 honest, but weak and simple, and of a hard
 fortune.

Those eyes denote that we much seeked, who
 due in man or woman, and which by frequent
 movements themselves, show the person to
 be proud, high-spirited, vain-glorious, bold
 chattering, a lover of beauty, and not easily
 satisfied in either good or evil. He whose
 eyelids bend downwards when he looks
 another, or when he looks upon him, and who
 has a kind of wrinkling look, is by nature a po-



trious wretch, close is all dissimulation, of a very few words, but full of malice in his heart. He whose eyebrows are thick, and have but little hair upon them, is but weak in his business-tasks, and too credulous, very nervous, sensible, and desirous of good company. He whose eyebrows are folded, and the hair thick, and bending downwards, is one that is clownish and unlearned, heavy, suspicious, miserable, curious, and one that will cheat and scorn you if he can, and is only to be kept honest by good looking to. He whose eyebrows have but short hair and of a whitish colour, is fearful, and very easy of belief, and apt to undertake any thing. Those on the other side whose eyebrows are black, and the hair of them but thin, will do a thing 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 eyebrows be of more than ordinary distance, it shews the person to be hard-hearted, serious, close, cunning, apprehensive, greedy of novelties, of a vain fortune, addicted to vanity more than love. But those men whose eyebrows are at least distance from each other, are for the most part of a dull understanding; not subtle enough in their designs, and of an uncommon



hollows, which is often attended with glibbery; but that which is most commendable in them is, that they are most sure and constant in their friendship.

Great and full eyes in other than our women show the person to be for the most part shrewd, bold, serious, a bad rememberer of secret matters, vain, given to lying, and yet of a big memory, slow in invention, weak in his last lectures, and yet very much convicted of the little trick of wisdom he thinks himself master of. His whose eyes are hollow in his face, and therefore discerns most fully 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, revenge, and contentious; but his whose eyes are as it were starting out of his head, is a simple foolish person, absurd, very flighty, and may be persuaded either to vanities or virtues. He who looks studiously and awfully with his eyes and eye-balls downwards, denotes thereby to be of a malicious nature, very contentious, false, insatiable, curious, malicious, impious towards God, and dishonest towards men. His whose eyes are small and commonly round, is kind, soft and weak, very credulous, liberal to others, and even to his conversation. His whose eyes look upward, is

thoroly devoted to be a doubtful person, unjust, nervous, 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, doubtful man, haughty, touchy, or high-minded, an admirer of his fair sex, and one may be persuaded to virtue or vice. He or she whose eyes are twinkling, and which waver forward or backward, shows the person to be lascivious, unfaithful, and touchy, 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 doubtful, related to his blood, a great concealer of his own secrets, and very dishonest. 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 focus them upon some object, such are by their inclinations very malicious, self-glorious, stouthead, unchristian, nervous, false and conceited. They whose eyes are affected to blood-shot, are naturally choleric, proud, disdainful, cruel without shame, profane, and much inclined to superstition. They that have eyes like axes, are persons of good maintenance, but of a weak memory, are full of unbecoming language, and silly in their conversation. Do not be

whose eyes are neither too little nor too large, and inclined to black, do signify a man of peaceable, honest, wary, and of a good understanding; and eye-lids, when need requires, to be servicable to his trust.

A long and thin nose denotes a man bold, fierce, angry, vain, easy to be persuaded, and to good or evil, weak and credulous. A low nose attended, the tip of it bending downwards, shows the person to be true, discreet, severe and officious, honest, faithful, and one who will not be over-matched in bargaining.

A bottle-nose is what denotes a man to be suspicious in obtaining his desires, also vain, illib, luxurious, weak, and an uncertain man, apt to believe, and easy to be persuaded. A nose broad in the middle, and low 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; such a nose is obtaining what he desires, and very covetous the possession of it; and though very ignorant, would have he thought very knowing.

A nose very sharp on the tip of it, and neither too long nor too short, nor thick nor too thin, denotes the person, if a man, to be of a doubtful disposition, always going and coming; and if a woman, a cold, or unconcious, wedded

to her own luxury; of a useless and dogged carriage, and if married, a plague to her husband. A nose very round at the end of it, and having but a little nostril, shows the person to be insincere and liberal, true to his trust, but without any power, credulous and vain. A nose very long and thin at the end of it, and something round without, signifies one bold in his discourse, honest in his dealings, patient in recovering, and slow in offering injuries, but yet privately malicious. His whose nose is naturally more red than any other part of his face, is thereby denoted to be conscious, impure, haughty, 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, good, courteous, courteous, luxurious, a liar and deceiver, vain-glorious, unfortunate and contented. He whose nose reacheth 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 peevish disposition, industrious and faithful, and of a good understanding. A very wide nose, with wide nostrils, denotes a man full of apprehensions, and received more to simplicity than wisdom, and without contentment, vain-glorious, and a liar.

A great and wide mouth shows a man to be bold, valiant, stout, hard and stout, a great liar,



and as great a talker, also a great eater; but as to his intellects he is very dull, being for the most part very simple. A little mouth shows the person to be of a quiet and passive temper somewhat fearful, but faithful, steady, modest, beautiful, and but a little eater.

His whose mouth smells of a bad breath, is one of a corrupted liver or lungs, is often times vain, wasteful, doubtful, of indifferent intelligence, envious, contentious, and a promise-breaker. He that has a sweet breath, is the contrary.

