PART VIII.

CHOICE IN INTERMARRIAGE AS PRESCRIBED BY THE NATURAL LAWS AND THEIR MODIFICATIONS.

SECTION I.

GENERAL OBSERVATIONS ON AGE, STATURE, ETC.

In the various sections of this part, the facts and principles stated in the preceding parts of the work, as well as those in the work on "Beauty," are briefly referred to, in order to apply them to choice in intermarriage. The brief reference made to these facts and principles, however, will be quite inadequate, unless, by the perusal of the preceding parts, and of the work on "Beauty," they are previously well understood; such reference now serving the purpose merely of calling them to mind.

With regard to age, it has been seen that it is most natural to the young man to admire beauty of the locomotive system;—to the middle-aged man, to admire beauty of the vital system;—and to the older

man, to admire beauty of the mental system; but that, as woman is more precocious than man, she becomes more advanced in reference to sex, than man at the same age; and, consequently, to be duly matched to her husband, the wife should be the younger.

As the average stature of woman is two or three inches less than that of man, and her whole figure is slenderer, these proportions are naturally preferred. Women, indeed, who are too tall, are generally awkward; and a low stature is far less objectionable.

Man, as we have seen, has the shoulders wider than those of woman: woman has the hanches more capacious than those of men. The upper part of the body also projects less anteriorly, and the lower part projects more in woman than in man. The hanches of woman are more apart; her hips, more elevated; her abdomen, larger; and her thighs, more voluminous. And as, with these proportions and developements, all the functions most essentially feminine—impregnation, gestation, and parturition, are intimately connected, such proportions and developements are naturally preferred.

In woman, consequently, as an object of choice, the head, shoulders and chest, should be relatively small and compact; and the arms and limbs should be relatively short, and should taper as they recede from the trunk, while the hands and feet should be small. Thus her body should taper upwards, as her limbs taper downwards.

Owing, then, as we have seen, to smaller stature, and to greater size of the abdomen, the middle point

of the figure, which is at the pubes in man, is higher in woman; and this also he prefers in her, as an object of choice;—as well as that her members be, as naturally they are, more rounded, less hard, her forms less angular, and her traits finer.

The reader has further seen that man naturally and necessarily seeks next, not for qualities which are his own, but for those of which he is not in possession—something different, something new, something capable of exciting him; that this conforms to the fundamental difference of the sexes; and that those marriages in which such qualities exist are always more prolific than others. He bears in mind Mr. Knight's corroboration of this, that "the most powerful human minds will be found in offspring of parents of different hereditary constitutions," and that he has "witnessed the bad effects of marriages between two individuals very similar to each other in character and colour, and springing from ancestry of similar character."

Amidst these differences, it is evident that we should profit by rendering them the means of correcting faulty organization, and of annulling in children the effects of hereditary predispositions.

Now, on this important point, the reader is aware that, according to the laws of resemblance, the qualities of the father and mother are communicated to their progeny, not in various and minute fractional parts, but in halves—in the anterior, or the posterior, series of organs, and in no other way; that man, however, has to do only with the law of selection, because by its means he can achieve every influence

upon progeny; and that, by placing himself in suitable relation to an appropriate partner in intermarriage, man, unless all the most undisputed *facts* of breeding be *false*, has (precisely as the breeder has among lower animals) the power to reproduce and to preserve either series of organs—the best, instead of the worst portion of his organization.

The reader will probably remember the observation of Dr. Pritchard, that "If the same constraint were exercised over men, which produces such remarkable effects among the brute kinds, there is no doubt that its influence would be as great;" while he has seen the establishment of those natural laws of which neither such writers, as they themselves avow, nor the breeders of animals, had any conception.

In these general observations, it remains only to remind the reader, that the organization of the woman destined to reproduce, should be of the best kind; and that maturity, exercise and perfection in every function, are equally essential; for, as are these and their adaptation to the male, so will be the perfection of the progeny.

In society, however, we see persons not only regardless of imperfect organization and function, but of actual disease. Some consequently, are childless; whilst others become the parents of beings destined to a life of suffering. Laws assuredly ought to prescribe proper means for insuring the natural conformation and health of both parties, and should forbid marriage before each had furnished a certificate vouching for these. Monstrosities and diseases capable of being transmitted by generation, should also be regarded as

so many physical causes of divorce. By this means, not only sterility and deformities, but degeneration of the species, would be avoided.

SECTION II.

AS TO THE LOCOMOTIVE SYSTEM.

From my work on "Beauty," I may first quote a general account of beauty of the locomotive system, as necessary to understanding the subject, and as a guide to choice.

"In the woman possessing this species of beauty, the face is generally somewhat bony and oblong;—the neck, less connected with the nutritive system, is rather long and tapering;—the shoulders, without being angular, are sufficiently broad and definite for muscular attachments;—the bosom, a vital organ, is but of moderate dimensions;—the waist, enclosing smaller nutritive organs, is remarkable for fine proportion, and resembles, in some respects, an inverted cone;—the hanches, for the same reason, are but moderately expanded;—the thighs are proportional;—the arms, as well as the limbs, being formed chiefly of locomotive organs, are rather long and moderately tapering;—the hands and feet are moderately small;—the complexion, owing to the inferiority of the nutritive system, is often rather dark;—and the hair is frequently dark and strong.—The whole figure is pre

cise, striking, and often brilliant.—From its proportions, it sometimes seems almost aerial.

"To this class belong generally the more firm, vigorous, and even actively impassioned women; though it may doubtless boast many of greatly modified character.

"The chief modifications of this species should next be understood.

"The first of these is that in which the developement of the bones, those of the pelvis excepted, is proportionally small.—This character will be especially apparent where the long bones approach the surface; as in the arm immediately above the wrist, and in the leg immediately above the ancle.

"The second modification of this species of beauty is that in which the developement of the ligaments and the articulations they form, those also of the pelvis excepted, is proportionally small.—This conformation will be especially apparent,—in the arm, at the wrist,—and, in the leg, at the ancle.

"The third modification of this species of beauty is that in which the developement of the muscles is proportionally large around the pelvis, and delicate elsewhere.—This conformation being concealed by the drapery, may nevertheless be conjectured from the imperfect view of the hip, or of the calf of the leg, or more accurately by means of the external indications of form given elsewhere."

The points of beauty as to the trunk and extremities must lastly be understood, as essential to choice.

In the former, the shoulders should not be much narrower than the pelvis, because that would indicate excessive weakness of the locomotive system.

The upper part of the trunk, including the shoulders, should form an inverted cone, because otherwise the lightness and beauty of the locomotive system is destroyed.

As to the trunk, the rest is obvious from the preceding general description.

In the arms, it must be remembered that the bones, ligaments and muscles belong to the locomotive system, and their fundamental beauty depends upon its proportions; while to the nutritive system are owing in woman, their roundness, their softer forms and their more flowing outlines.

The hand in woman ought to be much smaller, plumper, softer and whiter than in man, gently dimpled over the first joints, having the fingers long, round and tapering, the other joints marked by slight reliefs, the fingers delicate and flexible, and the nails extending as far as their tips, arched, smooth, polished, slightly transparent, and rose-coloured. Some of these circumstances, however, depend on the vital system.

The form of the hand appears, in some cases, to have more of an intellectual character than in others; nor is this to be wondered at, seeing that it is the principal organ of sense which is the most valuable.

It should always be remembered, that want of moderate exercise of every kind is the great cause of universal deformity of the arms among women of the more opulent classes.

In regard to the lower extremities, (of which also the bases belong to the locomotive system, though some characteristics of the vital system must be involved in describing them,) it is essential to remember, that the width of the haunches should cause the further separation of the thigh-bones; that the muscles of the thighs having larger origins from the pelvis, should be more voluminous; that the haunches should reach their greatest extent at the upper part of the thighs, which also rise anteriorly as high as the pubes; that the thighs of women should, consequently, be remarkable for their fulness,—much of the delicacy, ease, suppleness, and grace of the female form resulting from this; and that they should also be more curved before than in man.

It is also to be remembered, that the knees should approximate; that all the other parts of the limbs should present forms more softly rounded; that the feet being smaller, the base of support should be less extended; and that the feet are susceptible of a great degree of beauty.

It is evident that woman's extremities being thus feeble, her muscular power is confined chiefly to the vicinity of the pelvis.

As the parts of the limbs are concealed by drapery, the best external indications of their form, and the developement of their parts, must be referred to in my work on "Beauty."

As connected with the muscular system and with expression, it is known that the flute part of the throat in woman should be smaller than in man; and that her voice should also be much more acute.

Such being essential characteristics of this system in woman, the best guidance in choice is thereby afforded. One or two observations may be added.

Although, in the locomotive system, man generally prefers a less stature, woman a taller, Rousseau's observation must be remembered—that "by the extreme weakness of women commences that of men," and that "women ought not to be robust *like* men, but *for* them, in order that the men born of them may be so likewise."

It has been observed, that if sexual proportions be reversed, by man being little, and woman tall, those opposites will naturally be sought for; and that an effeminate man is better matched with a masculine woman, though for him it is a despicable position.

It has also been observed, that the female may give her locomotive system, character, or shape to progeny, simply by being relatively more vigorous; but that vast disadvantage must attend this method, since it implies the relative debility of the male parent.

