



A
TREATISE
ON
DOMESTIC ECONOMY,
FOR THE USE OF
YOUNG LADIES AT HOME,
AND
AT SCHOOL.

BY MISS CATHERINE ^{other} E. BEECHER.

REVISED EDITION,
WITH NUMEROUS ADDITIONS AND ILLUSTRATIVE ENGRAVINGS.

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TRATISE

DOMESTIC ECONOMY



YOUNG LADIES AT HOME

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BY MISS CATHERINE E. WEBB

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PREFACE
TO THE THIRD EDITION

TO
AMERICAN MOTHERS,

whose intelligence and virtues have inspired admiration and respect, whose experience has furnished many valuable suggestions, in this work, whose approbation will be highly valued, and whose influence, in promoting the object aimed at, is respectfully solicited, this work is dedicated, by their friend and countrywoman,

THE AUTHOR.

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THE AUTHOR

1837

PREFACE

TO THE THIRD EDITION.

THE author of this work was led to attempt it, by discovering, in her extensive travels, the deplorable sufferings of multitudes of young wives and mothers, from the combined influence of *poor health, poor domestics, and a defective domestic education*. The number of young women whose health is crushed, ere the first few years of married life are past, would seem incredible to one who has not investigated this subject, and it would be vain to attempt to depict the sorrow, discouragement, and distress experienced in most families where the wife and mother is a perpetual invalid.

The writer became early convinced that this evil results mainly from the fact, that young girls, especially in the more wealthy classes, *are not trained for their profession*. In early life, they go through a course of school training which results in great debility of constitution, while, at the same time, their physical and domestic education is almost wholly neglected. Thus they enter on their most arduous and sacred duties so inexperienced and uninformed, and with so little muscular and nervous strength, that probably there is not *one chance in ten*, that young women of the present day, will pass through the first years of married life without such prostration of health and spirits as makes life a burden to themselves, and, it is to be feared, such as seriously interrupts the confidence and happiness of married life.

The measure which, more than any other, would tend to remedy this evil, would be to place *domestic economy* on an

equality with the other sciences in female schools. This should be done because it *can* be properly and systematically taught (not *practically*, but as a *science*), as much so as *political economy* or *moral science*, or any other branch of study; because it embraces knowledge, which will be needed by young women at all times and in all places; because this science can never be *properly* taught until it is made a branch of *study*; and because this method will secure a dignity and importance in the estimation of young girls, which can never be accorded while they perceive their teachers and parents practically attaching more value to every other department of science than this. When young ladies are taught the construction of their own bodies, and all the causes in domestic life which tend to weaken the constitution; when they are taught rightly to appreciate and learn the most convenient and economical modes of performing all family duties, and of employing time and money; and when they perceive the true estimate accorded to these things by teachers and friends, the grand cause of this evil will be removed. Women will be trained to secure, as of first importance, a strong and healthy constitution, and all those rules of thrift and economy that will make domestic duty easy and pleasant.

To promote this object, the writer prepared this volume as a *text-book* for female schools. It has been examined by the Massachusetts Board of Education, and been deemed worthy by them to be admitted as a part of the Massachusetts School Library.

It has also been adopted as a text-book in some of our largest and most popular female schools, both at the East and West.

The following, from the pen of Mr. George B. Emerson, one of the most popular and successful teachers in our country, who has introduced this work as a text-book in

his own school, will exhibit the opinion of one who has formed his judgment from experience in the use of the work :

“ It may be objected that such things cannot be taught by books. Why not ? Why may not the structure of the human body, and the laws of health deduced therefrom, be as well taught as the laws of natural philosophy ? Why are not the application of these laws to the management of infants and young children as important to a woman as the application of the rules of arithmetic to the extraction of the cube root ? Why may not the properties of the atmosphere be explained, in reference to the proper ventilation of rooms, or exercise in the open air, as properly as to the burning of steel or sodium ? Why is not the human skeleton as curious and interesting as the air-pump ; and the action of the brain, as the action of a steam-engine ? Why may not the healthiness of different kinds of food and drink, the proper modes of cooking, and the rules in reference to the modes and times of taking them, be discussed as properly as rules of grammar, or facts in history ? Are not the principles that should regulate clothing, the rules of cleanliness, the advantages of early rising and domestic exercise, as readily communicated as the principles of mineralogy, or rules of syntax ? Are not the rules of Jesus Christ, applied to refine *domestic manners* and preserve a *good temper*, as important as the abstract principles of ethics, as taught by Paley, Wayland, or Jouffroy ? May not the advantages of neatness, system, and order, be as well illustrated in showing how they contribute to the happiness of a family, as by showing how they add beauty to a copy-book, or a portfolio of drawings ? Would not a teacher be as well employed in teaching the rules of economy, in regard to time and expenses, or in regard to dispensing charity, as in teaching double, or single entry in book-keep-