The lips, when they are very big and blabbering, show a person to be meddlesome, foolish, dull, and stupid, and apt to be seduced 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 heavy. To have lips well coloured, and more than their thick, shows a person to be good-secured in all things, and more easily persuaded to good than evil. To have one lip bigger than the other shows a variety of success, and denotes the party to be of a dull, sluggish temper, and but of a very cold heart in listening, so 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 weak disposition, honest, faithful,

and secret in whatsoever he is interested with. To have some teeth longer and shorter than others, denotes a person to be of a good apprehension, but bold, disdainful, covinous and proud. To have teeth very long and growing sharp towards the root, if they are long in chewing, and thin, denotes the person to be covinous, gluttonous, bold, shameless, unchaste, and suspicious. When the teeth look very brown or yellowish, whistler they be long up short, it shows the person to be of a covinous temper, covinous, deceitful and turbulent. To have teeth strong and close together, shows the person to be of a long life, a lover of solitude, and things that are fair and beautiful, but of a high spirit, and one that will have his humour in all things; he knows to lose news, and repeat it afterwards, and is apt to entertain any thing to his belief. To have teeth thin and weak, shows a weak feeble man, and one of short life, and of a weak apprehension; but chaste, shameless, tractable and honest.

A tongue to be too weak of speech shows a man to be downy, his 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 a good flatterer, ribble, 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 ingenuous and of an affable disposition, yet somewhat timorous, and too credulous.

A great and full voice in either sex shows them to be of a great spirit, confidence, proud and wild. A fast and weak voice, uttered with but little breath, shows a person to be of a good understanding, a simple fancy, a late eater, but weak of body, and of a transient disposition. A loud and shrill voice which sounds clearly, denotes a person prevalent, sagacious, free, and ingenuous, but without sagacity, sanguineous, 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 generous nor too prodigal, also ingenuous, and an admirer of the fair sex. A weak and trembling voice shows the owner of it to be serious, suspicious, slow in business, feeble and fearful. A loud, shrill, and unpleasant voice signifies one bold and valiant but quarrelsome and impetuous, and altogether wedded to his own humours, and governed by his own counsels. A rough and hoarse voice, whether in speaking or singing, denotes one to be a dull and heavy person, of much girth and little brains. A full and yet hoarse voice and pleasing to the hearer, shows the person to be

of a quiet and peaceable disposition, (which is a great virtue, and rare to be found in a woman) and also very thrifty and secret, not prone to anger, but of a yielding temper. A voice beginning low or in the bass, and ending high in the treble, denotes a person to be violent, angry, bold and severe.

A thick and full skin abounding with too much flesh, shows a man inclined to peace, honest and true to his trust, but slow in business, and easy to be drawn either to good or evil. A peaked chin and reasonably full of flesh, shows a person to be of a good understanding, a high spirit, and leadable conversation. A dull or thin skin shows a peaceable disposition, but dull of apprehension, vain, evasive, 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 omen, being proud, impudent, malicious, 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

hair both in the hair which are called the beard. These are very few, are almost no women at all that have hair 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 nostrils, where the hair most aboundeth. And where this happens, such women are much addicted to the company of men, and of a strong and manly constitution. A woman who hath little hair on her cheeks, or about her mouth and lips, is of a good complexion, weak constitution, shamefaced, mild and obedient; whereas a woman of 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 unamiable. They who have no beard have always shrill and strange kind of speaking voices, and are of a weak constitution, which is apparent in the case of quacks, who, after they are deprived of their wits,

are transformed from the nature of men into the condition of women.

Great and thick nose are a certain sign of a foolish person, or a bad memory and wondrously demanding. But small and thin nose 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 nose are longer than ordinary, is thereby signified to be a bold man, much it, vain, foolish, servicable 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 without beautiful and desires, may be contented, 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 suspicious and suspicious in his conversation.

A little and round face shows a person to be simple, very fearful, of a bad memory, and a slow and negligent.

A plump face full of redness, 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 drink, and one that will be



and angry and not easily pacified. A long and lean face shows a man to be bold, contentious, and detestful. A face every way of 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, by the rules of physiognomy, of a dull, lumpyish, 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 steady 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 lascivious, but serious, 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, shows a person just in his actions, true to his word, civil and respectful in his behaviour, of an indifferent understanding, and of an extraordinary memory. A crooked face, long and lean, denotes a man content 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 single and foolish in managing his affairs, vain in his discourse, serious in his nature, deceitful, quarrelsome, and rude in his conversation. A face well relieved, full of good features, and of

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an exact symmetry, and a just proportion in all its parts, and which is delightful to look upon, is commonly the index of a fair mind, and shows a person to be well disposed; but wretches declare that virtue is not so impreguably 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 feeble but very malicious, treacherous, false, proud, presumptuous, and extremely uncharitable. A face well coloured shows the person to be of a peace-worthy 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 wretch, denotes the person to be secret, and of great application in carrying on business, and also ingenious, and of a large imaginative faculty and invention; and likewise laborious, constant and honest. The head whose gullet stands forth, and inclines towards the earth, signifies a person thrifty, wise, penurious, secret, of a retired temper, and constant in the management of his affairs. A long head and face, and great wretch, denotes a man, foolish, idle, and weak person, credulous and very curious. 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 living, a great discoverer, a great teacher, and prodigal in all his fortunes. A big head and broad face above men to be very courageous, a great hunter after women, very suspicious, bold and chasteless. He also hath a very big head, but not so proportionate as it ought to the body, if he had a short neck and crooked gait, is generally a man of apprehensions, was, 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.