It has likewise been observed, that the shorter body, longer limbs, and meagre frame of some of our own northern races may, in progeny, be corrected by intermarriage with the longer bodied, shorter limbed, and more fully formed races of our south-eastern counties.

From what has been previously said, it will moreover appear, that, in choice, deception as to some points which the mother may be supposed capable of communicating to progeny, will be avoided, by bearing in mind that either the eyebrows, or the lower part of the nose, or the under lip, in the woman

chosen, will probably be altered in her progeny; and also that the parent who gives the locomotive system does not give the carriage and the manner of walking, and consequently, though a woman may possess both of these last, she cannot communicate both.

Respecting choice in the locomotive system, I have only to add a few words as to the influence of exercise on the forms of progeny.

It is well known that the hands of a man who labours are much larger and stronger than those of one who never labours; and accoucheurs have observed, that the hand of the son of such labourer will be larger, and better adapted for labour in consequence. The same is the case with every part of the locomotive system.—On the contrary, families of ancient ancestry, whose progenitors have for ages lived in indolence, are small in bodily frame and locomotive system.

Defect of this kind is more frequently derived from the female than from the male. Women of the opulent classes are kept, whilst young and growing, to ornamental work, books and music. They seldom go on foot to any distance from home, but employ easy, close and warm carriages, so that their locomotive system is not developed by exertion. Even their music is less frequently attended by exercise than it ought to be. Hence, these females are delicate and diminutive in stature, whilst the farmer's daughters, who take an active part in household affairs, are strong and healthy.

The males of these families do sometimes make the best of their natural frame, by athletic exercises; but

that will not completely remedy the defects of a bad locomotive system derived from a mother brought up in indolence and ease; and they may, as observed by Mr. Thacker, to whom I am indebted for several good observations on this subject, be considered as only half-bred.

Moreover, they generally intermarry with those who have been reared and brought up like their mothers, which may be regarded as a kind of in-and-in breeding, and which has its ill effects. In some cases, indeed, a degree of absolute in-and-in breeding is added to all other defects; and this continuing generation after generation, these families rapidly degenerate in stature and muscularity.

Even during pregnancy, too sedentary a life is injurious both to the mother and the infant, and for this reason women in the country, who are inured to daily toil, give birth to strong healthy children, and are also generally more fruitful.

It is not, therefore, sufficient that human beings should be born with a good organization only: in order either to retain this, or to convey it to their descendants, they must preserve it by exercise in the highest state of developement.

It is well known, that if a stallion be prevented, even by accidental lameness, from obtaining exercise, he is sure to be deficient in muscular powers, and to convey that deficiency to his offspring. It is also known, that even a horse or mare's being no longer capable of ordinary work, or having suffered from hard and continued labour, is certainly injurious to

progeny.—The laws of nature are simple and universal.

SECTION III.

AS TO THE VITAL SYSTEM.

I have already observed, that the vital system is peculiarly the system of women; and that so truly is this the case, that any great employment either of the locomotive or mental organs, deranges the peculiar functions of woman, and destroys the characteristics of her sex. The women of the labouring classes are notorious examples of this; and intellectual ladies either seldom become mothers, or they become intellectual when they have ceased to be mothers.

I give a general description of this species from my work on "Beauty."

"In the woman possessing this species of beauty, the face is generally rounded, to give greater room to the cavities connected with nutrition;—the eyes are generally of the softest azure, which is similarly associated;—the neck is often rather short, in order intimately to connect the head with the nutritive organs in the trunk;—the shoulders are softly rounded, and owe any breadth they may possess, rather to the expanded chest, containing these organs, than to any bony or muscular size of the shoulders themselves;—

the bosom, a vital organ, in its luxuriance, seems laterally to protrude on the space occupied by the arms ;—the waist, though sufficiently marked, is, as it were, encroached on by that plumpness of all the contiguous parts which the powerful nutritive system affords ;—the hanches are greatly expanded for the vital purposes of gestation and parturition ;—the thighs are large in proportion ;—but the locomotive organs, the limbs and arms, tapering and becoming delicate, terminate in feet and hands which, compared with the ample trunk, are peculiarly small ;—the complexion, dependent upon nutrition, has the rose and lily so exquisitely blended, that we are surprised it should defy the usual operation of the elements ;—and there is a luxuriant profusion of soft and fine flaxen or auburn hair. The whole figure is soft and voluptuous in the extreme.

"To this class belong all the more feminine, soft, and passively voluptuous women."

The chief modifications of this species of beauty should also be understood.

The first modification is that in which the digestive and absorbent system is small but active.—Hence women affect delicacy of appetite, and compress the waist, and endeavour to render it slender.

The second modification of this species of beauty is that in which the circulating vessels, being moderately active and finely ramified, render the surface of the skin turgid with transparent liquids, diffuse under that, the light and warm colouring of youth, permit the shades of azure veins to appear, or, where more patent, cast the hue of the rose over that of the lily.

The third modification of this species of beauty, is that in which the active secreting vessels not only cause the plumpness, elasticity, softness, polish and whiteness necessary to beauty, but furnish the mammary and uterine secretions.

It is now essential to a rational guidance of choice, to point out suitable conditions of the vital system, as to age, form of the pelvis, &c.

With regard to age, if that labour of nature which is necessary for the completion of the organization be troubled by premature marriage, woman remains always of small stature, weak and pale.

If pregnancy ensue, breeding will still more interfere with the development of her structure and strength; she will be liable to abortions and fluxes; and the pains of childbirth may destroy her.

If she become a mother, she cannot afford to her offspring a sufficiency of nutritious milk; her children will be weak and ailing; she must submit, in rearing them, to attentions and vigils exceeding her strength; and her youth will be passed in anxiety and grief, which bring on premature old age.

Moreover, to the due performance of the duties of the married state, the greater or less development of another order of faculties—those constituting mind, must be taken into consideration.

For all these reasons, it is prudent to allow an interval of at least two years to take place between the appearance of the catamenia and marriage; for it is then generally that they have acquired regularity, that woman reaches the period of her full growth, and

that there is a surplus of vital power necessary for the reproduction of the species.

The age from twenty to twenty-five is the period at which women in England appear best adapted for becoming mothers.

It may here be observed, that when a man past sixty marries a young girl, as is sometimes the case, he often pursues only the shadow of a pleasure of which he can no longer seize the reality; and the misery entailed upon a young girl by marriage with an old man, should alone be a sufficient reason for legal opposition to such union.

A well-organized woman, on the other hand, is not indifferent when the catamenia have ceased. This occurs only in countries where, as in France, the vital system is bad. But it may perhaps be doubted by some, whether the marriage of a female in whom the characteristic sign of fruitfulness has ceased, should be suffered by law, seeing it is injurious to the state to deprive it of that portion of the population that could have been furnished to it by the young husband whom she usually appropriates. Dionysius the Tyrant replied to his mother, who, at an advanced period of life, wished to marry a young man, "It is in my power to break the laws of Syracuse, but not those of nature." I believe that Dionysius was wrong; and that these women are essential to the economy of nature.

No circumstance, in choice, is more important than the form of the pelvis in woman; for upon this depends her own fate and that of her infant.

That several national varieties exist in the form of

the pelvis, appears to have been first clearly shown by Dr. Vrolik of Amsterdam, whose observations have been reviewed by Professor Weber, of Bonn. In Weber's opinion, the most frequently occurring form of pelvis among Europeans, is the oval; the most frequent in the American nations, the round; the square, in people resembling the Mongolians; and the oblong, in the races of Africa; and there is a correspondence, between these diversities and the shape of other parts of the skeleton, and even of the skull.

In intermarriage, the size of the pelvis is of vast importance. It is evident that the head of the fœtus, which is generally five inches in diameter, cannot be expelled through the inferior aperture, if that is only about one half that diameter. A woman thus formed, if unfortunately she become pregnant, will be under the necessity of undergoing the Cæsarian operation, or the section of the symphysis pubis, or of witnessing the sacrifice of her child, by the accoucher.

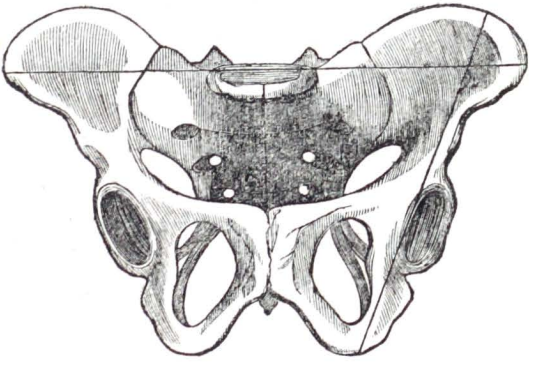
These malformations can in general scarcely be known without an examination which is opposed by modesty; and their existence consequently is often a secret till the first accouchement.

We may, however, suspect malformation of the pelvis, says a recent writer, "when the hollow of the back is so great as to force the last lumbar vertebra into the upper part of the cavity of the pelvis; when the irregularities of the hip bones elevate it too much on one side; when the the thighs press too much against each other in walking; and whenever there remain any traces of rachitis, such as crookedness in

the long bones, or any extraordinary development of their extremities.

