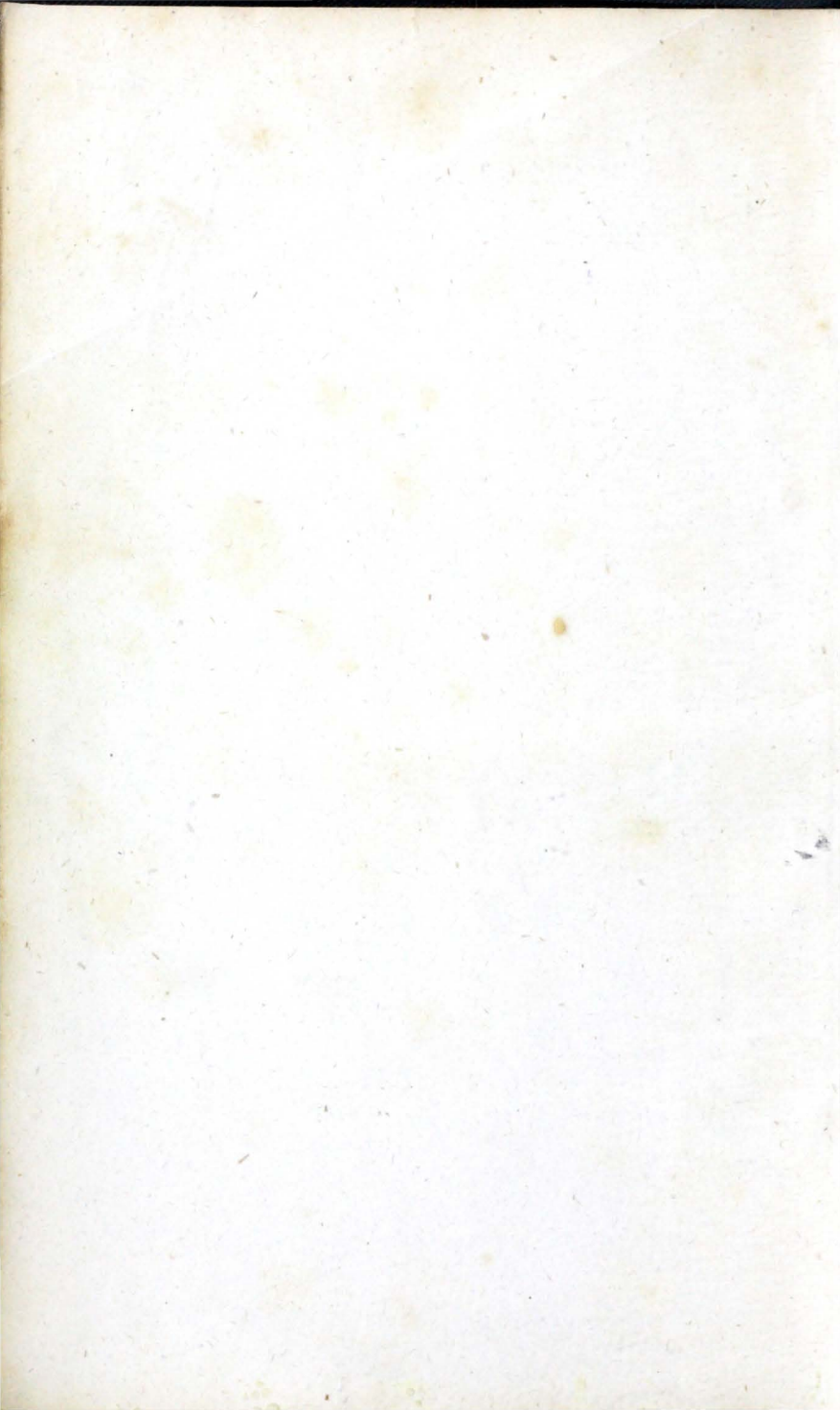


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INTERMARRIAGE:

OR

THE MODE IN WHICH, AND THE CAUSES WHY,
BEAUTY, HEALTH AND INTELLECT,
RESULT FROM CERTAIN UNIONS, AND
DEFORMITY, DISEASE AND INSANITY,
FROM OTHERS:

DEMONSTRATED BY
DELINEATIONS OF THE STRUCTURE AND FORMS, AND DESCRIPTIONS
OF THE FUNCTIONS AND CAPACITIES,
WHICH EACH PARENT, IN EVERY PAIR, BESTOWS ON CHILDREN,—
IN CONFORMITY WITH CERTAIN NATURAL LAWS,
AND BY AN ACCOUNT OF CORRESPONDING EFFECTS IN THE
BREEDING OF ANIMALS.

With Eight Illustrative Drawings.

BY ALEXANDER WALKER.

NEW YORK :
J. & H. G. LANGLEY, 57 CHATHAM STREET.
MDCCCXXXIX.

"Après nous être occupés si curieusement des moyens de rendre plus belles et meilleures les races des animaux ou des plantes utiles et agréables; après avoir remanié cent fois celle des chevaux et des chiens: après avoir transplanté, greffé, travaillé de toutes les manières, les fruits et les fleurs, combien n'est il pas honteux de négliger totalement la race de l'homme!"

CABANIS.

"The highly interesting subject upon which you are writing is remarkably suited to the passing time in our country. Our aristocracy, by exclusive intermarriages among ancient families, proceed blindly to breed in contempt of deformities, of feeble intellect, or of hereditary madness, under the instigation of pride or the love of wealth, until their race becomes extinct; while another portentous cause, that of unwholesome factories, threatens to deteriorate the once brave manhood of England. I believe that, among mankind, as well as domesticated animals, there are physical and moral influences which may be regulated so as to improve or predispose both the corporeal and moral aptitudes; and certainly the most obvious course is that of selecting the fit progenitors of both sexes."

SIR A. CARLISLE, in a *Letter to the Author*.

ENTERED

According to Act of Congress, in the year 1839, by

J. & H. G. LANGLEY,

In the Clerk's Office of the District Court of the Southern
District of New York.

DEDICATION.

TO

THOMAS ANDREW KNIGHT, ESQ., F.R.S. & L.S.

PRESIDENT OF THE HORTICULTURAL SOCIETY, &c. &c. &c.

MY DEAR SIR,

One of the newly-discovered laws of nature, which are announced in this work, gives to man, for the first time, a precise rule for the guidance of inter-marriage in his own race, and for that of breeding among animals.

According to that law, one parent gives to progeny the forehead and organs of sense, together with the nutritive organs contained within the trunk of the body; while the other parent gives the backhead and cerebel or organ of the will, together with the locomotive organs composing the exterior of the trunk and the whole of the limbs.

I had no sooner announced to you this law, and brought before you a family clearly exemplifying its

operation, when the vast experience and observation which has long placed you at the head of scientific breeders, enabled you to state to me a practical circumstance both as to man and animals, which at once corroborates every portion of the law.

You stated that if, in woman, you 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, you would unhesitatingly predict the trunk to be wide and capacious, and the limbs to taper thence to their extremities; and, so unfailing was this indication also in regard to inferior animals, that if, in adjudging a prize, there were brought before you an apparently well-fed animal of opposite form, or having a long and slender head, you would suspect it to be crammed for show, and, as such, should be disposed to reject it.

In this, your vast experience discovered a practical fact independent of all theory—a fact constituting an unerring guide in the most important decisions of husbandry—a fact of immense extent and bearing in its various relations.

Your ready prediction of the capacity of the trunk from a view merely of the forehead and face—these anterior parts, is a proof of so much of the law as states that, with the form of the forehead and face,

goes that of the nutritive organs contained in the trunk, for to these its capacity is adapted.

Regarded, moreover, even thus far, it leaves it as at least probable, that the remainder of the law is equally well founded, namely, that with the form of the backhead and cerebel—these posterior parts, goes that of the locomotive organs composing the rest of the body.

Your beautiful observation, however, does much more than render this remainder of the law a mere probability.—I have shown in this work, that, with the dimensions of the backhead and cerebel, go those of the locomotive system, and consequently those of the more muscular and moveable parts of the face, the mouth and nose. The shortness and fineness, therefore, of the mouth and nose, mentioned in your observation, being concomitant effects of the same cause with the tapering limbs, become as sure an indication, not merely of such limbs, but of the small backhead and cerebel, as the short and round face with full forehead were of the wide and capacious trunk. Thus that observation confirms also the remainder of the law.

As this fact is of such immense extent in its bearing and relations, and as it so irrefragably confirms the law, the work which announces and illustrates it, cannot be so appropriately dedicated to any one as to

you; and this accordingly it is, with great respect and esteem.

ALEXANDER WALKER.

POSTSCRIPT.—Since the whole of this work was printed, and since this dedication was written and presented to Mr. Knight, the death of that distinguished naturalist has occurred. The dedication, as accepted by him, remains as a testimony of my deep respect for his memory, and my sincere gratitude for his generous and unwearied communication of so many valuable facts.

LETTER RESPECTING THIS WORK

FROM

GEORGE BIRKBECK, Esq., M. D. F. G. S.

PRESIDENT OF THE LONDON MECHANICS' INSTITUTION, &c. &c. &c.

TO THE AUTHOR.

38, Finsbury Square,
May 23, 1838.

MY DEAR SIR,

I HAVE derived much pleasure from a perusal, in its progress through the press, of the work in which you have clearly developed, and satisfactorily established, those views of the formation of organized beings, communicated by you to me, in various conversations of very great interest. After having unsuccessfully although not unproductively, inspected with vast industry and ingenuity the rudiments, the *minima visibilia* of animal existence, it is peculiarly gratifying to find, much of the mysterious process of generation, unfolded by a comparison of the entire and enlarged being with its producers: and thus obtaining a solution of the obscure and difficult question, of the effect contributed by each sex in the appointed work of reproduction, not from the intricacies of the ovaria, uterus or seminal fluid, but from the condition and configuration of the visible and tangible result.

The general inquirer, not less than the philosophical physiologist, will, I am persuaded, feel grateful to you for the copious collection of facts, which you have provided on this hitherto perplexing subject: and whatever may be the decision, with respect to any of the curious and important natural laws which

viii LETTER FROM DR. BIRKBECK TO THE AUTHOR.

you have so logically deduced, it will be admitted, I doubt not, that you have established the communication of organization by each parent in the formation of their offspring; and therefore that simple impression or simple stimulus, is not the whole actual effect of either party. It will be admitted likewise, that you have fully demonstrated the value of a due observance of several of your laws relating to reproduction, in promoting the physical, moral, and intellectual well-being of the human race, not less than the beauty and utility of form and action, of animals of every rank in the creation. And it must be admitted, I am sure—and the admission involves no common approbation—that in pursuing these most delicate inquiries, your language and your modes of expression, are always calculated to impart a knowledge of the fact or the inference which you propose to communicate, without awakening any feelings, which may disturb the chaste sobriety of philosophical research. You have indeed, in wending your way through this beautiful and physiologically attractive portion of natural science, verified if I mistake not, an exquisite expression, handed down to us with many truths of mighty moment, that “to the pure all things are pure.”