CHAP. III.

Of Judgments drawn from several other parts of Man's Body.

In the body of man, the head and face are the principal parts, being the rulers, which nature has laid open to every man's view to make a full general description, therefore I have been the longer in my judgment from the same parts showed. But as to the other parts, I shall be

weak more bold, as not being so obvious to the eyes of men; yet I would proceed in order.

The throat, if it be white, wholical or bald or lean, shows a man to be vain-glorious, ambitious, waston, 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 doubtful and inconsistent, well skilled in the use of arms, and yet care not to use them, but in a great love of peace and quietness.

A lean shoulder bone signifies a man to be weak, ambitious, proud, not laborious, and yet fit for any employment. The white shoulder bones are of a great nature in common, 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. The white shoulder bone seems to be smooth, is by the rule of nature modest in his talk, and temperate in all his actions, both in bed and board. The white shoulder bone rough and is crooked inwardly, is commonly a dull person and discontented.

Long arms hanging down and reaching the



know, though such arms are rarely seen, denote a man liberal, but without vanity, glorious, proud, and inconsistent. He whose arms are very short in respect to the extent of his body, is thereby qualified to be a man of high and gallant spirit, of a generous temper, bold and warlike. He whose arms are full of bones, sinews and flesh, is a great desiner of novelties and beauties, and one that is very ostentatious and apt to believe every thing. He whose arms are very hairy, whether they be long or fit, is for the most part a luxurious person, weak in body and mind, very suspicious, and malicious world. He whose arms have no hair on them at all, is of a weak judgment, very angry, vain, wasteful, credulous, easily deceived himself, yet a great deceiver of others, no fighter, and very apt to betray his dearest friends.

CHAP. IV.

Of Palms, showing the various Judgments drawn from the Lines.

It is not my design 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, I

has put me under the necessity of saying something about palmistry, which is judgment made of the conditions, inclinations, and fancies 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 incloses 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 guide 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 counter line, ending usually on the other side, for when the line of life is ended, death comes, and it can go no farther. There are lines in the fleshy parts, near 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 bottom 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 full, extended to its full length, and not broken with an intermixture of cross lines, it shows long life and health, and it is the more if a double line appears, as does sometimes fate. When the stars appear in this line, it is a signification of great losses and calamities; if on it there be the figure of two O's or a Y, it threatens the person with madness; if it wags itself about the table line, then does it promise wealth and honour to be attended by greatness and industry. If the line be cut and jagged at the upper end, it denotes much sickness; if this line be cut by any line coming down the wrist of Venus, it declares the person to be unfortunate in love and business also, and threatens him with a tedious 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

The table-line, when broad and of a lively colour, is a sign of a long expectation, and a

quiet contented mind, and of a coarse gross 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 the line be forked at the end, it threatens the person shall suffer by jealousy, and doubts, and loss of reputation by desert. If three points such as these *c.* 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 greatness. Let us now see what is signified by the middle-Line. This line has in it variations (for there is scarce a hand in which it varies not) shows very signalment characters. Many small lines between this and the little line threaten the party with sickness, and also give him hopes of recovery. A half cross branch's given that branch loses the person shall have honour, riches, and good success in all his undertakings. A half moon denotes cold and misery distresses; but a sun or star upon this line, denotes prosperity and riches; that has 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 forehead, threatens ruin to

the party, and that it shall hold him by means of his crone woman and bad company. Two crosses upon the 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 reserve; 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 winking, crooked, and bending outward, it shows 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 the 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 plate of Mars being in the hollow of the hand, most of the lines pass through it, which renders it very significant. The plate being hollow, and the lines being crooked and distorted, threatens the party to fall by his ambition. When the lines beginning at the wrist are long within the plate, reaching to the crown of the hand, that shows the person to be

much given to quarrelling, when in health, 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 face, it shows the party shall obtain honour by martial exploits; but if it be a woman, she shall have several husbands, and may 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 Moody spot in the line, denotes a violent death. A star like a comet, threatens men 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.

CHAP. V,

Judgments according to Physiognomy, drawn from the several parts of the Body, from the Head to the Feet.

A ruddy and full breast shows a man valiant and courageous, but a flat proud and hard to

but with, quickly angry, and very apprehensive of an injury: he whose breast is narrow, and whose mouth a little is the mark of an, by the best rule of physiognomy, of a clear spirit, of a great understanding, good in countenance, very faithful, stern to himself and body, yet so an enemy to that, he is soon angry, and inclined long to keep it. - He whose breast is somewhat hairy is very luxurious, and amicable to another. He who hath no hair upon his breast, is a man weak by nature, of a slender capacity, and very taciturn, but of a frank and liberal life and conversation, inclined to peace, and much retired to himself.

The back of the chin bone, if the flesh be any thing hairy and lean, and I give thee my other part that is behind, signifies a man dissolute, haughty, and without conscience. He whose back is large, big, and fat, is generally thought to be a strong and stout man, but of a heavy disposition, vain, slow, and full of doubt.