It is observed, nevertheless, that "there are some very deformed women in whom the pelvis possesses its natural proportions, so that they are delivered with ease; whilst there are many who, with the appearance of regular conformation, have some malformation that renders their first accouchement almost inevitably mortal.

"As some persons may feel disposed to measure the exterior of a young female pelvis, for the purpose of forming a somewhat correct opinion as to its capacity, and whether delivery will be easy, or if the assistance of art will be necessary, the following calculations have been given, as nearest to the true dimensions in females of middle size and moderate plumpness.



"From the upper part of the pubic eminence to the sacrum, above the projection formed by the spinal

apophysis of the last lumber vertebra, there are, in a well-formed pelvis, seven French inches; (190 millimetres) from the extreme projection of one hanch or spine of the ilium to the other, eleven inches, six lines; (300 millimetres) from the extreme projection of one hanch to the top of the tuberosity of the ischium of the same side, seven inches, eight lines, (200 millimetres.)

"A knowledge of the extent of the sacro-pubic diameter, is almost always the most important as regards any conception of the issue of a laborious delivery. The best method of obtaining this, in a living person, is, in measuring the exterior of the pelvis, to deduct from the total space existing between the pubic eminence, and the top of the spinal apophysis of the first false vertebra of the sacrum, the known thickness of the base of that bone, and of the articulation of the pubes, in addition to the approximate thickness of the teguments and cellular tissue that cover these parts. This calculation is very simple, and its result differs very little from the actual dimensions of the diameter required."

"What space of pelvis," says Dr. M. Good, "is absolutely necessary to enable a living child, at its full time, to pass through it, has not been very accurately settled by obstetric writers, some maintaining, that this cannot take place where the conjugate diameter is less than two inches and a half, though it may till we reach this degree of narrowness; and others, that it cannot take effect under three inches. The difference in the size of the head in different children on their birth, and of the thickness of the soft parts with-

in the pelvis in different women, may easily account for this variation in the rule laid down. It is clear, however, from the acknowledgment of both parties, that if the dimension of the pelvis be much under three inches, delivery cannot be accomplished without the loss of the child."

It is the duty of medical attendants and relatives, says the writer before quoted, "to point out to a female whose pelvis is ill formed, that, in marrying, she exposes herself to suffering which may end in death." It would, however, be well if a law were in existence, that no girl should marry when any malformation, duly attested by medical men, renders delivery physically impossible without imminent danger to the mother, or to the child, or to both. To allow marriage between a healthy and active person and an infirm or deformed being, is to attack the happiness and health of the former, or the life of the latter.

Into choice, the consideration of the signs of virginity next enter.

These are principally the presence of the hymen, and some appearance of the sanguineous fluid at the first union.

The hymen is a membrane of semilunar, or, occasionally, of circular form, which is stretched across the orifice of the vagina, leaving only an aperture sufficiently large to permit the catamenia to pass. It appears to be merely a duplicature of the membrane which lines the interior of that canal; and it diminishes in width until it is obliterated by exercise of the part.

The importance of this sign is not the same among

all nations. Amongst the greater part of the nations of Asia, and in some of those of Africa, and even among barbarous hordes in Europe, proofs of virginity are required on the marriage night. Among others, on the contrary, an opposite estimate is formed. Conolly tells us that, among the Toorkmans, "for a man to marry a widow is a difficult matter; for, unlike the Arabs, who consider marriage with widows ill-omened, the Toorkmans prefer them on account of their superior knowledge of the ménage, they being of course better acquainted with household duties than unmarried girls. In Arabia, only half price is given for a widow; but the Toorkman relicts are generally at a considerable premium. It was related as an instance of a man's great generosity, that he gave his daughter, a widow, to the brother of his deceased son-in-law, when he might have gotten to the value of ——— I am afraid to say how many tomauns for her.

The hymen exists in the fœtus, and in women in whom it has not been destroyed by circumstances connected or unconnected with defloration. It has not, however, been bestowed exclusively upon women, as Haller imagined, as a distinctive mark of virginity. All the females of the mammiferous animals, of monkeys particularly, and even of cetacea, exhibit the hymen more or less developed.

This duplicature may be wanting from original malformation; the first catamenia, if the aperture be small,—or an accident, as a fall,—or disease, as an ulcer, may destroy it. Its loss for the most part is no proof of the absence of virginity.

On the other hand, the presence of this membrane

cannot constitute a sign of virginity. Zacchias observes, that it is not ruptured when it is thick and hard, when there is a disproportion between the organs, or when the sexual union has taken place only at periods of great relaxation. Gavard found it perfect in a female thirteen years of age, who was labouring under syphilis. Even conception has occurred in some cases, without the destruction of this membrane. Ruysch mentions an accouchment, which could not be completed without dividing a double hymen, which had not interfered with impregnation, but which prevented the exit of the child. The female, who was the subject of this case, had been long making useless efforts for her delivery, when Ruysch was called in. He perceived a first obstacle, a very thick and strong hymen; and he divided it. A second obstacle appeared in a second membrane; and a second incision was requisite. The delivery was then accomplished.

Baudelocque says, "It is well known that the hymen is not always torn in the first union; and that it has been found entire in some women at the time of labour, I can myself adduce two examples." The first was that of a young lady who assured him that she had not allowed perfect access. In this case, the hymen shut the vagina very closely, and left but a very small opening. She, nevertheless, became pregnant; and the parts were so found at labour. In the other, the membrane alone resisted, for half an hour, all the efforts of the last periods of delivery.

Dr. Blundell says, "Four impregnations, in which the hymen remained unbroken, have fallen under my

notice; the diameter of the vaginal orifice not exceeding that of the smaller finger; and this, too, though the male organ was of ordinary dimensions." And again, "I know of three cases in which the organ was not suffered to enter the vagina at all, and where, nevertheless—I suppose from the mere deposition of the reproductive liquid upon the vulva, impregnation took place."

An anthropological fact which sets this question completely at rest is this, which I have myself observed in the dissecting-room, namely, that the hymen is re-formed in women who abstain from sexual indulgence. This was found to be the case in the body of an old woman who bore evident marks of having been the mother of children.

Marc, in the Dictionnaire des Sciences Médicals, says, "A young female severely afflicted with syphilis, was brought to La Pitie. The hymen was altogether wanting; the vagina greatly dilated; and the external reproductive parts diseased. She was cured; and, to the astonishment of the medical observers, a well-formed semilunar hymen was found."

Any flow of the sanguineous liquid is a sign equally uncertain.

The bright red colour of the nipples, says Beck, the hardness of the mammæ, and the general appearance of the female, all deserve attention, but they can seldom be of any practical utility in determining the point under examination.

As to the increased size of the neck, it is certain that indulgence may momentarily cause it. Hence the Romans were in the habit of measuring the thick-

ness of the bride's neck with a thread both on the morning of marriage, and the following one, and of thence concluding concerning her change of condition. We may, however, reasonably doubt the infallibility of this sign, as circumstances unconnected with marriage produce the same phenomenon.

The lobe of the ear is asserted by some to be most frequently of a very bright and lively red.

Considering the whole of these signs, the faculty of medicine at Leipsic has declared that there does not exist any true and certain sign of virginity; and Morgagni is of a similar opinion.

If there be few or no signs of virginity, it is far otherwise with signs of the habit of child-bearing, which I have described in the work on Beauty.

The more minute indications of this kind are the streaks of fissures left on the abdomen and mammæ, owing to their previous distentions; and others which affect the reproductive organs, but which need not here be described.

Having now described beauty of the vital system and its modifications, pointed out the suitable conditions as to the age and the form of the pelvis, shown the uncertainty of all signs of virginity, and referred to those of child-bearing, it seems expedient, after these generalities, to give some account of the particular causes of importance—hermaphrodism, malformation and diseases, before describing those of aptitude for reproduction—the chief considerations as to choice, except those regarding age and the pelvis, which fall under the vital system.

Respecting impotence, the law of England as laid

down by Blackstone, is as follows :—" A total divorce is given whenever it is proved that corporeal imbecility existed before marriage. In this case, the connexion is declared to be null and void, *ab initio*. Imbecility may, however, arise after marriage; but it will not vacate it, because there was no fraud in the original contract, and one of the ends of marriage, the procreation of children, may have been answered."

By the English and Scottish law, sterility is a ground for divorce —according to the latter, only *à mensâ et thoro*.

The particular causes of sterility are either malformations or diseases of the reproductive organs.

Under the first head falls hermaphrodism, and here it is hardly necessary to say, that proper hermaphrodites, or beings having all the reproductive organs of both sexes, and capable of performing both kinds of reproductive functions, are altogether fabulous.

An enlargement of the clitoris in woman is the cause of most of the mistakes on this subject. This enlargement seldom occurs in Europe, but it is frequent in warm climates, where its excision is a common practice.

Sir Everard Home relates an instance of this kind in a Mandingo negress, twenty-four years of age.—Her mammæ were very flat; her voice rough; and her countenance masculine. The clitoris was two inches long, and in thickness resembled a common-sized thumb. When viewed at some distance, the end appeared round and of a red colour; but, on closer inspection, it was found to be more pointed than that of a penis, not flat below, and having neither prepuse nor

perforation. When handled, it became half erected, and was then three inches long, and much larger than before. On voiding water she was obliged to lift it up, as it covered the orifice of the urethra. The other parts of the female organs were in a natural state.