I wait, with eager expectation, the appearance of your next volume, (already announced as prepared for the press) which completes this extraordinary series; and remain,

My dear Sir,

Sincerely and respectfully your's,

GEORGE BIRKBECK.

To Alex. Walker, Esq.

ADVERTISEMENT.

THE great object of this work is altogether new and heretofore unattempted—the establishment not merely of a new science—but of that science which is by far the most interesting to humanity—the science which, for the first time, points out and explains all the natural laws that, according to each particular choice in intermarriage, determine the precise forms and qualities of the progeny,—which unfolds the mode in which, and the causes why beauty, health and intellect result from certain unions, and deformity, disease and insanity from others,—and which enables us, under all given conditions, and with absolute certainty, to predict the degree and kind of these, which must result from each intermarriage.

The philosophical bases of this science have, moreover, nothing to do with hypothesis or supposition;—they are the indisputable, though hitherto unapplied, facts of anatomy and physiology;—and their present popular applications are rendered subjects of absolute demonstration by descriptions and drawings of families (some of them well known to the public;) while every reader has the power of adding to their number among the families of his acquaintance. They are further subjected to demonstration by all the more important facts, here stated, as to the breeding of domesticated animals—facts which have not hitherto

been explained or understood, and consequently have not hitherto afforded those principles on which the breeder may *now* act, with perfect certainty of the desired result.

In the First Part of the work is given an account of the physiological conditions connected with and terminating in LOVE,—the period of puberty, and the remarkable and interesting changes which it causes in the locomotive system and the voice, in the vital or nutritive system, and in the mental or thinking system, especially of woman. This is rendered altogether popular.

In the Second Part are described the sexual relations arising from these conditions, and connected with or leading to INTERMARRIAGE,—useful guidance and dangerous restraint, unnatural indulgence and absolute continence, and the necessity of intermarriage— subjects entirely popular and deeply interesting to both sexes.

In the Third Part are described the circumstances resulting from the preceding relations, and connected with or productive of PROGENY,—the natural preference for the various kinds of beauty for the first time explained, the state of marriage, and the propagation of forms and qualities.

In the Fourth Part are enunciated the newly discovered laws regulating the RESEMBLANCE OF PROGENY TO PARENTS,—the law of selection where both parents are of the same variety, the law of crossing where each parent is of a different variety, the law of in-and-in breeding where both parents are of the same family, the law of sex, and the law of maternal nutri-

tion (none of them heretofore observed, and all of them here physiologically demonstrated,) as well as the circumstances modifying these laws, and the consequent easy improvement of families in beauty of forms and excellence of functions.

In the Fifth and Sixth Parts are described the vague methods of regulating progeny adopted in the breeding of DOMESTICATED ANIMALS,—in in-and-in, selection and crossing, and the application of the natural laws to the breeding of these animals—horses, cattle and sheep.

In the Seventh and Eighth Parts are described the vague methods of effecting progeny adopted among MANKIND,—in in-and-in, selection and crossing, and the transcendently important subject of choice in intermarriage, as prescribed by the natural laws, and as calculated to correct each particular defect of the locomotive, the vital or nutritive, and the mental or thinking system, that may exist in any family or any individual.

It is here perhaps that I should add, to what has now been said, whatever regards my means of accomplishing this work, and a few further remarks on the chief purpose which I have in view therein.

To its anthropological views I have long been habituated; and, for several years, I have carefully observed the resemblance and the other relations of progeny to parents. Most of the sciences, however, of which man is the subject, have derived such advancement from those which regard animals—comparative physiology, has thrown such light on human physiology, that, on every thing relating to intermar-

riage and progeny, it was evident, that those who had devoted their time and attention to the breeding of domestic animals might be able to furnish very valuable information. The laws of nature are simple and uniform; the functions of organs differ no more than their structure; and as nearly all the organs of man are greatly resembled by those of domestic animals, the same resemblance exists in their functions.

I consulted, therefore, the most distinguished breeders in every department; and they have kindly and zealously given me their best assistance, for which I beg here to express my gratitude.

In a letter of the 4th February, 1837, my correspondent * * *, whose devotion to the interests of British husbandry is not more remarkable than his frank and generous communication of knowledge, says, "For the last ten or twelve years, I have attended very much to this subject, and, as I have been breeding cattle upon a very large scale, I have been enabled, I think, to satisfy myself, that some of the common opinions are unfounded, and to establish some theoretical principles which generally prove correct in practice. If Mr. Walker thinks it worth his while to take the trouble to write to me, I will, with the greatest pleasure, give him the result of my experience, if it should turn out that I have any experience which can be useful to him."

In a letter of the 11th of April, 1837, Mr. Knight of Downton, president of the Horticultural Society, says, "I have made so many experiments in cross-breeding, during more than half a century, that I believe I shall be able to communicate to you a good

deal of information upon a subject which I agree with you in thinking very highly important; and I shall be happy to give you any assistance in my power." Of what immense value this has been, as regards man as well as inferior animals, the reader will see in the work, and especially under the laws regulating the resemblance of progeny to parents. To that gentleman, indeed, I owe its earliest and most perfect confirmation.

In a letter of August, 1837, from Dr. Hancock, the South American traveller, he says, "I am fully sensible of the importance of regulating the breed amongst animals, which is, I suppose, generally recognized and acknowledged. But to me it has appeared, as it has to yourself, a matter of much surprise, that so little regard (if any) has been given to the same principles applied to our own species—as though we either considered our race to be perfect, or else of inferior importance compared with plants and animals in general.—I have had, as you seem to think, many opportunities of observing the practical application of these principles. I had even entertained an idea of composing a small treatise on the subject; but I am well pleased it should have fallen into abler hands." Dr. Hancock's information respecting the American races, is highly important.

To many other philosophical observers of nature—Sir Anthony Carlisle, Dr. Copland, Mr. Malcolm Walker, &c., as well as the ablest of the professional breeders of domesticated animals—I am deeply indebted.

Of the chief purpose of this work, I need only further say, that the knowledge of the laws here estab-

lished, in the case of all intermarriages, is evidently of great importance, though a very narrow and mistaken interest may lead to their neglect.

Means, altogether repugnant to the habits of modern society (in climates where clothing is necessary, and where morality is modified by that circumstance,) have been recommended even by illustrious writers, in order to accomplish but *a small portion* of the purposes which, as mere applications of natural science, are rendered simple, beautiful, and easily practicable by the methods pointed out in this work.

Happily even the least offensive of these means is rendered unnecessary by the simple, beautiful, and easily practicable application of natural science pointed out in this work; by which, at the same time, that pre-science of the physical forms and mental capacities of progeny is attained, which is impossible by all other means.

In the execution of the work under obligations so manifold and great, I have scrupulously acknowledged all those that are of an original character, by naming the persons to whom they are due, and inserting the date of the communications.* I have also profited by most of the good works having any reference to the subject; and whenever the subjects described, or the opinions expressed, from them, seemed original or peculiar to the writer, I have as scrupulously marked the quotation by inverted commas; but when these

* To render the insertion of the year unnecessary, I may here say, that all the communications referred to were made between March 1837 and March 1838.

appeared to be the common property of science, employed by many writers, I have not done so nor could I, indeed, with any propriety, seeing that I have generally abridged, enlarged, or corrected their expression.

To avoid, moreover, the possibility of my being thought to claim that which may belong to others, I here subjoin a list of the more important original facts and opinions which the work contains:—

1. The brief view of a natural system of anatomy and physiology, constituting the Preliminary;

2. The assignment of the cause of early puberty, and of the catamenia in woman;

3. The physiological reasons for concluding that love is more essential to woman than to man, though she can more easily suspend or defer it,—afforded by the proportionally greater developement of her organs of sense and vital system, and the smaller size of her cerebel as the organ of will, &c.;

4. The explanation of the natural preference of the various kinds of beauty;

5. The showing that conception cannot take place under horror and disgust;

6. The pointing out the indestructibility of organization in propagation from parents to progeny, and the consequent impossibility of faulty organization being either soon or easily got rid of by mankind generally;

7. The establishment of the natural laws regulating the resemblance of progeny to parents;

8. The establishment of the law of selection, where both parents are of the same variety, and when either parent gives either of two distinct series of organs;

9. The explanation of the accompaniment of particular organs ;

10. The explanation of the influence of the posterior series of organs upon the anterior ones, and *vice versa* ;

11. The showing the cause of the division of the nervous or thinking system ;

12. The explanation of the differences in the features of children, who yet resemble the same parent ;

13. The showing that fatuity is the disease of hereditary royalty, and hereditary aristocracy ;

14. The application of this law to the prevention of fatuity in progeny ;

15. Its application to the correction of defects of the locomotive or of the nutritive system ;

16. Its application, and that consequently of the propagation of organization in two series of organs, or in halves, to the exposure of the hypothesis of blood, and the practices founded upon it ;

17. The establishment of the law of crossing, where each parent is of a different variety, and when the male gives the backhead and locomotive organs, and the female the face and nutritive organs ;

18. The showing the cause why, in crosses, the male gives the backhead and locomotive system ;

19. The showing the cause of the apparent or real want of permanence in cross-breeds by the re-formation of the original races, and the mode of obviating it ;

20. The pointing out the perpetual re-formation of the original races inhabiting the British isles—Celtic, Saxon, Danish, Norwegian, Slavonic, &c. ;

21. The conclusion from the law of crossing, as to the limits of what may be obtained by its means ;

22. The establishment of the law of in-and-in breeding, where both parents are of the same family, and when the female gives the backhead and locomotive organs, and the male, the face and vital organs ;

23. The showing the cause why, in in-and-in, the female gives the backhead and nutritive organs ;

24. The explanation why nearly perfect animals breeding in-and-in must degenerate ;

25. The better explanation of in-and-in breeding ;

26. The showing the cause of the rapid improvement of the Turks by polygamy ;

27. The assignment of the philosophical basis of the general superiority of the modern practice of horse-breeding, in depending greatly on the male ;

28. The statement of the fact that, though either parent may give the vital system to progeny, it may have the opposite sex, the communication of the reproductive organs being thus apparently independent of the general vital system ;

29. The explanation of this fact ; and the remarkable confirmation thereof ;

30. The establishment of the law of sex, by which either kind is, along with the general vital system, given by either parent ;

31. The establishment of the law of maternal nutrition, by which a certain likeness is spread over the countenances of all the children of a family ;

32. The showing the cause of this law ;

33. The pointing out the modifications of these laws according to age ;

34. The pointing out the modifications of these laws according to sex ;

35. The pointing out the modifications of these laws according to the various new parts which are combined ;

36. The explanation of atavism ;

37. The statement of the fact of the resemblance of old married couples, and the explanation ;

38. The demonstration of the easy improvement of families by the operation of these laws ;

39. The statement of the fact, that a man may have no rational interest, physical or moral, in his second generation, or that a grandson may not have the slightest resemblance, external or internal, to his grandfather.