He or she whose belly is soft all over the body, is weak, listless, and foolish upon body or on occasion, of a good understanding, and an excellent inventor, but a little envious, 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 crafty, vain-glorious, timorous, shamefaced, malicious, false, and too wise to believe all he hears.

A thick fall of strong bristly hair, and the hair inclined to curl, signifies one haughty and luxurious. Thickets with but little hair, and those soft and slender, show the person to be reasonably chaste, and one that has no great desire to cozen, and who will have but few children.

The legs of both men and women have a fleshy protuberance behind, which are called calves, which nature hath given them (as in our kind of living creatures we have observed) in lieu of those long tails which most other creatures have posteriorly 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, skill in understanding, and slow in business, inclined to procreancy, 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 man or woman, if broad and thick with flesh, and large in figure, especially if the skin be hard, they are by nature of a strong constitution, and great temperament, but of a weak intellect, which renders the understanding weak. But feet that are thin and

less, and of a soft skin, show the person to be weak of body, but of a strong understanding, and of an excellent will.

The cause of the best of the complexion and evident signs, whereby the disposition and constitution of men and women may be known, is due to the pains of their lands, as being full of laws, by which laws all the fortunes or the misfortunes of men and women may be known, and their manners and conversations made plainly to appear. But this in general we may rule make, as that many long lives and strokes do prove great afflictions, and a very troublesome life, attended with much grief and toil, care, poverty, and misery; but short lives, if they are thick and full of misfortunes, are yet sweet in every degree. Thus, the skin of white men are very thick and gross, and for the most part able, strong, and vigorous. Whereas, on the contrary, those, the skin of whose sides of their feet is thin, are generally weak and languid.

I shall now, before I conclude, give you 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 these extremities 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 blemish of it, and speak of the baseness of the body, as they distinguish persons.

Of Crooked and Deformed Persons.

A crooked breast or shoulder, or the enlargement of flesh in the body either of man or woman, signifies the person to be extremely presumptuous and insolent, and of a great understanding, but very covetous, and scrambling after the things of the world, crooked also with a very bad memory, being also very deceitful and malicious: they are soldiers in a medium, but either virtuous or extremely vicious. But if the person deformed hath an enlargement on his breast instead of the back, he is for the most part of a double heart and very malicious.

Of the slow Manner of going, and particular Persons both of Men and Women.

He or she that goes slowly, making great stops 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 spare, and makes short stops, is most successful in all his undertakings,

evil in his imagination, and humble in the disposition of his affairs. He who makes wide and uneven steps, and sliding verbal, is one of a grossly aerial 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, when he stands or sits, or speaks, is always accompanied with an extravagant motion, unnecessary, superfluous and unbecoming. Such a man, by the rule of physiognomy, is vain, unwise, unskilful, a devotee, unstable, and unfaithful. He or she whose motion is not such 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, sliding up and down, crooked, is thereby denoted to be a vain silly person, of a heavy and dull wit, and very contentious. He whose motion is less and flapping, or otherwise imperfect, or that resembles an imperfection, is denoted to be covetous, malicious, false, and detesting.

Judgments drawn from the Countenance of Men.

Physiognomy draws several judgments also from the stature of men, which take as follows: 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 displeas'd, very frugal, deservful, and in many things unknown. 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 most 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, impetuous 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 well, is, by the rule of physiognomy, wise and ingenuous, bold and confident, and of a good understanding, but of a doubtful 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 stretch-



ing forth, is possible, easy, and easy to be persuaded.

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 CHAP. IV.

*Of the Power of the Oriental Zodiac over Men
 and Women.*

I have spoken thus largely of Physiognomy, and the judgments given thereby concerning the dispositions and volitions of men and women, drawn by the said art, from every part of the bodies of men and women, it will be convenient now to show how all these things come to pass; and how it is that the several 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 loins.

Virgo, the Virgin, governs the belly and bowels.

Libra, the Balance, governs the waist and loins.

Scorpio, the Scorpion, governs the secret parts.

Sagittarius, the Centaur, governs the thighs.

Capricorn, the Goat, governs the knees.

Aquarius, the Water-Bearer, governs the legs and ankles.

Pisces, the Fish, governs the feet.

It is here furthermore necessary to let the reader know, that the astrologers have divided the Celestial Sphere into twelve parts, according to the number of those 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 also 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 parents.

The fifth is the house of children.

The sixth is the house of sickness or diseases.

The seventh is the house of wedlock, or house of marriage, because of its name a wife or husband gives the most meaning.

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 disposed 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 physick, it thus on the body of man, as we have a town, is not only governed by the signs and planets, but every part is appropriated to one or another of them, as in

according to the particular influence of each star or planet, as governing, is disposition, inclination, and nature of the person governed. For such and such talents and virtues do show a person to be born under such and such a planet; so according to the nature, power, and influence 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 vanity.

THE MIDWIFE'S VANDICUM,

CONTAINING

PARTICULAR DIRECTIONS FOR MIDWIVES,
SCIENCE, &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 sickness, fever, or golden jaundice. Nor must the practitioner be proud, in a good surgeon he

proper 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 resolute strength, with civility and diffidence; not subject to dissidence or impatience. She ought also to be sober, affable, courteous, chaste, not covetous, or subject to passions, but beautiful 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 feels her travelling 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 try and remember the true time of her birth to 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 world's. For unskilful midwives, not minding this, have given things so false 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 true-

bed with pain long before their true labour comes, even some weeks before; the reason of which I conceive to be the heat of their veins; and this may be readily known by the swelling of their legs; and therefore, when women wish to bed their legs well overboard, they may be assured that their veins are too hot. For the ease wherof, let them cool the veins, before the time of their labour, with oil of popple, and oil of violet, or water-like, by anointing the veins of their backs with them; for such women whose veins 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 them being strained and clarified it with the whites of an egg, bed it into a syring with its equal weight of sugar, and keep it for use.