Dr. Davis refers to a state of extirpation of the clitoris by Mr. Richard Simmons of London, in which the length was nine inches, and the circumference of the largest part of the stem, five inches. Its general appearance was very smooth and fleshy, and its upper surface covered with cuticle.

M. St. Hilaire, who has paid great attention to this subject, divides the reproductive apparatus into six different portions or segments, three on a side, which, in several respects, are independent of each other: 1 and 2, the deep-seated organs—tests and ovaries; 3 and 4, the middle organs—matrix or prostate and vesiculæ seminales; 5 and 6, the external organs—penis and scrotum, clitoris and vulva.

When the number of these parts is not changed, and there is simply a modification in their developement, we have the first class or hermaphrodism without excess. This again is subdivided into four orders. —1. Male hermaphrodism, when the reproductive apparatus, essentially male, presents in some one portion the form of a female organ—as a scrotal fissure, resembling in some respects a vulva; 2, female hermaphrodism, where the apparatus, though essentially female, yet offers in some one portion the form of a male organ, as in the excessive developement of the clitoris; 3, neutral hermaphrodism, when the portions of the sexual apparatus are so mixed up, and so am-

biguous, that it is impossible to ascertain to what sex the individual belongs; 4, mixed hermaphrodism, when the organs of the two sexes are actually united and mixed in the same individual.—Of this last, there are several species: alternate, when the deep organs belong to one sex, and the middle to the other, while the external present a mixture of both; lateral, in which the deep and middle organs, when viewed on one side of the median line, appear to belong to the male sex, while on the other they are female; the external organs, as in the former species, being partly male, and partly female, &c.

The second class includes all anamolies with excess of parts, and is divided into three orders:—1, Complex male hermaphrodism, where we find, with an apparatus essentially male, some supernumerary female organ, as a matrix, &c.; 2, complex female hermaphrodism, with the addition of a male organ, as a testis, &c., to an apparatus essentially female; 3, bisexual hermaphrodism, where a male and female apparatus exists in the same individual.

M. St. Hilaire remarks, that legislation, admitting only two grand classes of individuals, on whom it imposes duties, and to whom it grants different and almost opposite rights, according to their sex, does not truly embrace the entire of the cases which occur in nature: for there are subjects who have really no sex, such as neuter hermaphrodites, and hermaphrodites mixed by superposition; and, on the other hand, certain individuals, the bisexual hermaphrodites who present the two sexes united in the same degree.

In a remarkable case of this description, which oc-

curred in Paris to Professor Bouillaud, the subject, aged sixty-two, a widower, who died of Cholera, was apparently a male; yet, on dissection, a matrix with its ovaries was found. There was a perfect prostate gland; the testes, vesiculæ seminales, and vasa deferentia, were wanting; the penis had a well-formed glans and prepuce; a vagina of about two inches long, connected the matrix with the urethra; the external reproductive organs of the female were entirely absent; but the general confirmation (except a thick and soft beard) inclined to that sex.

M. St. Hilaire and Manec observe on this case, that "we must distinguish the organs of reproduction from those of mere coition: there may be an amalgamation or co-existence of the latter, but not of the former."

The notice of other malformations naturally follows that of hermaphrodism; and on this subject I am chiefly indebted to Beck.

The absolute causes of impotence in the male, or those for which there is no known relief, principally originate in some malformation or defect in the reproductive organs; and these may be either natural or artificial.

To this class may be referred an absolute want of the penis; the ureters terminating in the perinæum, or above the os pubis.

In some subjects has occurred an amputation of the virile organ.

There are many cases of the penis being impervious.

In an unnatural perforation of the penis, or, in other

words, the extremity of the canal of the urethra terminating at some other place than the natural one, the possibility of impregnation may depend on the distance to which the orifice is thrown back.—A case is related by Mr. Hurd, in which the patient had been relieved by complete amputation; there was only a very small protrusion of the organ on pressure; yet he had, subsequent to this, two children.

The natural want of both testes, provided that ever occurs, or their artificial loss, must be a cause of impotence.*

The loss of one of the testes, if this were compensated by a healthy condition of the other, would be no ground of dread. But if the remaining testis be small and extenuated, or have become scirrhous or carcinomatous, or even if the epididymis be tumefied and hard, it gives reason to expect impotence.

In woman, there are various malformations that form an obstacle to conception.

It is asserted, on the authority of Hufeland, that the the body of a child three years old was opened at Berlin, in which there was not the slightest trace, either externally or internally, of any part of the reproductive organs peculiar to either sex.

Cases of congenital deficiency of the vagina, though very rare, have occurred.

An obliteration or thickening of the sexual organs, so as to prevent any access, occurs.

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* In many instances these organs have not descended from the abdomen, and yet the individual has exhibited every proof of virility.

Congenital brevity of the vagina would seem to be occasionally an incurable cause, so far as relates to the pain caused by coition, although possibly it may not be accompanied with sterility.—Dr. Hunter, being consulted by a lady in a mask, thus circumstanced, told her that she was the most unfortunate partner a man could have, as there was no cure. Dr. Dewees appears to have met with two cases. In one, the whole distance to which the finger could be passed did not exceed one inch or and inch and a half; in the other, it was apparently connected with an absence of the uterus, as the vagina terminated in a cul de sac.

Sometimes the vagina is found thus ending in a cul de sac.

Another cause both of impotence and sterility, is a natural or fistulous communication of the vagina with the bladder or rectum.

Fabricius of Hilden, in tracing the causes of barrenness in a woman who had been twice married without having any family, found the orifice of the matrix schirrous, and closed so completely that it was impossible to introduce the smallest probe into its interior.

Ruysch and Littre have observed the imperforation of the neck, in opening females who had been barren.

The vagina and matrix have been found closed with a dense fleshy substance.

The absence of the matrix occurs. Columbus states that a female who suffered acute pains when she indulged in pleasures, exhibited, on a post mortum ex-

amination, only a slight swelling or pad at the extremity of the vagina.

In these different cases, we can ascertain the absence of the matrix by introducing on one side a sound into the bladder, and on the other the forefinger into the rectum. The proof will be decisive, if we cannot find any voluminous body between the finger and the probe.

It would appear that, though the matrix is wanting, if the ovaries exist, the mammæ and the external characteristics of womanhood exist.

This occurred in a case where the vagina was closed by a thick, muscular-looking substance, operated on by Dr. Macfarlane, of Glasgow. The patient died, and, on dissection, no matrix was found, but the ovaries were large and well formed. The breasts were fully developed.

In the case of Agatha Mellassene, who died, aged 27, at the Hôtel Dieu, in 1823, the external organs were well formed, and the mammæ full; yet on dissection, no matrix could be found, but the broad ligaments were present, containing in their folds the fallopian tubes and well developed ovaries.

The uterine tubes may be wanting, or they may be obliterated either by tumors, or be agglutination of their sides, produced by inflammation following excess, abortion, or difficult delivery; and this is doubtless the reason why many females are precluded from conceiving a second time.

The ovaries may be so feebly developed as not to

be in a condition to receive the impression of the fertilizing liquid.

They have been sometimes found originally wanting. Morgagni mentions a girl who exhibited no vestiges of them. Such too was the case mentioned in the Philosophical Transactions. The woman's stature was about four feet six inches, having ceased to grow at ten years of age, and she died at the age of twenty-nine. She never had any catamenia; her mammæ and nipples never enlarged more than in the male subject; there was no appearance of hair on the pubes; and she never showed any passion for the male sex. On dissection, the os tincæ and matrix were found of the usual form, but they had never increased beyond their size in the infant state; the passage into the matrix through the cervix was oblique; the cavity of the matrix was of common shape, and the fallopian tubes were pervious to the fimbriæ; the coats of the matrix were membraneous; and the ovaries were so indistinct, as rather to show the rudiments which ought to have formed them, than any part of their natural structure.

Mr. Pott removed the ovaries in a case of sanguinal hernia, by a surgical operation.—Before this period, the female (aged twenty-three) was stout, large-breasted, and had the catamenia regularly. Afterwards, although she enjoyed good health, she became thinner, her mammæ were gone, and she never had the catamenia.

Such are the incurable cases. The curable are very different.

Elongation of the nymphæ and clitoris are both sus-

ceptible of cure, and do not present any obstacle to conception. Even with regard to these, however, it should be remembered that accidental monstrosities, malformations and changes produced by habit and education, either in forms or qualities, pass from the parents to their posterity.

Exterior imperforation may sometimes be remedied by the surgeon's skill.—Dupuytren in his Essay on Laceration of the Perinæum during Labour, mentions two cases. He delivered a young woman secretly. The perinæum was ruptured, but by the use of the suture it again united. Several years afterwards, a man and woman visited him: the husband was unable to consummate his marriage. On examination, the aperture of the vagina was found very narrow, and a cicatrix was on the perinæum. It was his old patient. He advised patience; and, in a short time, the female became pregnant, and was safely delivered.—In a parallel case, the husband deemed it a most unequivocal proof of previous purity.

The contraction of the conduit itself may be enlarged by gradual dilatations. Should pregnancy intervene, dilatation gradually takes place before the period of delivery; this occurs more readily in young females than in those of advanced years.