40. The statement of the fact, that a man has the power to reproduce and preserve either series of organs—the best or the worst portion of his organization ;

41. The statement of the fact, that the means of improved general organization and beauty of countenance in progeny, are equally subject, by intermarriage, to the control of man ;

42. The pointing out the particular means of this as to beauty of face ; and the cases which illustrate it ;

43. The showing the reason why beautiful parents may produce ugly children, and ugly parents, beautiful children ;

44. The application of the natural laws to the breeding of horses ;

45. The statement of the fact, that it is preferable that the male should give to progeny the voluntary

and locomotive systems; and the female, the sensitive and vital systems; if these respectively be well conformed;

46. The statement of the fact, that pace and speed depend on the posterior organs, and action on the anterior ones;

47. The admirable illustration afforded by the Arab horse, that organization is propagated in halves, as well as that he has introduced more perfect sensitive and vital systems, while the British stock have given the more powerful voluntary and locomotive systems;

48. The mode of discovering the mental qualities of animals;

49. The clearer view of the relative uses of the posterior and anterior extremities of quadrupeds;

50. The statement of the fact, that, in cattle, both fattening and milking are dependent on a good vital system;

51. The indication of the characteristics of fatteners and milkers respectively, as opposed in tendency, as distinguished by the structure of the mammæ and the degree of sensibility, and as influenced by climate;

52. The application of the natural laws to the breeding of cattle;

53. The statement of the fact, that, in sheep, fattening is entirely, and the production of wool greatly, dependent on a good vital system;

54. The pointing out the circumstances respectively influencing fattening and the production of wool, as in some measure opposed, and related to sensibility and climate.

55. The application of the natural laws to the breeding of sheep ;

56. The observation of the reproduction of the hymen ;

57. The showing that the great condition of aptitude for reproduction is the greatest possible perfection of the vital system ;

58. The pointing out that want of adaptation of the anterior and posterior series of organs which causes the impressions made on the skin of the abdomen and mammae during gestation and lactation ;

59. The affording the surest means of determining the parentage of children ;

60. The affording the surest guidance of their education ;

61. The pointing out the mode of improving the organization where there is a tendency to mental weakness.

PREFACE TO THE AMERICAN EDITION.

The following work of Mr. Alexander Walker has received strong marks of public favour in England, where it first appeared, and has been considered by many, as eminently worthy of republication here. On examining it, however, it was soon perceived, that though highly original in its design, and peculiarly valuable in its details, still its phraseology was sometimes exceptionable, as it seemed to violate those conventional forms of language, to which American readers are mostly accustomed. It was therefore deemed expedient to modify, and in some cases, change certain modes of expression, so as to obviate all objections on the score of refinement, and thus render the work acceptable to the most fastidious taste. This has been done, however, without in the least abridging the original, and without the suppression of a single sentence, necessary to the complete elucidation of the author's views.

We are aware that there is a class of persons, who condemn all works of a physiological character, addressed to general readers ; who seem to regard Physiology—that science which teaches us all we know of the laws of Life,—as “the tree of knowledge of good and evil,” the taste of whose fruit, if not like

Eve's transgression, death to our physical being, is still fatal to all refinement and delicacy of soul! Accordingly, it is not strange to find such persons condemning every kind and degree of knowledge, relating to our wonderful organization, and the still more wonderful functions of our curiously constructed organs; while at the same time, perhaps, they advocate Journals of Moral Reform and works of fiction, whose sole influence, if not object, is, to excite the baser passions, and minister to a morbid taste. Believing therefore, as we conscientiously do, that this is nothing more nor less than a false delicacy, a perverted sensibility—that such opinions, whether pretended or real, spring from inexcusable ignorance, or still more inexcusable prejudice, we have consented to prepare this Preface; and in doing so, we embrace the occasion of laying before the reader at the hazard of being considered out of place, a few of the many reasons, in favour of a general diffusion of Physiological science.

In the first place, such knowledge is intimately connected with the preservation of health. As this depends on an observance of the natural laws, it would seem to follow, that an acquaintance with these laws, is essential to the attainment of this object. The man, for example, who has learned the effects of alcohol upon the delicate tissue of the vital organs, will be guarded in its use, or abstain from it altogether. He, who understands the structure of the human skin, and the important office which it performs, by means of its millions of pores, will properly appreciate the importance of cleanliness, and the danger of suddenly

checking the insensible transpiration. The individual, who has studied the laws of developement, and knows how all the organs are matured and strengthened by exercise, will avoid the numerous evils consequent on inactivity and indolence. The female, who understands the wonderful and complicated function of respiration,—how the free and full expansion of the lungs is necessary to the complete vitalization of the blood—that fluid which carries life, and health, and vigour to every fibre in the system, will, most certainly, shun tight-lacing, and all other practices which impede this truly vital function. The parent also, who has learned the delicate texture of the instrument of thought—the brain, will, instead of encouraging mental precocity in his offspring, rather aim to suppress all unnatural developement; and pursue such a course as is rather calculated to produce early *physical*, than *mental* superiority. He also who has attended to the process of healthy digestion, and marked the causes, by which it is impeded, will know how to preserve the integrity of this important function, by avoiding all those influences, which interfere with its regular performance. And lastly, the invalid, suffering under a load of disease, the effect of causes which he might, and doubtless would, have escaped, had he been acquainted with his own structure, or the relations of its different parts to each other and to external objects; even he, for the want of this knowledge, stands but a feeble chance of recovery, as he cannot properly appreciate the advice of his medical attendant, and yields either a reluctant consent to prescriptions given, or, which is more likely still, disregards them altogether. We

might pursue this kind of illustration at great length, and show, step by step, the connection between physiological knowledge, and the preservation and recovery of health. But it is unnecessary; our object is attained, if the attention of the reader is excited; satisfied as we are, that a little reflection will lead him to a safe and correct conclusion.

In the second place, an acquaintance with Physiology is the only certain and sure preventive against the dangers, and evils of empiricism. That some antidote is required, for these, no one will deny. The unblushing impudence and pretension, displayed in the countless quack advertisements of our periodical prints, are without a parallel in the history of any age or nation, and speak little in favour of the intelligence and good sense of the American people. From the cancer-quack, whose arsenical plaster draws out, at the same time with the disease, the *life* of the unhappy sufferer, to the shameless female, whose pills "are not to be given during a certain condition," and whose effects are often death, to both parent and offspring,—all seem to ply their death-dealing trade, with reckless rapacity, and generally fatal consequences. But this is a *free*, a gloriously free country, and the good people have a perfect right, if they choose, to get themselves, and families poisoned by wholesale or retail, by habitual pill-swallowing, plaster-application, or any other mode, more in fashion. A slight knowledge of the structure of the human frame, and those laws that regulate its functions, in health and disease, would soon lead them, at the same time, to avoid the causes of disease, and those pretenders, whose measures are

far more likely to render it fatal, when present, than to contribute towards its removal.

In the third place, physiological science is of the very highest importance in the education of our race, and therefore to mothers. The following remarks of Dr. Southwood Smith, will apply equally well, to the females of this country, as those of England. "The communication of the knowledge and the formation of the habits, which are necessary to the due performance of the duties of women, constitute no essential part of their education; the direct tendency of a great part of their education is to produce and foster opinions, feelings, and tastes, which positively disqualify them for the performance of their duties. All would be well if the marriage ceremony, which transforms the girl into the wife, conferred upon the wife, the qualities which should be possessed by the mother. But it is rare to find a person, capable of the least difficult part of education, namely that of communicating instruction, even after diligent study with a direct view to teaching; yet an ordinary girl, brought up in the ordinary mode, in the ordinary domestic circle, is entrusted with the direction and control of the first impressions that are made upon the human being, and the momentous physical, intellectual, and moral results that arise out of those impressions. Women are the earliest teachers; they must be nurses; they can be neither, without the risk of doing incalculable mischief unless they have some acquaintance with physiology. On these grounds, I rest their obligation to study it; and I look upon that notion of delicacy which would exclude them from knowledge calculated

in an extraordinary degree, to open, exalt, and purify their minds, and to fit them for the performance of their duties, as alike degrading to those to whom it affects to show respect, and debasing to the mind that entertains it."

The author of the following work, treats of neither of the above departments of physiological science, but striking out comparatively a new path, and going back to the period before birth, he endeavours to establish such rules and observances, as tend to the physical, as well as moral perfection of our species. He has aimed, so to speak, to forestall the bodily deformities, and mental obliquities so frequently met with, and by pointing out certain laws, well known to the scientific agriculturist, to raise the standard of human perfectibility to its highest point of attainment. He has succeeded in demonstrating the inseparable connection between beauty, health and sound intellect, and perfect physical organization, and explained how deformity, disease, and imbecility of mind and body result from certain causes. The writer has also done a valuable service, by showing how marriages among blood-relations, tend to the degeneracy of the offspring, and thus illustrating the wisdom of those Levitical regulations which have appeared to some sceptics as arbitrary, and not founded in nature. From a careful analysis, and a beautiful train of inductive reasoning, he has deduced the important fact, that the means of improving general organization and beauty of countenance in progeny, are subject in a great degree to the control of man; and hence it follows, that it is the duty of every man who aspires to be the father

of a family, to become acquainted with these facts and rules, which insure such invaluable results. Indeed, there is nothing either in morals or religion, in scripture or tradition, in reason or common sense, which forbids man from availing himself in his choice of a companion, of all the knowledge, whether deduced from observation, or science, or both, which enables him to leave to his children, a legacy more valuable than riches or noble blood, health, strength, a sound physical and mental organization "*mens sana, in corpore sano.*" On the contrary, every thing, both in nature and revelation, goes to show, that it is his imperative duty to avail himself of all these advantages, and that he would incur a fearful responsibility, if he knowingly selected a partner, whose offspring would inherit a trait of hereditary insanity, imbecility, or bodily deformity. Those who understand the hereditary nature of diseases, how the sins of the parents, are literally visited upon the children unto the third and fourth generation, will need no arguments to convince them of the importance of information on this subject. To those who are not acquainted with this fact, the following case may be valuable by way of illustration.

A gentleman, with whom the writer is acquainted married a lady, whose mother had, for many years, been afflicted with insanity, and whose brother, was at the very time of the marriage, resident in a lunatic asylum. Her nervous system was peculiarly susceptible, and she possessed that high order of intellect and genius, which belongs to such a delicate organization. In less than three years, she became hopelessly

insane, and is now an inmate of a lunatic retreat, and the only child to whom she has given birth, shows every indication of having inherited its mother's peculiarities. But we need not detail cases;—the reader's own observation will furnish sufficient facts on this subject.

In presenting the following work to the public, we have only, in conclusion, to remark that, if some passages appear obnoxious to the charge of indelicacy, our only answer is, "to the pure, all things are pure." "Honi soit qui mal y pense."

New York. June 12th 1839.

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INTERMARRIAGE.

PRELIMINARY.

THE anatomical and physiological knowledge necessary to the understanding of this book, is comprised in this page and the two following ones. It is merely a brief view of a Natural System of Anatomy and Physiology,—the former describing the particular structures or organs of animals, and the latter the actions or functions of these organs—drawn from the first account given of such a system, which was published by me, above thirty years ago, in several elementary works, and especially in *PRELIMINARY LECTURES*, (Edinburgh, 1808,) with expositions of the errors of Bichat, Richerand, &c.