There are two skins that compose the skull in the womb; the one is the cranium, and this is the inner skin; the other is the meninges, and this is the skin that holds the veins of the child during the time that it stoves in the womb. Both these skins, by the violent stirring of the child near the time of its birth, are broken; and then the veins and sweat of the child are raised in them all down to the neck of the womb, and this is that which the midwives call the water, and is an infallible sign that the child is very near; for the child is so

unable to submit in the womb after these stones are broken, than a child born 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 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 **WANDERER** held in the labouring woman's hand. Take wild tansey, brues and apply it to the woman's nostrils. Take also dore stone, and beat these to powder, and let her take a drachm of them in white wine at a time.

Take parsley, brues &c, and press out the juice, and put it up (being so dipped) into the nostrils of the womb, and it will presently cause the child to come away, though it be dead, and the after-burden also; besides, it shortens the work, and also the child in the womb, of all great 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 long,

her midwife sent for another midwife to assist her, which mistake sending the first down stairs, and dragging to her the business 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 new midwife.

After the child is born, great care is to be taken by the midwife in washing 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 precision 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 weak convert a weak child; but if the child be strong, you may let it be.

As to the manner of cutting the child's navel-string, let the patient or his wife be very strong; and be care not to rub it off very near the banding, but the banding useless. You need not fear to touch the navel-string very hard, because it is dead of sense, and that part of the navel-string which you leave on his side will in two hours be 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, as it be sharp and you do it closely. The piece of the navel-string that falls off, be sure you keep it from touching the ground; remember what I have before said 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 in 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 secundina, 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 not done 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 spermatice parts. If cold goes into the womb, it increases the after-pass, causes swelling in the womb, and does great hurt to the nerves.

If what I have written be carefully observed by midwives, and such women as keep women in their lying-in, by God's blessing, the child-bed women may do very well, and both a child and nurse gain credit and reputation. Tho' though I see a variety of means in use to stay against the common practice, yet they are grounded upon experience, and will probably 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 closeness, 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 sleeping draughts be observed, they will be very much abated, if not quite taken away. But in case they do happen, beat an egg, and pour out the yolk of it, with which mix a powerful of cinnamon-water, and let her drink of it; and if you mix it with two grains of saffron, it will be better.

The second accident lying-in women are subject to is stagnation in the lower part of the womb. To help this, use a deal sweet almond,

or rather all of St. John's wort, to moisten the part with.

Another accident is, that sometimes, through very hard labour, and the great straining to bring the child into the world, the lymphic vessels escape to be troubled with the hemorrhoids or piles. To cure this, let her use poppy-heads brewed, 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 a collection as strongly procure the terms; and such are penny-royal, dittany, juniper-berries, hony, oyster-pearl, sugar-wort, pennyroyal, &c.

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

Having thus finished up *Talismanum* for *Middwives*, before I conclude I will add a short notice of the choice and qualifications of a *midwife*; that those who have occasion for them, may know how to choose for themselves, for the good of the children and the *Wives*.

1. Let her age be between 20 and 25, for then she is in her prime.

2. Let her have health, for it is useless to have the m. l., and the milk the c. l.

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 lively 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 do not with child herself; for, also, 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 amuse herself by dancing the child; for moderate exercise sweeteth 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 worst of this makes so many children die in London; and even those few that live are not of the best constitution, for gross and thick air makes unwieldy bodies and dull wits.

3. Let her be careful of her diet, and avoid all salt meats, pickles, hells, oysters, and mustard, excessive drinking of wine, strong beer, or ale, for they trouble the child's body with choler; cheese, both new and old, especially with milk-holp, and all fish with phlegm.

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

5. Let her avoid all disquits of mind, anger, vexation, sorrow, and grief, for these trouble very much disorder a woman, and therefore must needs be harmful to her milk.

6. If the nurse's milk happens to be corrupted by an accident, or sometimes if they be long

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 the milk be too hot, let her cool it with colds, marrow, lettuce, asparagus, and pistachio; if it be too cold, let her use horehore, vervain, hughes, mother of thyme, and camomile; and let her observe the general rule, that whatsoever strengthens the child in the womb, the same attends the milk.

7. If the nurse wants milk, the flesh, commonly called the holy's thistle, is an excellent thing for the brooding of milk, there being few things growing (if any) that breed more and better milk than that doth; also the heads of the finest of the rose, dried and beaten to powder, and a drachm of the powder taken every morning in any convenient liquor, increases milk.

Choice Remedies for increasing Milk.

If any nurse be given to much fretting, it makes her lean, and kindles dysentery; and she can never have store of milk, nor what it is hath to grow. Bad meats and drinks also hinder the increase of milk, as I therefore ought to be advised. A woman that would increase her milk, should eat the best of food, (that is, if she can get it) and let her walk milk women

In febrile colds have been stopped. Let her take barley-water, and burrows, and spinach; also, *panis coctus*, and bread sodden with rose-water. Let her also comfort the stomach with decoctions of aniseed, caraway, and cummin seeds, and also use those seeds sodden in water; also take barley-water, and beat therein green fennel and dill, and sweeten it with sugar, and drink it at pleasure.