In a case reported by M. Villaume, the hymen was present, but there was merely a mass of cellular tissue in place of the vagina; and by an operation, an opening was made to the matrix. Dr. Physick is also stated to have operated with success in a case where the vagina was entirely closed up to a considerable distance within the os externum.

The obliquity of the matrix merely requires some management in the act of reproduction.

After malformations should follow diseases, as more or less to be guarded against in choice.

In men, mutilations, or severe wounds of the reproductive organs, carcinoma of the testes or penis, and a schirrous or a paralytic state induced by injury to the nerves or muscles of the parts, are all likely to prevent cohabitation.

Owing to complete and constant abstinence from coition, the internal spermatic organs, as well as the penis, shrink, and become inert, constituting impotence.—As an infant, says the canon law, is unfit for marriage because it is unable to perform its duties, in the same manner men who are impotent have no right to contract this obligation. It is moveover an act of deceit and felony.—In this case, even a desire to live with a fair fame should induce the deceived wife to claim the dissolution of a contract entered into with imposture and fraud.

With regard to both sexes, everything that tends to diminish the energy of either, as debauchery, is at variance with reproduction.

Thus, in very voluptuous women, conception may sometimes have really taken place, and its product be, immediately after its arrival in the matrix, destroyed by sanguine and other exhalations produced by frequent and excessive indulgence.

Even a structural change would in such persons seem to cause sterility in some instances. Mr. Langstaff, in several dissections, found the fimbriated extremities of the fallopian tubes on one or both sides

adherent to some of the neighbouring parts; and it is probable that a constant state of inflammatory turgescence in the reproductive organs led to this.

Women who marry late in life conceive always less readily, and those who exercise the mental organs severely and continually are in most cases barren, while in others they become subject to serious accidents in pregnancy, because they carry all their powers towards the brain, and deprive the sexual organs of their natural energy.

Among the causes of sterility of an incurable nature in women, and sensible to the sight or touch during life, Beck reckons the following:—enlarged and schirrous ovaries; a schirrous or cartilaginous matrix; a cancer of the vagina or matrix, owing to the pain that accompanies it; a stricture in the cavity of that organ; a polypus in the interior of the matrix.

"Where," says Dr. M. Good, "there is a manifest retention of the catamenial flux, after it has been once established, producing the general symptoms of disorder noticed in describing this disease, it is rarely that conception takes place, in consequence of the morbid condition of the organs that form its seat.

"For the same reason, it seldom occurs where the periodical flow is accompanied with great and spasmodic pain, is small in quantity, and often deteriorated in quality. And if, during any intermediate term, conception accidentally commence, the very next paroxysm of distressing pain puts a total end to all hope, by separating the germ from the matrix.

"There must be a healthy degree of tone and energy in the conceptive organs, as well as of ease

and quiet, in order that they should prove fruitful : and hence, wherever the catamenia are more frequently repeated than is natural, or are thrown forth, even at the proper time, in great profusion, and, as is generally the case, intermixed with genuine blood, there is as little chance of conception as in the difficult flow. The organs are too debilitated for the new process; and, not unfrequently, there is as little desire as elasticity."

Cancer of the mammæ, as well as of the matrix, when it consists merely of that state of chronic inflammation termed induration, is almost always aggravated even by the most moderate indulgence in the pleasures of love, to which is frequently owing its rapid progress and mortal character.

There exist general diseases which are so injuriously influenced by marriage, that they constitute grounds of celibacy.

Pulmonary phthisis is one of those, of which pleasure, as a powerful stimulant of the circulatory system, must hasten the progress.

In women with marked disposition to aneurisms, or already subject to them, the increased activity of the heart must drive the blood more forcibly against the sides of the vessels; the lateral effort of this liquid must constantly tend to distend them; and if the effort operate upon a part already weakened, it must continually offer less and less resistance, until, even death as sudden as alarming may occur.

Among the curable causes of impotence in men may be enumerated the following :—retraction of the penis, originating from stone in the bladder, or some other

urinary disease; obliteration of the canal of the urethra, from stricture or other causes; malformation as to the place of the aperture of the urethra; a natural phymosis, confining the glans in such a manner as to prevent the emission of the reproductive liquid; atony of the parts arising sometimes from local disease or external injury, and at others from masturbation; inability to propel the liquid out of its vessels—this is frequently an absolute cause, but generally it is a curable one.

Among the diseases that are considered compatible with the act of reproduction, are asthma and the early stages of phthsis pulmonalis.

In many chlorotic girls, marriage would tend to develope the attributes of their sex; but, to marry a chlorotic girl of fifteen or sixteen, with a view to favour the developement of puberty, and especially of the catamenia, is not only to subject her to dangerous risks, but to desire a wife and daughters with similar tendencies to disease.

A state of exhaustion of the uterine system produced by excessive excitement, and added to this the most perfect indifference, explain why courtezans rarely conceive.

In the female addicted to bad habits, the relaxation of the uterine organs, and its consequence, an inability to retain the reproductive liquid, render all who yield to these habits barren.

Long-continued hæmorrhage, recent prolapsus of the matrix or vagina, and even protracted fluor albus, are of course eminently unfavourable.

Narrowness of the vagina occasionally originates

from accidental causes, tumors, callosities, cicatrices remaining after ulcers, or lacerations from difficult labour; and in these cases, dilatation may be made by surgical means.

There are many cases of constitutional sterility, which cannot be at present explained.

As the mare that has slinked her foal is always liable to that accident, so it is with women who have once miscarried.

Having now first described beauty of the vital system and its modifications, pointed out the suitable conditions as to the age and form of the pelvis, shown the uncertainty of all signs of virginity, and indicated those of child-bearing, and having, after these generalities, given some account of the particular causes of impotence—hermaphrodism, malformation and diseases, I now proceed to describe those of aptitude for reproduction—the chief considerations as to choice which fall under the vital system.

I need scarcely say that, in the first place, the reproductive organs must possess a certain degree of development.

The three following conditions, we are told, may induce us generally to expect aptitude for generation in a female: the growth of desire at the period of puberty, the eruption of the catamenia at the right time, and moderate enjoyment of matrimonial embraces. But it is not less truly added, that we meet with females combining all these, who are nevertheless childless, though married many years to men of good constitutions who had previously given proofs of reproductive powers, and that, on the other hand, the ab

sence of these three conditions is not always a certain proof that a woman will not conceive, as some become pregnant without ever having had the catamenia.

It is a nearer approach to a correct view, to observe that "there are temperaments and constitutions more adapted for reproduction than others, in consequence of organic peculiarities and dispositions that it is not in the power of the anatomist to discover; women possessed of such a temperament conceiving generally with great readiness."

A similar approach to the truth is made, when we are told, that "it has been thought that the handsomest women are the most fruitful; that beauty and health should correspond; that there exists an intimate relation, between the perfection of forms and the principal faculties of an individual; and that the principal attributes of beauty in a woman seem to depend, by a secret connexion, on the circumstances of organization most proper to insure conception, and favour the developement of the product."

The simple solution of all these "undiscoverable peculiarities" and "secret connexions" is, that the great condition of aptitude for reproduction is the greatest possible perfection of the vital system.

And here it may be first observed, that the luxuriance of the plains and abundance of nutritious food are favourable to the developement of the nutritive system.

The vital system is relatively largest in little women, especially after maternity.

The chief points in this system are the following:

The length of the neck should be proportionally

less than in the male, because the dependence of the mental and locomotive systems on the vital one, is naturally connected with the shorter course of the vessels of the neck.

The neck should form a gradual transition between the body and head, its fulness concealing all prominences of the neck and throat.

The shoulders should slope from the lower part of the neck, because the reverse shows that the upper part of the chest owes its width to the bones and muscles of the shoulders.

The upper part of the chest should be relatively short and wide, independent of the size of the shoulders, for this shows that the vital organs which it contains are sufficiently developed.

The waist should taper little farther than the middle of the trunk, and be marked, especially in the back and loins, by the approximation of the hips.

The waist should be narrower than the upper part of the trunk and its muscles, because the reverse indicates an expansion of the stomach, liver and great intestine, resulting from their excessive use.

The back of woman should be more hollow than that of man; for otherwise the pelvis is not of sufficient depth for parturition.

Woman should have the loins more extended than man, at the expense of the superior and inferior parts; for this conformation is essential in gestation.

The abdomen should be larger in woman than in man, for the same reason.

Over all these parts, the cellular tissue, and the

plumpness which is connected with it, should obliterate all distinct projection of muscles.

The surface of the whole female form should be characterized by the softness, elasticity, smoothness, delicacy and polish of the forms, and by the gradual and easy transitions between the parts.

The moderate plumpness already described, should bestow on the organs of woman great suppleness.

Plumpness is essential to beauty, especially in mothers, because in them the abdomen and mammæ necessarily expand, and would afterwards collapse and become wrinkled.

An excess of plumpness, however, is to be guarded against. Young women who are very fat are cold, and even sometimes barren.

At the period of the cessation of the catamenia, fatness may exist in a greater degree. It is then that, in well-constituted women, the fat, accumulated in the cellular tissue, rounds the outlines anew, restores the look of youth, and constitutes the age of return.

In no case should plumpness be so predominant as to destroy the distinctness of parts.