According to that system, the human body and that of the higher animals consist of three classes of organs and functions: namely,

1st. The *LOCOMOTIVE* organs and functions, consisting of bones, which support the body and its parts; ligaments, which connect the bones together and

form the joints ; and muscles or bundles of red flesh, which move these.—Together, these form an apparatus of *levers*, which exercise large and *conspicuous motion*, and of which the *limbs* are chiefly composed. It is by means of this apparatus, that all motions of the higher animals from one place to another are accomplished.

2dly. The VITAL OR NUTRITIVE organs and functions, consisting of lacteals,* fine tubular vessels, which absorb nutritious matter from the food taken into the intestines, and carry it towards the heart, to be converted into blood ; blood-vessels, which circulate the blood thus formed ; and various glands or filters, which secrete or deposit, not only the various substances composing the different organs, but the fat, the milk, hair or wool, and other animal products.—All of these consist of *tubes*, which exercise only a minute peristaltic or *pulsating motion*, and of which the *trunk* of the body is the centre and principal seat. It is by means of this apparatus, that not only nutrition and secretion are effected, but that useless matters are removed and thrown out of the body.†

3dly. The MENTAL OR THINKING organs and functions, consisting of the immediate organs of sense, the eye, ear, &c., which receive impressions from external bodies ; a brain, which perceives, compares, re-

* Or lymphatics.

† The *digestive, respiratory and reproductive* organs, belong to this system, as *preparing, renovating and propagating* vital matter. These have every one of the characters of vital organs ; and it was consequently a gross error of the arrangements of Bichat, Richerand, &c., to consider any of them as distinct systems.

flects, &c.; and a cerebel or little brain, situated below the back part of the greater brain, and above the neck, which wills, and consequently throws the muscles into those actions which fulfil its purposes.—All of these consist of series of *globules*, bound, by membranous investments, into fibres of various forms, of which the *motion* is *invisible*, and which chiefly occupy the *head*. It is by means of this apparatus that sense, thought, and the impulses to action, and consequently all connexion with external objects, take place.

This is rendered still plainer by the tabular arrangement of Anatomy, Physiology, and Pathology on the following page.

NATURAL ARRANGEMENT OF ORGANS.—ANATOMY.

CLASS I. LOCOMOTIVE ORGANS.			CLASS II. VITAL ORGANS.			CLASS III. MENTAL ORGANS.		
Order I. Bones, or Organs of Support.	Order II. Ligaments, or Organs of Connexion.	Order III. Muscles, or Organs of Motion.	Order I. Lymphatics, &c. or Organs of Absorption.	Order II. Arteries, &c. or Organs of Circulation.	Order III. Glands, &c. or Organs of Secretion.	Order I. Eye, Ear, &c. or Organs of Sensation.	Order II. Cerebrum, or Organ of Perception, &c.	Order III. Cerebellum, or Organ of Volition.
			Organs of Digestion.	Veins. Organs of Respiration.	Arteries. Organs of Reproduction.			

NATURAL ARRANGEMENT OF FUNCTIONS.—PHYSIOLOGY.

CLASS I. LOCOMOTIVE FUNCTIONS.			CLASS II. VITAL FUNCTIONS.			CLASS III. MENTAL FUNCTIONS.		
Order I. Function of Support.	Order II. Function of Connexion.	Order III. Function of Motion.	Order I. Function of Absorption.	Order II. Function of Circulation.	Order III. Function of Secretion.	Order I. Function of Sensation.	Order II. Function of Perception, &c.	Order III. Function of Volition.
			Function of Digestion.	Passage of Blood to Lungs. Function of Respiration.	Passage of Blood from Lungs. Function of Reproduction.			

NATURAL ARRANGEMENT OF DISEASES.—PATHOLOGY.

CLASS I. DISEASES OF THE LOCOMOTIVE FUNCTIONS.			CLASS II. DISEASES OF THE VITAL FUNCTIONS.			CLASS III. DISEASES OF THE MENTAL FUNCTIONS.		
Order I. Diseases of Support.	Order II. Diseases of Connexion.	Order III. Diseases of Motion.	Order I. Diseases of Absorption.	Order II. Diseases of Circulation.	Order III. Diseases of Secretion.	Order I. Diseases of Sensation.	Order II. Diseases of Perception, &c.	Order III. Diseases of Volition.

N. B. The Genera under each order will consist of Diminished, Disordered, and Increased Function; and the articles of Materia Medica will hold an order precisely the reverse of the latter.

PART I.

PHYSIOLOGICAL CONDITIONS CONNECTED WITH, AND TERMINATING IN, LOVE.

SECTION I.

PUBERTY.—ITS PERIOD.—THE CHANGES CAUSED BY IT.

Puberty and its Period.

MAN, in common with the more perfect animals, is not born with the faculty of immediately producing his like. The organs which, at a future period, perform that important function, appear to remain entirely torpid long after birth: and the appetites connected with them do not exist.

As, moreover, the infancy of man is longer, so is his puberty, or the period when the reproductive faculty is coming into action, more tardy than that of the other races of animals.

In the human race in particular, the most general difference as to the period of puberty, is attached to the difference of sex. Puberty is universally earlier in woman than in man.

Some authors, says Roussel, "have derived the reason of that difference from the smallness of the organs of woman: they observe that she is sooner fit for reproduction, because her organs being smaller, are earlier formed, and the organic or nutritive molecules which contribute to their formation and development, become an excess destined to reproduction. The circumstance of the smallness of the organs of woman is indeed favourable to this opinion; and it is reasonable to suppose that nature is not occupied about the species until the individual is perfected. But this order is often inverted; we frequently see marriageable girls who have not attained their full growth."

I have quoted this passage at length, because it expresses not merely a common and universal error, but a fundamental one, and I am anxious to correct it.

The immediate cause of the earlier puberty of woman is the circumstance that her vital or nutritive system is proportionally larger than that of man. In early life, the three classes of organs and functions*—the locomotive, the vital or nutritive, and the mental or thinking systems, bear the same proportion to each other in woman as in man; and the girl is scarcely distinguishable from the boy. In woman, this proportion is gradually departed from; her vital system, occupying chiefly the trunk, becomes larger in general, as well as in particular parts; it grows out of proportion to the other two systems—occupying chiefly the head, or composing the limbs; its functions follow its

* It is supposed, that the pages entitled PRELIMINARY have been carefully perused by the reader.

structure ; and hence alone the earliness of that aggregate of them which is denominated puberty.

The imputation of disproportion to the vital or nutritive system of woman, is not here made without due reflection. It has not been understood or noticed ; but it really exists. Observation will show that this disproportion is absent in early life ; that it takes place at puberty ; that it alone enables woman to discharge all her peculiar functions ; and that, when it is useless for these purposes, it secretes the adipose substance which distinguishes the period of fatness, which the French call the *age de retour*, or, shrivelling up, leaves flaccidity and deformity in its place.

Hence, an old woman is a kind of new being, differing from the mature woman in all her chief characteristics ; and so odd is this felt to be by the vulgar, that it is sometimes made by them the subject of ridicule or of reproach. No change so remarkable takes place in man, because there has in him been no necessary out-of-proportion in any of the systems.

This final change in woman is the more remarkable, because old age in her is, in other respects, less marked than in man ; her hair does not become grey so speedily ; she rarely becomes bald ; and, with little suffering, she in general attains an advanced age.

That this disproportionate development of the vital system is the cause of the earlier puberty of woman, is further illustrated by the time at which some VARIETIES OF THE HUMAN SPECIES attain that period, independent of such influences as climate, aliment, temperament, &c.

This is remarkable in the Mongolic or north-eastern

broad-faced variety. Not only in China and Japan, but even in countries much colder than our own, does puberty commence in the female sex much earlier than with us. A French writer asserts, that a Kalmuc or a Siberian woman of the Mongolian race is marriageable at the age of thirteen even in a climate as cold as that of Sweden, whilst a Swedish female is scarcely so at fifteen or sixteen; that, still further north, and even on the confines of the icy sea, the Samoeides are nubile at eleven, and are frequently mothers at twelve; that the women of Lapland begin to evince maturity at twelve; and that the same appears to be the case with all the races of the polar regions,—as the Ostiaks, the Yakoutes, the Kamschatdales, and even the American Esquimaux.

This precocity has, indeed, been assigned to other causes than that to which I have ascribed it. Virey imagines that the early arrival at puberty amongst Mongolic nations may arise partly from the smallness of their stature, but, in a great measure, from the nature of their fish diet, which is supposed to be of a stimulating and aphrodisiac quality, and from dwelling continually in subterraneous places subject to the suffocating heat produced by the vapour of water poured upon hot stones.

The inadequacy of these causes, which apply but to a few of the Mongolic tribes, is evident to every observer of nature. But no one can notice the large vital system of the north-eastern people, without discovering a sufficient cause for this precocity, in the vast developement of that system. In all the sketches of women of the Mongolic variety, which have been

furnished by our recent voyagers, the trunk, which contains the principal organs of that class, is large, the abdomen wide and prominent, the mammæ extensive, and their habits as to food correspond. These natural organic causes apply, moreover, to all the women of the Mongolic variety, whether they inhabit cold, or temperate, or warm climates; and they can alone account for the early precocity of all. It is a miserable physiology which, finding an event common to a whole race, must seek, like this of Virey, a different cause for the same event, in every different section of that race.

Upon the same natural principle, which I have now pointed out and illustrated, there are also some FAMILIES and some INDIVIDUALS in whom we may expect this precocity.

Peculiar temperament naturally produces, in each person, some variation in the period of puberty. A girl of sanguine temperament must be earlier subject to a condition characterised by fullness of the circulating system and general excitement, than one in whom the lymphatic temperament predominates.

Such is the great natural, organic and fundamental cause of early puberty, which is, however, liable to modification from various external influences.

Of these, the most extensive in its operation is, the TEMPERATURE OF CLIMATE.

As heat increases the vital energy in all organized bodies, and renders their growth more rapid, it must necessarily hasten the period of puberty. It is indeed notorious, that warm climates increase the de-

velopement of the reproductive organs, and excite erotic desires in both sexes.

This cause, moreover, if operating with great force during many ages, must produce organic effect so permanent, that they will remain long after removal from its direct or immediate influence. Individuals of the Ethiopic variety, even when transported to Europe or North America, arrive at puberty sooner than the white population.

On the contrary, the inhabitants of low moist countries receive a flaccid and cold temperament that naturally retards puberty; and, under all circumstances, they long retain it.

A second cause that modifies the developement of puberty, is the quantity and quality of ALIMENT.

Very nutritious food, stimulating meats, aromatics, the habitual use of coffee, wine, liqueurs, &c., greatly accelerate this period. Farinaceous substances, roots and vegetable diet, and even the habitual use of milk, cheese, &c., rather retard it.

Hence we observe, that the rich and the inhabitants of towns, who eat animal food and live in abundance, reach maturity sooner than the poor and the peasantry, who rarely eat meat, and can obtain but a limited proportion of bread or of less nutritious food. Hence, also, we see that well-fed persons are capable of reproducing at an earlier period than those who have suffered from scarcity, or who have been compelled to use unwholesome or unnutritious aliment.