Hot humors taken upon the breasts, and attract the blood, as the decoction of fennel, cummin-seed, or stamped meat applied. Or, take fennel and parsley, green, each a handful, beat and stamp them, and barley-meal half an ounce, gill and a drachm, starch, salamat, two drachms, and of these two ounces, softens as 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 starch, and three ounces of oil of sweet almonds; beat the roots well, and beat them together, then mingle the other amongst them, and put it upon the nipples, and it will increase the milk.

And thus, constant reader, I have at length finished what I have designed; and can only assure, that there hath here these receipts, remedies, and directions given unto thee with respect to child-bearing women, sucklers and nurses, that are worth their weight in gold, and

will eventually answer the end, whenever their last occasion to make use of them, they are long things taken on trust from tradition or hearsay, but the result and dictates of sound judgment and experience.

CONCLUSION.

COURTESY REQUEST.

In the Works of the renowned and famous philosopher, ARISTOTLES, 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. This will.

STYPHILIS, OR VENEREAL DISEASE.

USEFUL REMEDIES.

OF THE VIRULENT GONORRHOEA.

THE Virulent Gonorrhoea is an involuntary discharge of infectious matter 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 grey matter begins to flow from the urinary passage, which stains the linen, and produces a small degree of irritation, particularly at the time of making water; this gradually increasing, arrives at length to a degree of heat and pain, which are usually perceived about the extremity of the

urinary passage, when a slight degree of redness and inflammation likewise begins to appear.

In the disorder advanced, the pain, heat of urine, and burning, increase, while fresh symptoms daily occur. In men, the emissions become painful and involuntary, and are more frequent and lasting than when natural. This symptom is most troublesome when the patient at night is 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 mucus gradually acquires from the colour of semen, grows yellow, and at length puts on the appearance of urines.

When the disorder has advanced to its height, all the symptoms are more severe; the heat of urine is so great, that the patient needs the making water; and though he feels a constant relaxation this way, yet it is rendered with the greatest difficulty, and often only by drops; the involuntary emissions now become extremely painful and frequent; there is also a pain, heat, and sense of fulness about the urethra, and the mucus 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 evacuations, and the heat and pain about the urea, become easier; the urine gradually decreases, grows whiter and thicker, till at last it entirely disappears.

If attending to these symptoms, the prostration may be generally distinguished from any other disease. There are, however, some few diseases for which it may be mistaken, as an ulcer of the kidneys or bladder, the flux albugineus, in women, &c. But in the course of these, the matter comes away only with the urine, or when the sphincter or the bladder is open; whereas in a gonorrhoea 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.

Restraint.—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 wine, spirituous liquors, rich meats, spices, salted, high-seasoned, and acrid-bodied provisions, particularly salt stuff in every shape; as also all aromatic and stimulating vegetables, as onions, garlic, shallots, mace, nutmeg, mustard, cinnamon, rice, pepper, and such like. He should neglect every martial and

vegetables, milk, beef-tea, light puddings, panada, gruels, &c. The 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.

DIAGNOSIS.—A violent pneumonia 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 when the treatment has been very proper.

TREATMENT, indeed, as the infection may be removed in a few days, by bathing the feet in warm milk and water, and injecting frequently up the nostrils 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 violence.

To effect a cure, however, antiseptic 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 re-

quite), 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 rose-water or rose-mint, 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 gonorrhoea. They ought not, however, to be of the strong drastic kind. Whatever relaxes a violent contraction in the body, increases the danger, and tends to drive the disease deeper into the habit. Prescribing 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 swelling, and to change its colour and consistence. It gradually becomes more white and raggy, as the venereal virus.

When the inflammatory symptoms run high, bleeding is always necessary at the beginning. The operation, as in other typical inflammations, must be repeated according to the strength and constitution of the patient, and the violence and urgency of the symptoms.

Medicines which promote the secretion of

water, will wear paper in this stage of the disorder. For this purpose, an ounce of silver and two ounces of precipitate, powdered together, may be divided into twenty four doses, six of which may be taken frequently as a cup of the patient's drink. If it can be made his passion more violent as to become troublesome to him, let him either take them less frequently, or leave out the water altogether, and take equal parts of gum-Arabick and essence of lemon. These may be compounded together, and a teaspoonful taken as a cup of the patient's drink four or five times a-day. I have generally found this an agreeably way, both as a diuretic, and for keeping the body gently open.

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

Soft pessaries, when they can conveniently be applied to the parts, are of great service. They may be made of the Juice of Lard, or of wheat-bread and milk softened with fresh butter or sweet oil. When pessaries cannot be conveniently used, a cloth wrung out of warm water, or Vaseline filled with warm milk and water, may be applied. If water be drawn up

most excruciating pains, during the inflammatory state of the gonorrhoea, relieved by one of these applications.

For things tend more to keep off inflammation in the spermatic vessels, than a proper suspension for the secretions. It ought to be so considered as to support the testicles, and should be worn from the first appearance of the disease, till it has ceased to exert its force.