In a young woman, the mammæ should occupy the bosom, rise from it with nearly equal curves all around, and similarly terminate in their apices; and, in the mature woman, they should, when supported, seem to protrude laterally.

The space between their apices should be as great as from these to the depression above the breast-bone.

The thinner women (providing the vital system is

good) have a larger bosom, composed of palpable glandular masses, not of fat; and accordingly thinness, with a glandular structure of the mammæ, appears to be favourable to the production of milk.

Women yielding much milk are further distinguished by greater sensibility. A narrower forehead, and longer face, accordingly, indicate more disposition to give milk, than the contrary form.

Excess of application to acquire accomplishments, and particularly music, operate injuriously upon the developement of the vital system generally, and therefore of the bosom in particular.

The skin of woman should be fine, soft and white, delicate, thin and transparent, fresh and animated; the complexion should be pure and vivid; the hair should be fine, soft and luxuriant; and the nails should be smooth, transparent and rose-coloured.

What the vital system will be, even though yet undeveloped, is very well indicated by Mr. Knight's observation, that if in women, he were shown merely a face, short and round, full in the region of the forehead, and having what are commonly called chubby cheeks, but contracted and fine in the nose and mouth, he would unhesitatingly predict the trunk to be wide and capacious, and the limbs to taper thence to their extremities.

As to excess of the vital system, it should be remembered that the impressions made on the skin of the abdomen during gestation, and on that of the mammæ during lactation, result chiefly from a large vital system being united with a small locomotive system, in

which case, the skin of the abdomen and breast is always too tight.

It is preferable that the female should give to progeny the vital system, which in her is always most developed.

In concluding these guides as to the vital system, I must observe that an irritable and impassioned temperament is unfavourable to conception. So is excessive voluptuousness.

Chastity, on the contrary, adds to the force of love, and to the vigour of its organs, and is a sure means of fecundity. Hence animals which yield to the reproductive impulse only at the rutting time, conceive easily. Hence Lycurgus forbade any intercourse between the sexes till a fixed age, which rendered the maidens andromanes.

Moreover, intercourse between the Spartan husband and wife, as they could obtain only furtive enjoyments, was always attended with strong passion and volition. This not only rendered enjoyment more intense, but generated children strong both in mind and body. Nature uses the same means for the preservation of nobleness and beauty among inferior animals: the most vigorous males are always preferred by the females, and the former repel the weaker by force.

This vigour of love, however, has nothing to do with morbid passion or spasm. If woman experiences any spasmodic convulsion, it interferes with conception. Voluptuous spasms are succeeded by weakness and relaxation; the local contraction and closing of the matrix occurs less frequently and less

perfectly; and women thus circumstanced are barren.

We accordingly find that the inhabitants of hot climates, though of warm temperament, have fewer children than those of colder climates, whose passions are more moderate.

We also know that the Arabs race their mares till they are fatigued, before they are put to the stallion, as it renders them weaker and less lascivious; and, in this country, the practice of throwing cold water over the body of a too lascivious animal has evidently for its object to lower the erotic temperament, and to produce a closing of the matrix.

Considering this question in its connexion with pregnancy, it is evident that these frenzies of love counteract the views of nature, and are injurious to the developement of the fœtus.

Certain it also is, that children born of parents either too young or too old, or in a state of mental or bodily disease, in intoxication, or in languor, never possess the excellent organization, observable in children engendered under more favourable circumstances.

The first exercise of her new faculty causes some remarkable changes in woman. Her neck sometimes swells and augments in size: the cause being that the brain at this period becomes more subservient to purposes connected with generation; the communication between the trunk and the head is more frequent, intense and sustained; and the neck, which contains the communicating organs, necessarily increases in size.

The women of calmer temperament, whose placid features announce a gentler and more passive love, often owe to marriage more splendid beauty; while in impassioned women, freshness disappears, and flaccidity succeeds to elasticity.

During pregnancy and suckling, the former generally retain plumpness, while the latter generally become meagre.

Renewed conception, pregnancy, delivery and suckling, hasten debility in feeble, ill-constituted, unhappy and dissipated women.

Having now said all that seems necessary as to the particular causes of aptitude for reproduction,—the chief considerations as to choice which fall under the vital system,—we naturally arrive at the special suitableness of individuals to each other respectively.

It has already been seen that, for the object of nature to be attained, there must not be too great a disproportion of age between the husband and wife.

It is necessary to consider intermarriage, as correcting faulty organization in the vital system.

Excessive length of body, shortness of limbs, and fulness of form, common to our south-eastern counties, may, in progeny, be corrected, as already indicated, by intermarriage with the shorter bodied, longer limbed, and meagre framed northern races.

As to minuter circumstances in the vital system, it has been seen that the dry seek the humid; the meagre, the plump; the hard, the soft; the rough, the smooth; the warm, the colder; the dark, the fairer, &c.; and that, if here any of the more usual sexual

qualities are reversed, the opposite ones will be accepted or sought for.

Even as to colour, Mr. Knight's remark should be borne in mind.—"I prefer a male of a different colour from the breed of the female, where that can be obtained; and I think that I have seen fine children produced in more than one instance, where one family has been dark, and the other fair."

The union of different temperaments and opposite organic predominances, should be favoured; but the notion that the bilious might advantageously be joined with the lymphatic or the sanguine, or that a person in whom any organ is too much developed or too irritable, might contract an alliance with one in whom the same organ is inferior to the others in strength and irritabillity, is founded in the error that both parents may communicate parts of the same system.

Pleasure, or, at all events, the absence of antipathy in the mental nervous system, seems necessary to the formation of a new being; and at least unity or simultaneous concurrence in the vital nervous system are evidently essential. When, on the contrary, there is too great a difference of character, and a married pair cannot enter even into momentary harmony, barrenness must be the result.

We are, indeed, assured that there have been cases in which antipathy, disgust, hatred and even anger, have not proved positive causes of sterility.—But, in these cases, there were periods of conciliation.

Sometimes a difference, an unconquerable incompability of certain points of character, may render any kind of union impossible between two persons, who,

when afterwards paired with other mates, have large families, or who obtain these when age or custom has reduced them to relative harmony; and hence couples, that have been childless for fifteen or twenty years, give birth to children at a more advanced age.

Upon the whole, it appears, as has been already said, that of marriages founded solely on interest, and accompanied either by indifference or antipathy, the results are domestic misery, sterility, or weak and unhealthy children, and numerous crimes.

Place and time, is relation to fruitfulness, are next worthy of notice.

Races inhabiting countries that are moderately cold, are generally more fruitful than those inhabiting hot climates.

In a given number of inhabitants, the provinces furnish a greater quantity of births than their capital cities; notwithstanding the poverty of the peasantry, their coarse and scanty diet, and the toils of agriculture.

The poor quarters of a large town swarm with children; while those inhabited by the wealthy are almost deserted. Indeed, if our cities were not recruited with the surplus population of the country, they would soon become dreary solitudes.

Observation has proved that the spring and summer are the seasons most favorable to conception.

This is determined by the number of births not being distributed over the different periods of the year, but mostly occurring in winter. According to an investigation of the civil registers of Paris for six successive years, the months in this respect range in the

following order,—March, January, February, May, August, October, September, July, November, June, December.

The months, therefore, most favorable to conception are June, April, May, July, August, November.—It is observed, however, that in the richer classes of society in France, who live in the midst of all the accessories of luxury, and make winter their season of enjoyment, the majority of conceptions occur in the months of January, February, and March, and the births in Autumn.

Observation shows that conception takes place more easily after the eruption of the catamenia. Enlightened practitioners now universally grant that "a frugal diet and light food is equally desirable for children both before and after birth; and that milk is more plentiful in a mother who lives upon vegetables and the milk of some quadruped, than in her who pampers herself with delicate and substantial food." Wine, which is injurious to all men without distinction, cannot fail to be very prejudicial to pregnant women.

During this period, it is also granted that women who lead an active life perceive scarcely any change in themselves, excepting the cessation of the periodical flow and a great sensibility of the mammæ. It would therefore be of great importance to abrogate the custom, so prevalent at present amongst females, of remaining constantly idle.

"The very easy labours of Negresses, native Americans, and other women in the savage state," says Mr. Lawrence, "have been often noticed by travellers.

This point is not explicable by any prerogative of physical formation; for the pelvis is rather smaller in these dark-coloured races than in the European and other white people. Simple diet, constant and laborious exertion, give to these children of nature a hardiness of constitution, and exempt them from most of the ills which afflict the indolent and luxurious females of civilized societies."

Some important data, however, are here overlooked by Mr. Lawrence. Roussel observes that, "The women of the Ostiaks have no anxiety as to the time of their lying-in, and do not take any of those precautions which the delivery of European women renders almost indispensable to them. They lie-in wherever they may be, without being embarrassed; they, or the persons who assist them, plunge the new-born infant into water; and the mothers speedily resume their usual occupations, or continue their progress if they are on a journey. As these people are situate near the Samoiedes, and are found between the fifty-ninth and sixtieth degrees of northern latitude, this vigorous constitution has been ascribed to the severity of the climate . . . The women however of the island of Amboyna, toward the third degree of southern latitude, are similarly circumstanced; and authors discover the cause of this in the heat of the climate, which renders, say they, the members of women supple and capable of adapting themselves without difficulty to the efforts of delivery. We may, from this, see how manageable upon this subject are the explications derived from cold and from heat."