The use of stimulating and aromatic lotions amongst the rich, is also a sure means of accelerating puberty.

A third cause, modifying the developement of puberty, is the MORAL CONDITION. To this must be imputed the difference, independent of aliment, which we observe in this respect, between women of towns and those of the country.

In the former, the mode of living differs according to the degree of opulence ; but even the poor struggle to imitate the rich, and many other circumstances multiply excitement—as the reading of fashionable novels, voluptuous pictures, licentious theatrical scenes, conversations upon love, the constant proximity of the sexes, exciting dances, and many other causes, some of them of still more injurious character. The result is, that persons thus excited almost always reach puberty several years earlier than those who pass their childhood in the tranquillity of rural life. Puberty may then occur about twelve years of age—a premature developement, which diminishes strength of body and vigour of mind, deteriorates all moral qualities, and is extensively fatal to life and its permanent enjoyment.

In the country, on the contrary, the children of the peasantry are brought up coolly, are much in the open air, and of necessity actively employed. Toil directs the blood and the vital powers chiefly to the organs of motion, and augments perspiration. The locomotive system consequently increases at the expense of the vital one ; and the developement of the bones and of muscular power predominates over every other. Amongst country people, moreover, the manners are generally simple, the sexes are less in contact, and their

presence has less influence. Hence, in the country, many girls do not reach puberty before eighteen.

It has been observed that, at all times, the RETARDATION of puberty retards also the developement of the intellectual powers, but preserves energy and freshness to the sentiments, and developes vigorous bodies; and that if, in woman, this state be prolonged after the ordinary period, she appears to approximate to man both in some of her tastes and in some of her external characteristics.

In taking a general view of the period of puberty thus modified, it appears that, in Europe, women reach it later in the north than in the south. In some elevated northern regions, it does not occur till after twenty years of age. In our own country, it occurs from fourteen to sixteen in girls, and from sixteen to eighteen in boys. In most parts of France, puberty in women commences usually at fourteen years of age; and, in the southern departments and the great towns, at thirteen. In Italy, it takes place at twelve. This is also the case very generally with the Spanish women; and, at Cadiz, they often marry at that age. In Greece, it is not unusual for puberty to occur at ten years of age. In Persia, according to Chardin, it occurs at nine or ten. Nearly the same is the case in Arabia, Barbary, Egypt, Abyssinia, Senegal, and various parts of Africa. Thus, puberty in women commences generally, in tropical climates, from nine to ten years of age.

This early developement of the reproductive organs and functions is by no means advantageous. In the

nations that reach maturity early, the union of the sexes before the completion of growth diminishes the stature of young persons; beauty fades and perishes at a tender age; and they become aged early: *citius pubescunt, citius senescunt*. Their old age is a long one. On the contrary, the northern nations, who more slowly arrive at maturity, obtain sufficient time for strengthening of the body; and they retain their strength, youthful aspect, and reproductive power to an advanced age.

The Changes caused by Puberty.

When puberty takes place in a regular manner, it produces a general change in existence, new relations to society are created;—in short, the child ceases to be so, and its relation to the species is proclaimed by characteristics which more and more tend to distinguish the sexes.

SECTION II.

CHANGES IN THE LOCOMOTIVE SYSTEM.

It is at this period that we often observe youths to increase suddenly several inches in stature; and if the growth be equal throughout the body, it forms handsome individuals.

There often occurs, however, at this period, a weakness of the muscles, with a great development of the

bones, and especially of the joints, which gives to young men a clumsy and awkward appearance.

While, moreover, growth is proceeding in all directions, the weaker parts appear not always to receive sufficient nutritive supplies, and the strong parts acquire an excess of energy: hence we frequently observe something out of proportion at this period.

Upon the whole, however, the muscles, as well as the bones, acquire greater developement and vigour, and the arms and legs increase in size and power. Their muscular forms appear, indeed, the more developed, because their cellular tissue sinks down, in consequence of the diminution of its vital activity.

A young man consequently possesses muscles more square, limbs more robust, a firmer gait, a bolder demeanour.

The motive organs connected with the voice are not less affected than those of the general system. The hyoid bone, or bone of the tongue, is frequently completed about eighteen; and the muscles of the glottis then acquire a peculiar increase of growth, which, in young men, renders the voice lower by an octave.

In young women, also, the muscles of the glottis receive an increase and a vigour which confer force and brilliance upon speech. "Hence," says a French writer, "young girls like to sing and to display the attractions of their voice."

SECTION III.

CHANGES IN THE VITAL SYSTEM.

The GENERAL INFLUENCE of puberal developement is, at an early period, manifested in the organs of digestion, by the want of much food, and by deranged appetite. There naturally follows a superabundance of those humours that nature had previously applied more exclusively to growth. The power of the arteries augments, and the circulation assumes an unwonted activity. All the vital functions dependent on this are executed with vehemence. The chest increases, and respiration becomes free. The blood also, being acted upon by a stronger impulse, produced probably by a more powerful excitement from the nerves, their organ the heart, warms, colours, and communicates fulness and freshness to the system.

Such changes in the state and circulation of that liquid from which all others are formed, necessarily bestows, on each of these, qualities, and communicates to them impulsions, of a corresponding description. Those vessels which enter into the secretory organs redouble their action; the glands of the neck, breasts, arm-pits and groins, swell and sometimes become painful. This tendency necessarily and especially extends towards the glandular or more essential parts of the reproductive organs.

There is this, then, in common to both sexes at the time of puberty, that the blood is specially directed towards the parts subservient to reproduction; and, as

this is accompanied by increased sensibility, these organs awake from their torpor and rapidly expand. They are then no longer subordinate, but become a powerful source of vital activity, and have a general influence over the whole of the economy.

In the MALE, the flow of blood towards the reproductive organs, accompanied by sensibility, causes secretion. A sensation of heaviness, however, and a general numbness, affect the loins and the vicinity of these parts, and a confused tumult pervades the body. Meanwhile, the external reproductive organs are further developed.—In some persons, it should be observed, the testes remain, during infancy, concealed in the cavity of the pelvis; but, at the period of puberty, they descend.

The down which afterwards forms the beard, begin to grow; and it is now that hair makes its appearance in the arm-pits and on the chest, &c. and that the whole body is covered with a still softer down. It is at this period, also, among animals, that the production of horns of certain callous protuberances takes place.

In some animals, the reproductive liquid communicates to all the other liquids a strong odour, which causes both the species and the sex to be easily distinguished.

In the FEMALE, the ovaries secrete a particular liquid, which concurs in furnishing elements for the embryo. This is contained in the vesicles which are denominated ova, as these are in the ovaria.

There is now felt a weight about the loins and a general supineness. The matrix receives an increased

supply of liquids, and becomes a centre of actions with which the vital powers are greatly connected. An excess of vitality would seem to pass also to those parts that are sympathetically connected with the ovaries and matrix. The canal of the vagina, though pressed by the swelling of the neighbouring organs, becomes capable of dilatation, as well as of acquiring an intense sensibility. The nymphæ swell, redden, and become highly sensitive; the clitoris is developed, and the hymen is distended.

The cellular tissue surrounding the external reproductive organs has a greater quantity of fatty matter deposited in its cells, in consequence of which it swells, and gives an elastic contraction to the vulva. The bones of the pelvis augment in size, width, and strength.

The developement of the mammæ increases in proportion to the greater activity of the matrix. The lobes of which they are composed augment in size, and are separated by fatty masses; their lacteal vessels acquire a state of erection; they become rounded; the nipples enlarge, and acquire a lively sensibility; and they thus form in front of the chest very considerable firm projections, that at once fulfil the first object of nature.

A general excitement appears to be given to the cellular tissue, which pervades all parts of the body, and which, being replete with juices, fills up the interstices of the muscles, communicates to the body a soft, elastic fulness, and, renders it projecting, defines its outlines, and forms those fine and delicate contours which are constant objects of admiration.

The developement of the mammæ, already described, generally precedes the first appearance of the catamenia, and is their indicator. The matrix then receiving a remarkable activity, the blood flows thither, and determines a plethora, which is monthly discharged.

The reproductive organs in woman now no longer subsist in a subordinate condition, but, on the contrary, dominate over the whole animal economy.

Chlorosis, illustrating these Changes.

Instead of the natural progression of these phenomena, there sometimes occurs a state of debility, an absence of excitability, in those organs by which the female participates in reproduction. This appears to cause the non-appearance of the catamenia, and of the other phenomena of puberty, as well as great derangement of the general economy, evidenced in extraordinary tastes and depraved appetites.

The majority of chlorotic girls eat with avidity salt, plaster, hair, charcoal, sealing-wax, and drink vinegar and a variety of other unnutritious substances. This is generally accompanied by disorders, more or less intense, of the digestive organs, a softness of the flesh, and the almost œdematous swelling of the lower members, a discoloration of the exterior of the body, a complexion pale and sickly white, with a greenish tint, sunken eyes, extreme nervous susceptibility, and a multitude of nervous disorders.

That these maladies depend on the state of the organs of reproduction, is proved by their yielding in proportion as the activity of these is increased; by

their being remedied only when the matrix and the ovaries enter into the regular order of their functions ; and by the possibility even of curing them suddenly, by leaving a free course to the exercise of those faculties which have just been developed.

Under these circumstances, it becomes dangerous to increase the young woman's desire for inactivity, or aversion to society ; and it is wisely recommended, that she should be induced to read works of imagination, to cultivate music, painting and poetry, and to pass from study to amusement. With those interested in her, it is urged, that every opportunity should be seized of procuring for her lively and pleasing amusement ; that she should be constantly led to combat her natural frigidity, and increase her activity.

Natural Defects, illustrating these Changes.

The observations of the most accurate physiologists have shown, that those women in whom the matrix and the ovaries have remained, owing either to organic fault, or defect of sensibility, in complete repose during the whole of their lives, have always had forms and manners very similar to those of men—a sufficient proof that their presence gives the feminine character.

Morgagni observed that the skin of sterile women is commonly coarse, and destitute of that softness and delicacy which are peculiar to the female sex. Nuns, as well as old women, often present moustaches and beards, which made Bartholine say, “Ob desuetudinem virorum et mensuum defectum barbatae fiunt.”

Extirpation, illustrating these Changes.

When young pullets are made capons, by cutting out the floating horns of the matrix which join the ovaries, the operation prevents their laying eggs, and makes them avoid the male. These mutilated females live solitarily, avoid herding with others, and are useful only to bring up the offspring of others.

In the same manner, as observers worthy of credit assures us, in women from whom the ovaries have been removed, erotic desire diminishes, the catamenia cease, a beard appears, the mammæ fade away, and the voice becomes rough; in short, the results of that operation in women are generally the reverse of those which occur to men from the operation of castration.

It can scarcely, I think, be better proved that the female character depends on the presence of the ovaries.

Retardation in the Male, illustrating these Changes.