ing? Are not the principles that should guide in constructing a house, and in warming and ventilating it properly, as important to young girls as the principles of the Athenian Commonwealth, or the rules of Roman tactics? Is it not as important that children should be taught the dangers to the mental faculties, when over-excited on the one hand, or left unoccupied on the other, as to teach them the conflicting theories of political economy, or the speculations of metaphysicians? For ourselves, we have always found children, especially girls, peculiarly ready to listen to what they saw would prepare them for future duties. The truth, that education should be a *preparation for actual, real life*, has the greatest force with children. The constantly-recurring inquiry, 'What will be *the use* of this study?' is always satisfied by showing, that it will prepare for any duty, relation, or office which, in the natural course of things, will be likely to come.

"We think this book extremely well suited to be used as a text-book in schools for young ladies, and many chapters are well adapted for a reading book for children of both sexes."

To this the writer would add the testimony of a lady who has used this work with several classes of young girls and young ladies. She remarked that she had never known a school-book that awakened more interest, and that some young girls would learn a lesson in this when they would study nothing else. She remarked, also, that when reciting the chapter on the construction of houses, they became greatly interested in inventing plans of their own, which gave an opportunity to the teacher to point out difficulties and defects. Had this part of domestic economy been taught in schools, our land would not be so defaced with awkward, misshapen, inconvenient, and, at the same time, needlessly expensive houses, as it now is.

Although the writer was trained to the care of children, and to perform all branches of domestic duty, by some of the best of housekeepers, much in these pages is offered, not as the result of her own experience, but as what has obtained the approbation of some of the most judicious mothers and housekeepers in the nation. The articles on Physiology and Hygiene, and those on horticulture, were derived from standard works on these subjects, and are sanctioned by the highest authorities.

The American Housekeeper's Receipt Book is another work prepared by the author of the *Domestic Economy*, in connexion with several experienced housekeepers, and is designed for a supplement to this work. On pages 354, 355*, and 356* will be found the Preface and Analysis of that work, the two books being designed for a complete course of instructions on every department of Domestic Economy.

The copyright interest in these two works is held by a board of gentlemen appointed for the purpose, who, after paying a moderate compensation to the author for the time and labour spent in preparing these works, will employ all the remainder paid over by the publishers, to aid in educating and locating such female teachers as wish to be employed in those portions of our country, which are most destitute of schools.

The contract with the publisher provides that the publisher shall guaranty the sales and thus secure against any losses for bad debts, for which he shall receive five *per cent.* He shall charge twenty per cent. for commissions paid to retailers, and also the expenses of printing, paper, and binding, at the current market prices, and make no other charges. The net profits thus determined are then to be divided equally, the publishers taking one half, and paying the other half to the board above mentioned.

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DOMESTIC ECONOMY.

CHAPTER I.

THE PECULIAR RESPONSIBILITIES OF AMERICAN WOMEN.

THERE are some reasons, why American women should feel an interest in the support of the democratic institutions of their Country, which it is important that they should consider. The great maxim, which is the basis of all our civil and political institutions, is, that "all men are created equal," and that they are equally entitled to "life, liberty, and the pursuit of happiness."

But it can readily be seen, that this is only another mode of expressing the fundamental principle which the Great Ruler of the Universe has established, as the law of His eternal government. "Thou shalt love thy neighbor as thyself;" and "Whatsoever ye would that men should do to you, do ye even so to them," are the Scripture forms, by which the Supreme Lawgiver requires that each individual of our race shall regard the happiness of others, as of the same value as his own; and which forbid any institution, in private or civil life, which secures advantages to one class, by sacrificing the interests of another.

The principles of democracy, then, are identical with the principles of Christianity.

But, in order that each individual may pursue and secure the highest degree of happiness within his reach, unimpeded by the selfish interests of others, a system of laws must be established, which sustain certain relations and dependencies in social and civil life. What these relations and their attending obligations shall be, are to

be determined, not with reference to the wishes and interests of a few, but solely with reference to the general good of all; so that each individual shall have his own interest, as well as the public benefit, secured by them.

For this purpose, it is needful that certain relations be sustained, which involve the duties of subordination. There must be the magistrate and the subject, one of whom is the superior, and the other the inferior. There must be the relations of husband and wife, parent and child, teacher and pupil, employer and employed, each involving the relative duties of subordination. The superior, in certain particulars, is to direct, and the inferior is to yield obedience. Society could never go forward, harmoniously, nor could any craft or profession be successfully pursued, unless these superior and subordinate relations be instituted and sustained.