The above treatment will soon remove the gonorrhoea so quickly, that the patient will be in doubt whether he really laboured under that disease. This, however, is too desirable a cure to be often expected. It more frequently happens, that we are able to produce an abatement or remission of the inflammatory symptoms, so far as to make it as a last resource to the practitioner to resort to.

Many people, on the first appearance of a gonorrhoea, fly to the use of mercury. This is a bad plan. Mercury is often near all necessary in a gonorrhoea; and, when taken judiciously, it does mischief. It may be necessary to complete the cure, but it can never be proper at the commencement of it.

When mercury, purging, evacuations, and all the other things recommended above, have eased the pain, softened the parts, relieved the heat of urine, and subdued the inflammatory motions less frequent, the pain it may be...

Let me not try any thing that I am not able to bear.

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 mind too much, the dose must be lessened; if not at all, it may be increased to five or six pills in the day. If colored by the night preferably, two or three grains of it formed into a bolus, with a little of the conserve of lipsa, may be taken at bedtime, 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 even advised under the smaller dose here or put. 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 pained, or grieved in the night by the mercury, he may take half a drachm

of the spleen secretion dissolved in an ounce of common-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 well, and the mercury is apt to grip or purge, those disagreeable consequences may be prevented by teazing with two or three pills or bolus, half a drachm or two scruples of dissolutum, or of the Japonic confectum.

To prevent the disagreeable circumstances of the mercury's affecting the mouth too much, or being to a salivation, it may be combined with purgatives. With this view, the laxative mucrocal pill has been contrived, the usual dose of which is half a drachm, or three pills eight and sevening, 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 frequently 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 is not to be administered, that mercury, taken inwardly for any length of time, greatly weakens and disorders the bowels; for which reason, when a plethoric use of it becomes necessary, we would prefer rubbing in, to the mercurials. The operation mentioned in this statement will answer very well. Of that which is made by rubbing together equal quantities of hog's lard and quinine, 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 shin. The patient should sit or lie in the bed when he uses, and should wear flannel drawers, and his feet at the time be in snug the stockings. If external 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 general parts, together with the heat and soreness, should remain, or if the mouth should grow sore, the gunpowder, or if the breath become offensive, a dose or two of Elixir's taste, or some other cooling party, may be taken, and the rubbing interrupted for a few days. Again, however, as too great a quantity are given off, if the venosity be not quite corrected, this is found best to repeat, but in smaller quantities, and at longer inter-

vuls than before. Whatever way mercury is administered, its use must be protracted in as long as any venereality 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 stage. I have often known the inflammatory symptoms removed and heightened, the running increased, and the cure rendered extremely difficult and tedious, by use 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 penis or testicle supervening; when the patient is free from involuntary emissions; and lastly, when the running becomes pale, whitish, thick, void of all smell, and sometimes acrid; when all or most of these symptoms appear, the gonorrhoea is arrived at its best stage; then we may gradually proceed to treat it as a flux, with cooling and astringent medicines.

OF GLEETS.

A gonorrhoea frequently repeated, or improperly treated, often ends in a gleet, which may either proceed from a relaxation, or from some remnant 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 agitated with lascivious ideas, or upon straining to go to stool, we may reasonably conclude that it is chiefly owing to the former.

In the case 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 gonorrhoea, the patient may have recourse to stronger and more powerful astringents, as the Ferrugin bark, alum, waxed, galls, tormentil, koster, ballastine, tincture of gamboge, &c. The astringents may be rendered morestringent 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 brace in the whole compass of medicine. It might never be omitted in this species of fist, 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 uncur'd 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 insurmountable 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 diseas'd 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 mention'd in the last stage of the gonorrhœa: the diet must be drying and astringent, and the drink Spa, Pyramont, or Bristol waters, with which a little claret or red wine may sometimes be mixed. Any person who



may 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 sputa 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 surgery, and such medicines as tend to correct any predominant acrimony with which the juices may be affected, as the decoction of China, *massepilla*, *masseira*, or the like.

Mr. Fordyce says, he has seen many obstinate cures, of two, three, or four years standing, effectually cured by a successful incision, 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 necessary success best in this case when joined with terribacinals and expectorating medicines. For which reason the Doctor recommends pills made of calomel and Trice tartaratus; and thinks that their use may be accompanied with a decoction of guaiacum or *massepilla*.

The last kind of remedy which we shall mention for the cure of ulcers in the urinary passage, are the suppurating ointment or bougie. As these are prepared various ways, and are generally to be bought ready made, it is prob-

less to spend time in ascertaining the different ingredients of which they are composed, or tracking the manner of preparing them. Before a leech be introduced into the urethra, however, it should be smeared all over with sweet oil, to prevent it from circulating too suddenly. It may be retained in position for from one to seven hours, according as the patient can bear it. Obstacles above are not only often healed, but tumours and excrescences in the urinary passage taken away, and an obstruction of urine removed, by means of leeches. Obstacles below may be removed by the use of leeches.

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 gonorrhoea; particularly when the running is unaccountably checked, by cold, hard drinking, strong drastic purges, violent stools, 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, wine, and every thing of a heating nature are to be avoided. Purgatives are of singular service. Foodstuffs 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 prescribed, and extended according to circumstances, it will be necessary to lead the patient through such a complete antiseptic course as shall insure him against any future recurrence. For this purpose, besides rubbing the scrofulous situation on the thigh as directed in the preceding, the patient must be confined to bed, if necessary, for five or six weeks, supporting the testicle, all the while, with a bag or truss, and phying him inwardly with strong decoctions of *scorpiolla*.