If the retardation of puberty in the male is of long continuance, his osseous and muscular parts gradually approach, in their forms, to those of the female, and give a corresponding resemblance to his general figure. He even presents that greater proportional size of the pelvis which characterises woman, and he consequently walks similarly, describing a greater arch around the centre of gravity.

In this case, as usual, the condition of the locomotive system is participated by that of the voice. In some of these persons, the voice is as acute as in woman.

It should be added, that the whole texture of the body is more soft, and that, in these cases, the physical condition appears always to be accompanied by a corresponding moral disposition.

Under these circumstances, stimulating and strengthening food, as well as an active life, travelling and manly exercises, tend to give tone to the organs.

Castration, illustrating these Changes.

How powerful the irradiation of the reproductive organs must be, is also proved to us by the effects of castration.

The ancients succeeded in depriving men of the procreative faculty, by destroying the testes by means of the long-continued application to the scrotum of the inspissated juice of the hemlock.

We are also told that the priests of Cybele cured mania by means of actual castration:—"Qui ante castrationem maniaci erant, sanam aliquanto mentem ab illo recuperant." Actius says that some who were tormented with priapism, were castrated by their own hands:—"Novimus quosdam audaciores qui sibi ipsis testes ferro resecarunt." It is well known that Origen mutilated himself, in order that he might no longer have to struggle continually with an erotic temperament.

In modern times, castration has been performed in western Europe, principally in Italy, in order to provide soprani singers for the pope's chapel and the stage of the opera. In Naples, at one time, there were barbers' shops with the sign, "*Quì si castrano ragazzi a buon mercato.*"

In those times, an absurd notion prevailed that the quality of voice thus attained, would, in some measure, depend on the state of the weather at the time of the operation. The occurrence of bad weather was thought extremely prejudicial: hence the anecdote of Paesiello, that when one day, I forget whether at church or theatre, a chorus of eunuchs were uttering discordant sounds, he rose in a rage and cried out to them, "Maledetti da Dio foste voi tutti castrati in cattivo tempo?" at which old Ferdinando exclaimed, "Bravo, bravo, Paesiello!" and the congregation loudly applauded.

In consequence of this operation, not only do the desires disappear, but the general organization is singularly affected.

Eunuchs increase in stature like other men, and even more in proportion; but they have a configuration and habits very analogous to those of women.

In them the bones, which form the prominence of the haunches, are much expanded, and therefore form a pelvis of uncommon capacity; the thigh-bones are less arched than in man; and the knees incline more inward, which proceeds from the greater distance existing between the heads of the thigh-bones, in consequence of which eunuchs, like women, when they walk, render very evident the change of their centre of gravity, marked as it is by the arch which they describe at every step. The curvatures of some bones also change direction. The articulations swell. There are few eunuchs who have the limbs muscular, athletic and well marked: they are generally round, soft and covered with a fine and delicate skin. The muscles

themselves become enfeebled, the strength decreases, and even the pulse loses its elasticity.

To be convinced of the influence which the testes exercise over muscular power and courage in every species of animals, it is sufficient to observe the difference between a ram and a tup, a bull and an ox, a cock and a capon.

The narrowness of the larynx is a remarkable characteristic of the eunuch. All who have examined the larynx of castrati, to discover the reason of their preserving the infantine voice, have acknowledged the truth of this observation. Dupuytren, in dissecting the larynx of a person who had been castrated in infancy, was enabled to satisfy himself of this. He observed that, in this person, the larynx was less, by one-third, than in adults of the same age and stature; that the glottis was much narrower; and that the laryngeal cartilages were little developed; so that all these parts resembled those of a woman or a boy. The change that takes place in the voice of castrati is well known; and nearly the same changes are observable in castrated animals.

The lymphatic glandular system of castrati is generally gorged and inert. The cellular tissue becomes more abundant, more loose, and more replete with fat. It is, indeed, known to be a common practice to castrate animals, in order to fatten them, and to give to their flesh a more delicate taste. Hence the older writers tell us, "*Cutis castratorum tenera est instar mulierum et levis,*" and "*Eunuchi omnes habent alvum laxum, levitatem cutis.*"

I have now to mention some of the most remarkable approximations of castrati to women.

Chlorosis, the peculiar affection of young girls, does not spare the eunuch. Cabanis tells us that he observed this disease in various young men, with this difference, that in them it was of short duration, and disappeared with age, whilst in castrati it remained a long time, nor had age any influence over it.

A fact which is constant, though little observed, is, that castrati are subject to periodical hæmorrhages, which ordinarily proceed from the hæmorrhoidal vessels. In this case, it would seem that the blood necessary to the developement of the reproductive organs and of the beard, and likewise that destined for the secretion of the reproductive liquid, is directed towards the hæmorrhoidal veins, and distends them, so that, being debilitated, they open and throw it out. There is, then, established a hæmorrhoidal flux, which gradually becomes periodical. Ossiander made this observation even in many beardless men; and he also observed that bearded women have no catamenia.

The change which takes place in the moral dispositions of castrati is equally remarkable.

Their understanding in reality appears to suffer from the absence of those impressions which give to the brain of men so much activity, though that activity is excited by sexual impressions. It is, indeed, asserted that this faculty is altered from the moment when the knife cuts them off from nature. Sinibaldi says, that the minds of eunuchs are changed, and be-

come artful and depraved, and that there was never one of first-rate understanding.*

Even the castrati who acquire some celebrity on the stage of the opera, and in the churches of Roman Catholic countries, owe a great part of their merit rather to a good organization of the organs of hearing and of voice, than to their understanding. In general, they infuse even into music, neither feeling nor expression; and it is asserted that not one of them was ever able to compose a decent air.

Huart asserts that even the person endowed with remarkable genius and great ability, when the testes are removed, begins to lose his genius; and he adds, "if any one doubt this, let him consider that out of a thousand eunuchs who have devoted themselves to learning, scarcely one has become learned."†

The castrato is cowardly and incapable of great enterprises. Narses is perhaps the only imposing exception to this rule, by having displayed some talent in war. Cut off as he is from all social relations, he can think only of himself, and becomes an egotist from necessity.

Eunuchs have, moreover, all the defects of feeble beings. Imperious and despotic in good fortune, they become vile slaves under reverses. They are perhaps

* Eunuchorum animos mutari, evadere dolosos ac prave, nec unquam castratum fuisse optimi intellectus.

† Testatur nobis experientia, ille qui testibus orbatus fuerit, quum ante insigni ingenio multaque habilitate præditus fuerit, posteaquam exacta illi pensilia sunt, ingenium perdere incepit. . . . Quod si quis non credit, consideret uti ego quidem pluries feci, e mille spadonibus qui litterarum studiis operam addixere, vix unum aliquem doctum evasisse.

the most degraded class of the human species—"cowardly and deceitful, because they are feeble; envious and wicked, because they are wretched."

The greater number of castrati see women only to slander them. It is, perhaps, a rage on account of their own degradation that renders them fit guardians of the harem: it is not improbable that "they find a satisfaction in opposing the slightest amusements of women, as it is the desire of every feeble and incapable being to see others reduced to his own state of impotence."

The organs of reproduction doubtless dispose of much of the sensibility and nervous action of the cerebro-spinal system. But when this ceases, by the amputation of the former, these nervous influences are, no doubt, dispersed over the other organs. Hence we observe that castrati are subject to a morbid sensibility, become liable to nervous diseases or vapours, as they are called, and, on the slightest mental commotion, fall into delirium. Often a profound apathy takes possession of them, and they sink into a gloomy and fatal melancholy.

It has, moreover, been observed that, even in the case of early impotence, as well as in certain diseases, which, without producing that state, particularly affect the organs of reproduction, the whole existence is singularly affected; that in men who in the vigour of age become suddenly impotent, although they are otherwise in good health, are much occupied, and habits of moderation cause little regret for the desires which they have lost, yet their disposition becomes gloomy and morose, and their mind appears, ere long,

to be daily enfeebled; and that (which is most remarkable) these conditions of the reproductive system particularly dispose to superstitious terror—a singular effect, says Cabanis, which appears always to follow a very marked degradation of the reproductive organs.

The differences as to the mode and the period of castration, produce much difference in its effects.

When men or animals are subjected to this operation at an early age, they are much more denaturalised than when it is performed after puberty.

In the former case, the cause of the great phenomena which characterise puberty is destroyed, and the members never acquire their beautiful masculine forms; the vocal organs remain in the state of imperfection in which they are found at first; the voice continues harsh and acute; and the beard never grows.

When, on the contrary, castration takes place after the age of puberty, the nature of man is less changed; the larynx dilates and grows rapidly; the voice assumes its grave and powerful tone; the beard remains; erotic desires continue for a long time; and the external manifestations of masculine power occur.* But reproductive power is lost for ever.

The same is observed in various animals. The characteristic signs of the masculine sex do not appear. An example is furnished by the stag, in which horns grow at the period when he becomes fit for reproduction. If he is castrated before this, he remains

* "Et majoris petulantiae fieri," says Arnobius, "atque omnibus propositis pudoris et verecundiae frenis in obscenam prorumpere virilitatem."

for ever deprived of that ornament. But if that operation be performed after the horns have gained their full growth, they neither fall nor are renewed.

It appears, also, that the complete amputation of all external organs of reproduction, destroys the desires associated with them much more completely and more generally than partial amputation.

On this, Mojon, to whom I am indebted for many facts on the subject, makes the following observations, which I leave in the original Italian.

“E riconosciuto che l'uomo castrato, benchè sterile, è peraltro suscettivo di gustare in parte i piaceri del coito, purchè non gli sieno state amputate tutte le parti esterne della generazione. Ciò che gli rimane non acquista che pochissimo accrescimento, restando presso a poco nello stato in cui era prima dell' operazione. Un fanciullo mutilato all' età di sei anni, si trova a diciotto anni, per ciò che spetta al pene, nella stessa condizione di quella sua prima età. Coloro al contrario che hanno sofferto l'operazione all' epoca della pubertà ed anche più tardi, hanno la verga press'a poco come quella degli altri uomini, e capace di erezione più durevole ed anche più ripetuta che nei non castrati.

“Giovenale rimprovera alle Romane i loro eccessi con gli eunuchi.

Sunt quos eunuchi imberbes ac mollia semper
Oscula delectent, et desparatio barbæ,
Et quod abortivo non est opus.

“Rainaud, nel suo libro *De Eunuchis*, narra molti esempi di commercio impuro tra donne e uomini mutilati; ed egli si ride della confidenza che molti hanno

in costoro. Andrea De Verdier dice la stessa cosa, appoggiando la sua opinione alle sentenza di Apollonio Tiano contro un eunuco del re di Babilonia che fu sorpreso a letto nelle braccia d'una favority del re stesso.

“Mi è noto, dice P. Frank, un luogo popolato in cui quattro castrati s'arrischiavano ad imprese che non avrebbero tentate nello stato loro naturale, ed in cui una parte del bel sesso non senza grave scandalo e pregiudizio aveva seco loro stretta tal practica, che il governo non potè più lungamente dissimularla.