The fact is, that the function of parturition is al-

ways more painfully discharged in intellectual regions than in barbarous ones. Travellers have observed this fact, without knowing how to account for it. Nay, they have observed, without attempting to explain the decisive fact, that, in countries where child-birth is naturally easy, it generally becomes difficult if the native woman has been impregnated by a European man.

"This wonderful facility," say Lewis and Clark, "with which the Indian women bring forth their children, seems rather some benevolent gift of nature, in exempting them from pains which their savage state would render doubly grievous, than any result of habit. If, as has been imagined, a pure dry air, or a cold and elevated country, are obstacles to easy delivery, every difficulty incident to that operation might be expected in this part of the continent: nor can another reason, the habit of carrying heavy burthens during pregnancy, be at all applicable to the Shoshonee women, who rarely carry any burdens, since their nation possesses an abundance of horses. We have indeed been several times informed by those conversant with Indian manners, and who asserted their knowledge of the fact, that Indian women pregnant by white men, experience more difficulty in child-birth than when the father is an Indian. If this account be true, it may contribute to strengthen the belief, that the easy delivery of Indian women is wholly constitutional."—This fact is worth a thousand volumes of speculation.

It cannot indeed be doubted that our early education and subsequent life, consisting in thought and

study, even in the artisan, develope the cerebral organs. The difficulty of parturition is greatly owing therefore to the increased capacity of the head. In Genesis it is said, that God condemned woman, after she had tasted of the tree of knowledge of good and evil, to a painful delivery. The allegory, if it is one, as St. Jerome and other fathers of the Church have thought, is beautiful and just.

The round head of the English corresponds exactly with their round pelvis. I had long remarked these separately, without seeing the connexion between them. The pubes, however, which is round in round-headed nations, as the English, is prominent in long-headed nations, as the Scottish. Hence an English woman will suffer more in giving birth to a child by a Scottish man.

Sir Anthony Carlisle informs me, that "Mrs. Wolstonecraft, one of the heroines of her time, and an extraordinarily sensible woman, informed him that the stories about the pains of parturition were excessively exaggerated. And although she died in child-bed, the event was entirely owing to the mismanagement of an impatient doctor."

Professor Chaussier, in solving a question that has reference to medical jurisprudence, is said to have hit upon the idea of examining what point is the middle of the body in an infant of a certain age. He observed that, at six months, it is under the breast-bone or sternum; at eight months, above the navel; and at forty weeks, at the navel itself. The utility of this examination, if it be well founded, is evident, as it would serve to prove whether a child is born at its

proper time, and, in a more enlarged view, to fix the fact whether at a certain epoch one portion of the body is or is not in just proportion with the rest. This would open a new field to the researches of the artist who wishes to study the character of each age, and to the physiologist who takes an interest in gaining an improved knowledge of individuals.

A knowledge of the laws announced in this work, is of great importance in determining the parentage of a child.

Thousands of doubtful cases occur, in consequence of the face presenting little resemblance to one of the parents, and from other causes which may really or seemingly corroborate this one. These laws, however, show that the lineaments of the other parent will always be discovered in the figure, &c.

Here it must be observed, that the doubts arising from this want of resemblance in the face, would much more frequently occur, were it not, that, along with the form of the backhead, which the other parent imparts, go the common appetites, sympathies and passions which bind them together as insensibly as surely. This explains why the parent is generally most attached to the child which is least resembled in face.

The importance of these laws in the guidance of education is not less obvious; for it is evident that they not only indicate the capacity of the child, but corroborate this by all the parent's own experience, whence he will naturally seek eagerly to profit in the person of his child.

As to diseases, parents transmit to children organi-

zation more or less developed and irritable, and corresponding functions; and hence must arise hereditary dispositions to disease—scrofula, consumption, gout, rheumatism, insanity, &c. "There is more doubt," says Mr. Lawrence, "in some other cases, as hair-lip, squinting, club-foot, hernia, aneurism, cataract, fatuity, &c.; of which, however, there are many well-authenticated examples.—I have attended, at different times, for complaints of the urinary organs, a gentleman, whose father and grandfather died of stone."

Mr. Knight (1, December) says, "Has it ever been publicly noticed that, in consumptive families, the hazel and black-eyed children die, and the blue-eyed live? In observations which I have made during the last fifty years, I have never seen a blue-eyed young subject grow into a consumption, that is, I never saw a blue-eyed young person, who grew rapidly, who was tall and slender, with narrow shoulders, contracted chest, and who died about the age of puberty. Whether this circumstance has or has not been noticed by pathologists, the fact is, I am quite certain, correct. A man whose constitution has a consumptive tendency, should therefore choose a blue-eyed wife."

SECTION IV.

AS TO THE MENTAL SYSTEM.

THIS system is not to be sought for, at the cost or to the neglect of the vital system. "Powers of

thought," as Mr. Knight observes, (1, December) "when much exercised, require powers of stomach, for if the stomach feels disordered, the head does not continue clear."

On the other hand, the vital system must not be sought for, to the neglect of the mental. "It deserves well," says Kames, "to be pondered by the young and the amorous, who in forming the matrimonial society, are too often blindly impelled by the animal pleasure merely, inflamed by beauty. [That of the vital system being evidently here alluded to.] It may indeed happen after pleasure is gone, and go it must with a swift pace, that a new connexion is formed upon more dignified and more lasting principles: but this is a dangerous experiment; for even supposing good sense, good temper, and external merit of every sort, which is a very favourable supposition, yet a new connexion upon these qualifications is rarely formed: it generally or rather always happens, that such qualifications, the only solid foundation of an indissoluble connexion, are rendered altogether invisible by satiety of enjoyment creating disgust."

"In the woman possessing this species of beauty," as shown in my work on that subject, "the greater developement of its upper part gives to the head, in every view, a pyriform appearance;—the face is generally oval;—the high and pale forehead announces the excellence of the observing faculties;—the intensely expressive eye is full of sensibility;—in the lower features, modesty and dignity are often united; she has not the expanded bosom, the general plumpness, nor the beautiful complexion of the second

species of beauty;—and she boasts easy and graceful motion, rather than the elegant proportion of the first. The whole figure is characterized by intellectuality and grace.

"This species of beauty is less proper to woman,—less feminine, than the preceding. It is not the intellectual system, but the vital one, which is and ought to be most developed in woman."

The first modification of this species of beauty, is that in which the developement of the organs of sense is proportionally large, and the sensibility great.

The second modification of this species of beauty is that in which the developement of the brain, the forehead excepted, is proportionally small.—Hence the mental system, in woman, is subordinate to the vital; and the reverse is inconsistent with the happy exercise of her faculties.

The third modification of this species of beauty is that in which the developement of the cerebel or organ of the will, as well as its muscles, is proportionally small. Conformably with the smaller size of the cerebel, and especially with its smaller breadth—its elongated form, (the influence of which is explained in my works on "The Nervous System," "Physiognomy," and "Beauty,") the disposition of woman to sustained exertion is much less than that of man.

Scott describes a subordinate modification of beauty of the mental system, when, speaking of Lady Binks, he says, "The sultana-like beauty of the haughty dame, which promised to an admirer all the viscissitudes which can be expressed by a countenance lovely in every change, and changing as often as an ardent

and impetuous disposition, unused to constraint, and despising admonition, should please to dictate." In this peculiar modification, the locomotive system is generally handsome; the vital system displays the sanguine temperament; and in the mental system, intelligence is considerable, though emotion and passion dominate.

This modification I have observed to prevail among the women of Italy, who, by means of it, obtain that command over their lovers for which they are celebrated—a command, however, which they could neither achieve nor maintain, were it not that they blend with this, no inconsiderable degree of the uterine, or, more correctly, the ovarian temperament, and every art of inspiring love.

I have also observed that to men who require excitement, whether in consequence of cold temperament or of exhaustion amidst pleasures, this modification of beauty has great attractions: the slightly offended movement of the elegant figure, the flush of the beautiful cheek, and the flash of the kindling eye, awake them to life, admiration and pleasure. They forget that, of all passion, premature old age and ugliness are the sure results.

To the last of these works, I must refer the reader for an account of the points of beauty in the mental system; and in the head and face in particular: it would be unfair to transfer them to this work.

I will here only observe, that the facial angle of Camper shows the developement of the most important portion of the brain in the anterior, or, as Dr. Barclay more correctly terms it, the antinial direction,

and the proportion which it bears to the organs of sense and expression in the face;—that the height of the forehead cannot, without deformity, and injury to various functions, exceed the space from the forehead to the bottom of the nose, or that from the nose to the bottom of the chin:—and that the nose should descend in nearly the same line with the forehead and with little indentation under the glabella or space between the eye-brows, the reason of which I first pointed out.

I may add, that the skin should be thin and delicate;—that the mouth should be small, the lips delicately outlined, and becoming thin towards their commissures, while the under lip should be most developed and turned outward;—that the nose should be as already described;—that the eyes should be large and elongated, with irides blue, hazel or black, eyelids very gently inflected, eyelashes long and silky, and eyebrows, fine, arched and moderately separated;—that the ears should be rather small, with unbroken curves, and with little prominence;—that the cheek-bones should display beautiful curves, the teeth form a longer ellipsis than in man, and the chin be softly rounded;—and that the facial muscles should be feeble.