OF HUCKS,

Yankee balms are hard tumours seated in the groin, occasioned by the venereal poison being absorbed. There are two kinds, which

is proved from a recent infection, and such an occurrence accompanies a confirmed case.

The cure of most tumors, that is, such as appear soon after impure action, may be first attempted by dispersion; and, if that should not succeed, separation. To promote the dispersion of a tumor, the same regimen must be observed as was directed in the first stage of a gonorrhoea. The patient must likewise be bled, and take some cooling purges, as the decoction of tamarinds and senna, Chamber'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 eradicated.

But if the tumor should, from the beginning, be attended with great heat, pain, and pulsation, it will be proper to promote its separation. For this purpose the patient may be allowed to eat the ordinary diet, and to take now and then a glass of wine. Excellent 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 alcohol onions raw, and a sufficient quantity of yolk laid on twice, may be added to the practice.

When the tumour is ripe, which may be known by its round 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 lance, and afterwards dressed with digestive ointment.

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

OF CHANCERS.

Chancres are superficial ulcers, being ulcers; which may happen either with or without gonorrhoea. They are commonly seated in the glands, and make their appearance in the following manner.—First, a little red pimplesome, which soon becomes pointed at top, and is filled with a whitish matter inclined to yellow. This pimple is hot, and before generally before it breaks; afterwards it degenerates into an abscess of the skin, the bottom of which is usually covered with a third matter, and whose edges gradually become hard and callous. Sometimes the first appearance resembles a simple excoriation of the outside, which, however, if the cause be retained, 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 gonorrhoea. The patient must observe the cooling regimen, use a little blood, and take some gentle doses of salts and mercury. The parts affected ought frequently to be bathed, or rather washed, in warm milk and water, and if the inflammation be great, an excellent 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, nasal pain, itching 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 contracted testis.

Thus we have related most of the symptoms which accompany or succeed a violent gonorrhoea, 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 *plymnia*, *phlogismia*, &c.

A stranguary may be considered either by a spasmodic contraction, 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 soreness of the part, a perpetual desire to make water, while the patient can only void 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 dilate and relax the parts of the urethra will be proper. For this purpose, besides the common diuretic liquors, soft and cooling medicines, combined with a syrup of poppies, may be used. Should there

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 is not to be more liberally performed, and repeated according to the urgency of the symptoms. After bleeding, if the stricture will continue, soft clysters, with a proper quantity of leadenum 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-spoonful 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 dietetic, and to draw off the water with a siphon, but as the patient is seldom able to bear its being introduced, we would rather recommend the use of mild leucins. These often liberate the passage, and greatly facilitate the discharge of urine. Whenever they begin to stimulate or give any uneasiness, they may be withdrawn.

The prognosis is such a contraction of the

prepare over the glands, as hinders it from being drawn backwards; the parathyroids, on the contrary, in such a constriction of the process behind the glands, as hinders it from being brought forward.

The treatment of these symptoms is so nearly the same with that of the violent goitre, that we have no occasion to enlarge upon it. In general, bleeding, purging, position, and moderate exertions, 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 creosote tartar, may be given for a vomit, and may be worked off with warm water or silk wool.

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 prepare must be excised with a lancet, and, if necessary, distilled, 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 remedially-herb, or herb,

and to give the patient a decoction of the bark in powder every two or three hours.

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

OF A CONFIRMED LUIS.

The symptoms of a confirmed luis 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; rashes and scabs in 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 sweep gradually, by the palate, towards the cartilage of the nose, which they destroy; excruciating or agonizing swell about the middle of the loins, and their spiny ends become brittle, and break upon the least accident, at other times they are soft, and bend like wax; the parotid glands become hard and swollen, and form in the neck, axilla, groin, and necessary, hard non-abscessive tumours, like the king's-evil; tumours of the

From buds which are formed in the lymphatic vessels, tendons, ligaments, and nerves, as the pancreas, papsia, spleen, &c.; the eyes are affected with itching, pain, redness, and sometimes with total blindness, and the ears with a ringing noise, pain, and deafness, whilst their internal substance is calcareated and rendered various; at length all the animal, vital, and natural functions are depressed; 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; hystric affections; an inflammation, abscess, schelus, gangrene, 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 necessary, which may be said to be a great variety of ferrous, with among the same success. Some time ago it was reckoned impossible to cure a confirmed case without a new cure. The method is now, however, pretty generally had, and necessary is found to be as efficacious, rather easy to, in supplying the mineral pilots, when sub-

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 venereal disease in Germany, by the illustrious Jaxon 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. In 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 expectations 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 *massepelle*.

The *massepelle-root* is likewise found to be a

powerful assigned to the alkaloids, or any other mineral. It may either be used along with the *scoroparia*, or by itself. Those who choose to use the *manroot*, 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 *scoroparia*.

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 *renouee*, the *conoclin*, &c.; but whether these are designed to dissipate 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 *sassafras*, *hardack*, &c. as also the wood of *gustonia* and *rocurella*; but as none of these have been found to possess virtues superior to those already mentioned, we shall, for the sake of brevity, omit them here.

WATER, ROOTS, TWICE A DAY, THREE TIMES

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