“Non potendo soddisfare che al desiderio della carne, alla semplice sensualità, alla lussuria, alla dissolutezza, essendo nell' assoluta impossibilità di procreare, essi divengono più propri ai delitti che gli uomini perfetti; e sono più ricercati dalle donne depravate, giacchè loro danno il piacere del matrimonio senza ch'esse ne corrano il rischio. Essi emettono con qualche poco di voluttà un umore mucoso che probabilmente è segregato dalla prostata.

“Amurat III. essendosi avveduto che un cavallo castrato copriva una giumenta, fece tagliare ai suoi eunuchi, rientrando nel seraglio, tutte le parti esterne della generazione. Vi è chi pretende che sia da quell' epoca, che, oltre i testicoli, si taglia ancora la verga agli uomini destinati per la custodia de' serragli.”

No proofs, then, can be more complete than those which we possess of the omnipotence of the ovarian influence over the character of woman.

The Catamenia.

Woman is every month subject to a sanguineous

flow from the matrix, an universal and essential event in the life of the female.

The cause of this is evidently the same with that of her early puberty—the disproportion in which the vital system is, to the locomotive and nervous systems.

Thus, the female becomes possessed of a greater quantity of blood than is required for her individual preservation. Thus, she is enabled, when pregnant, to supply a sufficient quantity for the nourishment of the fœtus. Thus, when suckling, she can afford the vast secretion of milk. And thus, at all other periods, this blood, being voided, furnishes the catamenial flow.

The law which regulates the period of this occurrence, seems to be of extensive influence in nature. The erotic orgasm of quadrupeds and birds occurs about the vernal or the autumnal equinox: but, if its purpose be not attained, it is said to resemble the catamenia in woman, by recurring at about monthly periods.

The first period of the occurrence of the catamenia is the same as that of puberty. But causes of excitement hasten it, and reproduce it when its interruption has been caused by debility.

Its precocious occurrence produces weakness and premature old age.

Any common account of this event is sufficient for our purpose.

The first eruption of this flow is announced by signs denoting fulness of the circulation, and by phenomena accompanying disturbance and even change in the

other functions. There is a general lassitude and anxiety, indefinite pains, or numbness of the loins, arm-pits, pelvis, thighs and fundament. The head becomes heavy, heated and painful ; respiration ceases to be as free as usual ; and the pulse is full, unsteady and quickened. The mammæ swell, harden and suffer a painful tension. The cutaneous system, particularly the skin of the feet, is frequently the seat of superficial inflammations, slight efflorescences and even pustular blotches. The eyes are generally red, weak and watery ; the eye-lids, the lower one especially, assume a brownish tinge, and bleeding at the nose and spitting of blood are by no means uncommon.

The external reproductive organs, for some time swollen, are moistened by a lymphatic humour, at first of a light colour, but in a few days assuming the character of red and vermilion-coloured blood.—The vital excitement then decreases, and a general loosening of the whole economy takes place ; the eyes lose their brilliance, become dull and sunken ; and the lower eyelid is bounded by a livid circle.

This is followed for some time by a state of feebleness and languor. At last, the uterus, which had fallen a little, rises and resumes its position ; it is then fit for conception ; everything is again in order ; tranquillity is again established ; and the object of nature is fulfilled.

Nearly similar symptoms, though generally much less severe, announce the return of the flow. At first, it occurs at irregular periods ; and sometimes it does not reappear for several months ; but it constantly

tends more and more to assume the periodical character.

The vessels of the whole of the matrix, but principally those of its fundus or bottom, appear to be the immediate sources of the catamenia.

It continues ordinarily from three to six or seven days.

Its quantity is generally from two to three ounces; and, in temperate climates, the most sanguine woman does not discharge more than from eight to twelve ounces.

This quantity varies according to climate. The Lapland and Samoiede women void but a very small quantity; and the Greenland women, scarcely any. The nearer we approach the equator, the more the quantity increases; and, in Italy and the south of Europe, it sometimes reaches twelve ounces. Under the tropics, it is said to rise to twenty ounces; and it sometimes occurs twice in a month.

There are great varieties, in this respect, according to constitution. In general, it is more considerable in dark women of ardent temperament, than in fair women of milder character. It is also more copious in towns, and among sedentary women, and those who indulge in pleasure, than among countrywomen and those whose life is laborious and simple.

The catamenial blood is as pure as that of the general mass; though it is rendered less so in passing through the vagina, owing to the secretions with which it is then mixed. These secretions proceed from small glands at the internal surface of the vagina and of the external parts, glands perfectly analogous to

those which, in female animals, during their œstrum, furnish a secretion so powerfully odorous, as to produce near them, emanations by which the male is attracted.

This evacuation recurs every month with great regularity, except during pregnancy; and it corresponds in some females to the phases of the moon. Many women are subject to it about the time of the new moon. A vast number of cases, no doubt, deviate from that order; and there are women to whom it occurs twice a month.

Generally, this flow does not begin before the maiden is nearly fit to become a wife and a mother.

As it does not occur until woman is capable of reproducing, as she is commonly sterile when it is permanently wanting, and as she becomes so when it finally ceases, it was natural to conclude, that the catamenial blood, withheld during pregnancy, becomes the means of nourishing the fœtus. Hence its occurrence has been regarded as one of the essential conditions of fruitfulness in woman. Yet there have been fruitful women who never were subject to it.

The periodical return of this flow constitutes, from about fifteen to forty-five, a function with which in woman every other is connected. And though pregnancy and suckling suspend this phenomenon, they doubtless do so only by changing its object and direction.

During the whole of this period, the exercise of this function is indispensable to health; and if it be irregular in its returns, or be suppressed, beauty as well as health disappears.

When it finally ceases, woman loses the power of

conceiving. Among northern nations, there are many women who conceive after the age of forty-five or fifty, and men who are capable of begetting at the age of seventy. Among the eastern nations, the reproductive power decreases after thirty. Thenceforward, accordingly, the women of these regions confine themselves to domestic duties and the education of children.

In all cases, when age finally destroys the energy of the reproductive organs and the faculty of conception, greater power is obtained by the rest of the organization; the mind increases in clearness, extent and vivacity; and even woman is more under the influence of reflection than feeling.

With intellect, masculine character is assumed; an additional quantity of hair makes its appearance on the face; and the voice becomes rough. In the same manner, female quadrupeds and birds, after the age for reproduction, acquire the darker fur or plumage of males.

After the time when this flow ceases, the critical age, women may expect to live longer than men.

SECTION IV.

CHANGES IN THE MENTAL SYSTEM.

Mode in which the Uterine Influence produces Changes in that System.

It is well known, that the number of vessels in animal bodies is so much the greater, as they are

nearer the period of their first formation. This, as Cabanis observes, not only bestows great facility in the course of the blood, and the various liquids, and great readiness in the exercise of the dependent functions, but the sentient nervous extremities are thereby placed in a state of remarkable expansion, which increases the means of impression, and gives to every sensation a vividness which it can attain only at that age.

These nerves carry sensibility and action to and from all the organs of the body ; and each organ, by the impression it receives and the functions it performs, influences the whole nervous system. Hence, the effects of a local affection frequently become general.

The more that parts are supplied by nerves derived from different trunks, or from trunks formed by different nerves united, and the more their communications are consequently free and rapid, the more ought their influence to produce phenomena, sudden, varied, and extraordinary.

Now, the nerves of the reproductive organs in both sexes, though not very remarkable as to volume or number, are formed from various other nerves ; they have relations with those of all the viscera of the abdomen ; by means of the great sympathetic nerve, which forms among these a common union, they are connected with the whole nervous system ; and it is by these communications that the matrix is interested in almost all the affections of the female.

The organs of reproduction, then, by their multiplied connexions, their great sensibility, and their extensive functions, ought naturally to react with

power on the nervous centres of life, on the brain, and on all the highly sensible parts with which they are connected ; and this reaction ought to be especially remarkable when their functions commence.

At the period of nubility, accordingly, the matrix forms a centre, whence innumerable nervous irradiations issue ; and the activity of that vital centre increases daily. Hence the effects which the reproductive organs have upon the whole economy of woman—talents bursting forth suddenly towards the age of puberty—a newly inspired desire of pleasing—emotions of jealousy—not only sexual love, but that of children, and, finally, strange and wayward cerebral impressions, caprices of affection or of antipathy, which submit not to her control.

We are told, however, that those facts which would thus seem to prove the influence of the matrix over erotic desires, and the development of the moral phenomena of puberty, are contradicted by facts of a nature diametrically opposite. Thus, if, on one hand, females have been met with who, throughout life, have exhibited the most perfect indifference, and, after death, have presented no traces of the matrix, yet, on the other hand, women have been known entirely destitute of the reproductive organs in whom passions existed even in an excessive degree.

The error here committed is, in not distinguishing between the matrix and the ovaries, and in considering the former as the fundamental and more important organ.—Wherever erotic passions are present, ovaries will be found : wherever these passions are absent, no ovaries will be discovered.

Thus, all the changes which occur in the feelings and conduct of girls at puberty, are only the consequence of not less remarkable physical changes.

Consequent State of the Mind previous to Love.

Under these circumstances, the sports of infancy no longer afford pleasure to girls; and they neglect those companions younger than themselves whose society formerly pleased them. They feel, indeed, a void in the heart, which they strive in vain to fill.

The innocence, candour, frankness and gaiety of childhood continue, indeed, for a time, which varies with temperament and education. Ere long, however, they check their frankness and gaiety; they become timid, reserved, absent and thoughtful; they find pleasure in silence, avoid observation, and hanker after solitude.

The memory, if employed, appears to retrace occurrences which were previously disregarded, but which young women now imagine may assist them in unravelling the seeming mysteries of their condition. Imagination, however, by preventing their ideas from being fixed on any particular point, only increases their trouble, and adds to their embarrassment. They are plunged, therefore, into a state of continued reverie, which, though it has no definite subject, is not without attraction. They sigh, without knowing its object, and feel relief in tears, which are quite unaccountable.

The puberal and catamenial revolution, however, is sometimes complicated by symptoms indicating a sin-

gular derangement of sensibility, and establishes itself with great difficulty.

The maiden then experiences strange inequalities of temper, and unaccountable caprices, feelings of joy, sorrow, or anger, to which she readily yields, and even desire of death, or contemplation of suicide, long before she experiences the disappointments of love.

These phenomena were noticed by Hippocrates, who says—"We then hear women wishing for the worst calamities. They talk of throwing themselves into wells, or hanging themselves, and of seeking a death preferable to their situation. Sometimes, indeed, without being tormented with the idea of spectres, they appear to contemplate death with pleasure. When the attack is over, these patients make vows to Diana, carry their jewels to the temples, and hang their most precious dresses on the walls, deceived by the priests who require these sacrifices of them... I think that, in such an unhappy situation, the most certain remedy is marriage."

In this state of excessive susceptibility, reproof has been observed to drive a girl to despair, and expressions of regard, to inflame her into passion. Everything, therefore, which can irritate and maintain this sensibility, should be carefully removed.