Finally, I may observe, that the whole countenance should be softly rounded; that the colour of the forehead, temples, eyelids, nose, and lips where undeveloped, should be of rather an opaque white, that of the approach to the cheeks and the middle of the chin of a slight tint of rose-colour, and that of the middle of the cheeks altogether rosy but delicate;—that, from

the anterior part of the head, the hair should divide in a vertical direction;—and that the faulty feature, which is found in all faces, and which always exaggerates, should be carefully looked to.

Such being the essential characteristics of this system in woman, the best guidance in choice is thereby offered. One or two observations may be added, as to the exercise, employment and combination of these organs in relation to choice.

It is known that the more any of the organs of the body are employed, the more they are developed in size, and *vice versa.*

Now, in the opulent classes, the organ of thought being less employed, its volume gradually diminishes, and intellectual power is gradually lost.

It has further been seen that, when one parent communicates to a child the form of the face generally and the forehead, the other will be found to communicate the form of the posterior part of the head; and, while the child has the observing, imitating and other faculties of the former, it will be found to have the passions, acts of the will, &c. of the latter. The proportion therefore which exists between these parts in the heads of parents, is nearly decisive of the character of their progeny: if they be feeble in both parents, they must also be so in the offspring. Hence the perpetually increasing degeneracy of aristocratic families.

Moreover, in this case, the degraded organization is every hour still further degraded by the operation of the same circumstances on the child which operated on the father.

Hence the justice of Mr. Knight's observation, (1, December) "Amongst ancient families, quick men are abundant; but a deep and clear reasoner is seldom seen. How well and how readily the aristocracy of England speak! how weakly they reason!"

This leads to the observation that "there is a feeling very generally entertained by literary and scientific individuals, that only those physical and moral qualities need be looked for in a wife which render her a good mother and a domestic house-keeper, and that a cultivated mind is of little importance." But this is a great error, not merely because these men being compelled by their profession to remain much at home, are obliged, from having no one to comprehend them, to think alone, but because uneducated women are sure to communicate lower mental faculties to children.

Kames very sensibly observes, "that in the common course of European education, young women are trained to make an agreeable figure, and to behave with decency and propriety: very little culture is bestowed on the head; and still less on the heart, if it be not the art of hiding passion. Education so slight and superficial is far from seconding the purpose of nature, that of making women fit companions for men of sense. Due cultivation of the female mind, would add greatly to the happiness of the males, and still more to that of the females . . . Married women in particular, destined by nature to take the lead in educating their children, would no longer be the greatest obstruction to good education, by their ignorance, frivolity, and disorderly manners of living.

Even upon the breast, infants are susceptible of impressions; and the mother hath opportunities without end of instilling into them good principles, before they are fit for a male tutor."—Kames, however, takes no notice of the transmission of organization and function.

The better education of women is thus of greater importance to their progeny than is commonly imagined.

Habits and pursuits long followed in families, develope, as Mr. Knight observes, the organs which they employ. It is important, therefore, as he also observes, that the minds of the ancestry should have been exercised in some way; and the progeny will generally be found best calculated to do that which the parents, through successive generations, have done.

Confining our observations, however, even to the individuals themselves. Two persons who are equally violent, passionate and capricious, are rarely susceptible of union. It is well therefore that in the mental system, the irritable seek the calm; the grave, the gay; the impassioned, the modest; the impetuous, the gentle; &c., or in opposite cases, the opposite.

As to insanity, it must, in choice, be especially remembered that if, in one parent, the forehead and the observing, imitating and other faculties are very defective, and if, in the other parent, the backhead and the exciting faculties, the passions and the will, are equally defective,—as each parent may communicate either the anterior or the posterior organs, in this case, the offspring may receive the very defective forehead and observing faculties of one parent, and the very

defective backhead and motive faculties of the other, and that the idiocy of such offspring would be the inevitable result;—that if, in one parent, there be but one of the portions of the head well developed, and in the other, neither portion, then there is but one chance of sanity against three of insanity or of defect;—and that if, on the contrary, in one parent, there be both portions of the head well developed, and in the other one portion, then there are three chances of sanity against one of defect.

Now, suppose mental incapacity or aberration to exist in a slight degree, in consequence of defect or excess of any of the great portions of the brain alluded to, and on this it will generally be found to depend, the most prejudiced will not dispute that, in this case, if marriage be inevitable, its victim should have the very opposite structure.

A little reflection will show that a family having either forehead or backhead ill developed, may correct this in one generation; while a family having both forehead and backhead ill developed, cannot correct it in less than two generations—that is, by a substitution of both portions of the organization, by two successive intermarriages.

In regulating the first changes produced, it must be remembered:—

That the forehead may, in progeny, be elevated and projected, if a more projecting backhead and cerebel be united with it;

That the forehead may, in the progeny, be broadened, if a broader backhead and cerebel be united with it;

That a round face will, in progeny, be elongated and projected inferiorly, if a more projecting backhead and cerebel be united with it;

That a narrow face will, in progeny, be broadened, if a broader backhead and cerebel be united with it;

That an equality or similar proportion between the organs combined in children, is always productive of more or less beauty, whatever the size of these organs may be, and that, on the contrary, an inequality or disproportion between the combined organs is always productive of ugliness;

That, accordingly, where there is symmetry of head, there is symmetry of face, or beauty; and where there is want of symmetry of head, there is want of symmetry of face, or ugliness;

That thus a prominent backhead added to a smaller forehead, always produces a disagreeable projection of the lower parts of the face—generally of the under lip and lower part of the nose;

That, on the contrary, a small backhead added to a very large forehead always produces a not less disagreeable contraction of the lower part of the face;

That beautiful parents produce ugly children, when the organs in the new combinations are worse adapted to each other than in the old ones;

That ugly parents produce beautiful children, when the organs are better adapted to each other than in the old ones;

That thus the mere relative proportion of the organs combined in children is a great cause of beauty or of ugliness, and there are no exceptions to its influence;

That while muscular power depends on the poste-

rior series of organs—the locomotive system in particular, beautiful action depends on the anterior series of organs—the sensitive system—the eye in particular, and that therefore these qualities must not be expected from one parent;

That if, in one parent, sensibility exceed volition in a greater degree than in the other, that parent must communicate the anterior series of organs—the organs of sense, the anterior part of the brain, and the vital system;

That, on the contrary, if in one parent, volition exceed sensibility in a greater degree than in the other, that parent will doubtless communicate the posterior series of organs—the cerebel and the muscular system:

That, therefore, by regulating the relative youth, vigour and voluntary power of the father and mother, either may be made to give to progeny the voluntary and locomotive systems, and the other, the sensitive and vital systems—though it is preferable that the sire should give the former and the dam the latter, as being the systems in which naturally they respectively excel.

That all the differences in the features of children who yet resemble the same parent, are mere modifications of those of that parent (those produced by the cerebel of the other parent excepted,)—such modifications as that parent might assume under the influence of different emotions—such modifications as that parent actually has assumed, and therefore has in these very instances communicated.

That, in the act of reproduction, the senses con-

nected with intellect, the eye and the ear, or those connected merely with life, may be employed, and the new being may be the product and the personification either of mere intellectual or mere sensual pleasure!

That, according to the state and action of each of these organs in the parent, will each be feeble, moderate, or greatly developed, faintly out-lined, delicate, or coarse, in the progeny.

Finally, it is frightful to observe the manner in which some writers speak of insanity as a bar to marriage.—A French writer says, "All agree in preventing marriage as long as the insanity presents any character of decided continuance, and all recommend it, if in her lucid intervals the young girl manifests any strong desire for marriage, or any inclination to unite with the object of her choice. [Her progeny, of course, will be as prone to insanity as herself!] The effects that marriage will produce on her may be judged of by observing the nature of the agreeable impression made upon her by the announcement of the approaching union. [The man who plays so hazardous a game must be worthless.] But if she suffers a fresh attack when she first learns the certainty of her marriage, I think it would be imprudent to solemnize it, unless her insanity assumed the character of erotic monomania, or nymphomania properly so called." [And then the man may hope that his daughters will only display their graces in furor uterinus!]

"With somnambulism and melancholy, it is different. These two conditions rarely present any motives for opposing the marriage of a young girl. It is more than probable that they will be removed by the

new kind of excitement this organ receives in the varied and lively emotions occasioned by the married state." [But they may not be removed!] They may recur under new circumstances! And it cannot be pleasant to reflect that a man may any night awake to discover that his wife has gone undressed upon a shopping excursion, or that his child is amusing an assembly of policemen on the other side of the street by journeying astride upon the house top; for if the portion of the organization on which this depends be communicated, the tendency to such disease will as surely be communicated.]

It has been shown that, from ignorance of the relative proportions of cerebral parts, and of the influence of such proportions over the mental capacity of progeny, sane parents often produce insane children. A fact more alarming can scarcely be presented to a reflecting mind; nor can any condition more distressing to a parent be imagined. If the facts here stated be accurate, and the inductions from them be true, that condition henceforward will not be more distressing than criminal.