Now, may be observed, not merely the preference which draws one sex towards the other, and is restrained by fear and reserve, but extravagant friendships, and secret confidences between individuals of the same sex. And in this way seemed to be first formed the greater number even of sympathetic and

benevolent dispositions, as well as romantic ideas, and illusions of every description.

Vague passions transport the youth ; and he becomes unbending, fiery and desperate at control. Gentler affections lead the maiden to love. This may render her insane ; and is indeed one of the great causes of insanity. Hence, it is a frequent remark, that madness scarcely ever shows itself in the first period of life.

It is at this period also, that, in young women, sometimes occur great fertility of ideas, and aptitude for the elegant arts, which afterwards give place to mediocrity. The same is sometimes the case with young men.

The age at which we have thus the greatest number of sensations, at which memory is so earnestly employed, in which imagination enjoys the greatest activity, in which new talents are thus excited, is also that in which are collected the greater number of ideas, and in which are perhaps first attempted those higher mental processes which afterwards distinguish the character. Thus, on the activity, the languor, or disorder of the organs of reproduction, would appear, in a great measure, to depend the elevation of genius, the abundance of ideas, the highest achievements of mind, or their utter and eternal absence.

The proof that, in woman, all this is produced by the influence of the ovaries, has already been seen to be, that, when these glands do not exist, when they remain in the torpor of infancy, or when they have been removed, none of these phenomena occur.

The nervous excitement attending the first appear-

ance of the catamenia is partially renewed at each monthly occurrence—sensibility becoming more definite and vivid. And this observation may be extended to the time of pregnancy.

At last, then, the mind of the young woman receives more accurate notions of an affection which is to be the principal affair of her life.

Love.

From the physical state which has now been described, there results in woman a superabundance of sensibility, which seeks, as it were, to diffuse and to communicate itself.

All is then animated in woman. Her eyes acquire an expression previously unknown, and seem, by a sort of electric spark, to light up the amorous flame in every breast formed to sympathy. Her figure displays all the light and simple graces, which man is equally unable and unwilling to resist.

Now, accordingly, the sexes mutually feel a tender and vivid interest in each other. As each is the sole object of the other's desire, they at last see in nature nothing but themselves; extravagant imagination flings over both all possible excellences; they indulge in intoxicating dreams of beauty and perfection; and each becomes, in the conviction of the other, an absolute divinity. Even man thinks thus, although he has before his eyes the very ordinary mother and other relatives of his goddess—the perhaps repulsive beings whom she is destined in a few years to resemble.

One of the symptoms generally occurring to young people, which characterises nascent love, which con-

sumes a valuable portion of life, and which leads to derangements and disorders of every kind, is an indolent and idle melancholy.

The early stage of love is also characterised by a desire which is the cause of moral love—a desire to live in chastity, a feeling that enjoyment would debase the object of love. Each, then, values existence solely for the beloved being, and would cheerfully lose life for the object of idolatry.

While this insanity exists in man, even the name of the beloved person makes the heart beat; in her presence, a torrent of fire seems to fly through the arteries; the voice and the reason are nearly annihilated; self-possession is totally lost. Even when out of the immediate sphere of this influence, every thing takes its hue from this passion, and is called on to aid its progress. The lover, like all who suffer, desires to associate all objects in his interest; and he is ordinarily humane, beneficent and generous, because the want which he experiences, disposes him to feel for others.

The maiden begins to have more rational ideas of the relations of the sexes, and no longer deceives herself as to the position in which she must stand in regard to the other sex. This she is at last taught by love.

She then delights to dwell upon the good qualities with which imagination has invested her lover; he is ever in her mind; to him every thought is referred; he is the hero of all her romances of love; and his image is present in her dreams.

It is worthy of remark that, for the purpose of obtaining strong and vigorous progeny, nature has assigned to strength the preference in the love of the female. Hence all animals become bold and warlike at the season of amorous orgasm. Hence man is proud of his physical power, and woman loves conquerors; as Venus loved the God of War.

Nature fits the sexes for different parts. While the male is thus bold, the female is bashful.

Modesty, therefore, establishes an equilibrium between the superiority of man and the delicacy of woman: and enables woman to ensure thereby for herself a supporter, a defender; and while man thus barter his protection for love, woman, is a match for his power, and the weaker, to a great extent, governs the stronger.

In aid of the physical suitableness of woman, she employs two moral qualities, coquetry and modesty, which, though opposed in their first or immediate effects, contribute to one great end.

Natural coquetry, if the mere desire of pleasing and attracting by innocent artifices may be so called, exists long before the period when love modifies the character. The look of the girl, the sound of her voice, her language, her whole demeanour seem to court the affections.

With increasing opportunity, she learns what is passing in the minds of men, and understands the meaning of every look, word and action. Finally, she in particular perceives attention, distinguishes the look of affection, &c.—invaluable attainments for

her to whom nature has rendered it necessary to seduce and subjugate the stronger by the charms of beauty and grace.

Rousseau correctly perceived the relations of coquetry to the constitution of women, and regarded it as one of the happiest affections. Painting it even among birds, he says, "Step by step the white dove follows her well beloved, and flees from him directly he returns. If he remain inactive, she arouses him with gentle taps of her beak ; if he return, she pursues him ; if he defend himself, a little flight of six steps attracts him again : the innocence of nature contrives these allurements and this gentle resistance, with an art that the most skilful coquetry can scarcely equal."*

Defects are now concealed ; charms are enhanced ; and attention is called to them in every way. Dress becomes an important agent ; and, at this age, its style is cheaper and in better taste than afterwards. Plain stuffs acquire elegant shapes ; and every fold of drapery is calculated to produce the greatest effect.

Some notion even of the agreement, adaptation and distribution of colours is acted upon ; and if women cannot assist the complexion by well-managed contrasts and harmonies, they at least produce an agreeable agitation on the organ of sight, fix observation

* La blanche colombe va suivant pas à pas son bien aimé, et prend chasse elle-même aussitôt qu'il retourne. Reste-t-il dans l'inaction, de légers coups de bec le réveillent ; s'il se retire, elle le poursuit ; s'il se défend, un petit vol de six pas l'attire encore ; l'innocence de la nature ménage les agaceries et la molle résistance, avec un art qu'aurait à peine la plus habile coquette.

on themselves, avoid every offensive distraction, and render every movement, every attitude graceful.

“Ruinous whims,” says Rousseau, “freaks of wealth, diamonds, rich draperies, and the splendour of strange ornaments, are tacit avowals of the outrages of time and the decay of beauty. Being no longer able to appear beautiful, women strive to dazzle; but young girls are too sensible of the value of their privileges to abuse them in that way.”

The importance of coquetry in the constitution of woman has now been seen. She thereby learns to increase her attractions; she cultivates every agreeable art; she derives from dress resources which at once improve and announce her taste; and she studies to acquire the graces. Coquetry also diffuses a general emulation to please, gives to society a cheerful aspect, and contributes much to the attractions of life.

This natural and useful sentiment is abused, however, when it becomes a desire to captivate all men, without attaching to any one—an art habitually practised. And when it is combined with excessive vanity, and supported by wealth, it perverts sensibility, and stifles all the affections and virtues.

Thus perverted, it leads to actions the most ridiculous or blameable. “Who,” says Montaigne, “has not heard of the girl at Paris, who had herself skinned, solely to acquire a complexion of fresher hue?” And who, we may add, is ignorant how universally the natural beauty of the shape is sacrificed to the foolish mandates of fashion?

Maidenly differs from matronly form chiefly as to the slenderness or the thickness of the waist. No

wonder, then, that the maiden prefers her proper characteristic ! But this is generally carried to an excess as ridiculous as it is frightful. Complete deformity of the figure is earned, only at the cost of deep weals cutting the sides to the quick, a dangerous compression of the chest producing aneurism, curvature of the spine, &c., a pressure upon the mammæ which may cause either swelling and cancer, or withering and absorption, a turning inward of the brim, and that general deformity of the pelvis, which, becoming too narrow to permit the head of the fœtus to pass, may render delivery possible only by the Cæsarian operation, or dividing the symphysis pubis, and separating with the knife the bones of the pelvis.

Modesty is not less peculiar to woman than coquetry. Under the influence of love, the young man exhibits his feelings ; the modesty of the girl conceals hers.

By some, it is contended, that modesty is not a natural feeling, but one of social regulation. In our own days, it certainly seemed to be unknown amongst the women of Otaheite : they came naked to the South Sea voyagers when they landed, and offered to them the charms which they exposed, striving, too, to increase their effect by expressive movements and postures. On the contrary, we are told that, in ancient times, owing to the frequency of suicides at Miletus, the magistrates declared that the first female who committed suicide should be exposed naked in the public square ; the Milesian women consequently became reconciled to life ; and it is thence concluded that modesty is a natural sentiment.

Now, giving equal credence to the ancient story

and to the modern facts, it seems rational to inquire what conditions most remarkably distinguished the two races alluded to. Nothing is more striking in this respect, than that the Otaheiteans were nude, the Milesians clothed; and clothing, as I have shown elsewhere, has generated passions and created offences.

Under the influence of clothing, it is probable, as observed by Roussel, that modesty derives its cause in woman from a certain mistrust in her own merit, and from the fear of finding herself below that very affection which she is capable of exciting, and of which she is the object. This sentiment is more difficult to be overcome in women when they have any imperfection to conceal.

It is natural, at a period when sensibility is excessive, that this sentiment of modesty should reach a high degree of intensity. It is equally natural that, from that time, it should gradually decline.

In relation to herself, modesty restrains the maiden from yielding precipitately to tender feelings, and compels her love to assume that form by which nature has taught her so universally to express it—to present it under the mask of friendship, gratitude, and a thousand other guises.

In relation to the lover, it is remarkable that the first affections are presented to him under the appearance of estrangement. The maiden flies that she may be pursued by him, and his love is kept alive by modesty. It has been observed by all physiologists, that this disposition is not only necessary, but indispensable, for the continuation of the human race.

Thus even modesty is a means of attraction with

which nature inspires all females. But those who declaim against this know nothing of nature. Every separation, every obstacle renders desire only more urgent; and nature appears to have accomplished this in the only way possible among beings endowed with sensibility and locomotion.

Nature, then, leads man to the performance of the reproductive function by the attraction of pleasure.

Addition to Castration in the preceding Section III.

As an exception to the want of talent in eunuchs, should have been mentioned Aga Mohammed Khan, who may be called the modern Narses. He preceded the late Futtch Ali on the throne of Persia, was remarkable for the cruelty, treachery and guile, which usually characterise his anomalous class, but was also signally distinguished in the annals of his country, as a hero who first fought his way to the throne amidst difficulties apparently insurmountable, and then, in a short but glorious reign, humbled, or at least successfully resisted, the power, and prevented the encroachments, of Russia. His vigilance, in his long career (eighteen years) of blood, previously to and after his ascension to undisputed sway over Persia, is very remarkable. He seems to have had all the energy of an unmutilated man. He was capable of enduring any fatigue, and almost lived on horseback. The chase was his sole amusement.—He murdered his own brother after inviting him to his palace on pretence of kindness, and committed great cruelties on all who provoked his jealousy or his vengeance. He was at length slain by a domestic.