But who shall take the higher, and who the subordinate, stations in social and civil life? This matter, in the case of parents and children, is decided by the Creator. He has given children to the control of parents, as their superiors, and to them they remain subordinate, to a certain age, or so long as they are members of their household. And parents can delegate such a portion of their authority to teachers and employers, as the interests of their children require.

In most other cases, in a truly democratic state, each individual is allowed to choose for himself, who shall take the position of his superior. No woman is forced to obey any husband but the one she chooses for herself; nor is she obliged to take a husband, if she prefers to remain single. So every domestic, and every artisan or laborer, after passing from parental control, can choose the employer to whom he is to accord obedience, or, if he prefers to relinquish certain advantages, he can remain without taking a subordinate place to any employer.

Each subject, also, has equal power with every other, to decide who shall be his superior as a ruler. The weakest, the poorest, the most illiterate, has the same

opportunity to determine this question, as the richest, the most learned, and the most exalted.

And the various privileges that wealth secures, are equally open to all classes. Every man may aim at riches, unimpeded by any law or institution which secures peculiar privileges to a favored class, at the expense of another. Every law, and every institution, is tested by examining whether it secures equal advantages to all; and, if the people become convinced that any regulation sacrifices the good of the majority to the interests of the smaller number, they have power to abolish it.

The institutions of monarchical and aristocratic nations are based on precisely opposite principles. They secure, to certain small and favored classes, advantages, which can be maintained, only by sacrificing the interests of the great mass of the people. Thus, the throne and aristocracy of England are supported by laws and customs, which burden the lower classes with taxes, so enormous, as to deprive them of all the luxuries, and of most of the comforts, of life. Poor dwellings, scanty food, unhealthy employments, excessive labor, and entire destitution of the means and time for education, are appointed for the lower classes, that a few may live in palaces, and riot in every indulgence.

The tendencies of democratic institutions, in reference to the rights and interests of the female sex, have been fully developed in the United States; and it is in this aspect, that the subject is one of peculiar interest to American women. In this Country, it is established, both by opinion and by practice, that woman has an equal interest in all social and civil concerns; and that no domestic, civil, or political, institution, is right, which sacrifices her interest to promote that of the other sex. But in order to secure her the more firmly in all these privileges, it is decided, that, in the domestic relation, she take a subordinate station, and that, in civil and political concerns, her interests be intrusted to the other sex, without her taking any part in voting, or in making and administering laws. The result of this order of

things has been fairly tested, and is thus portrayed by M. De Tocqueville, a writer, who, for intelligence, fidelity, and ability, ranks second to none.

“There are people in Europe, who, confounding together the different characteristics of the sexes, would make of man and woman, beings not only equal, but alike. They would give to both the same functions, impose on both the same duties, and grant to both the same rights. They would mix them in all things,—their business, their occupations, their pleasures. It may readily be conceived, that, by *thus* attempting to make one sex equal to the other, both are degraded; and, from so preposterous a medley of the works of Nature, nothing could ever result, but weak men and disorderly women.

“It is not thus that the Americans understand the species of democratic equality, which may be established between the sexes. They admit, that, as Nature has appointed such wide differences between the physical and moral constitutions of man and woman, her manifest design was, to give a distinct employment to their various faculties; and they hold, that improvement does not consist in making beings so dissimilar do pretty nearly the same things, but in getting each of them to fulfil their respective tasks, in the best possible manner. The Americans have applied to the sexes the great principle of political economy, which governs the manufactories of our age, by carefully dividing the duties of man from those of woman, in order that the great work of society may be the better carried on.

“In no country has such constant care been taken, as in America, to trace two clearly distinct lines of action for the two sexes, and to make them keep pace one with the other, but in two pathways which are always different. American women never manage the outward concerns of the family, or conduct a business, or take a part in political life; nor are they, on the other hand, ever compelled to perform the rough labor of the fields, or to make any of those laborious exertions,

which demand the exertion of physical strength. No families are so poor, as to form an exception to this rule.

"If, on the one hand, an American woman cannot escape from the quiet circle of domestic employments, on the other hand, she is never forced to go beyond it. Hence it is, that the women of America, who often exhibit a masculine strength of understanding, and a manly energy, generally preserve great delicacy of personal appearance, and always retain the manners of women, although they sometimes show that they have the hearts and minds of men.

"Nor have the Americans ever supposed, that one consequence of democratic principles, is, the subversion of marital power, or the confusion of the natural authorities in families. They hold, that every association must have a head, in order to accomplish its object; and that the natural head of the conjugal association is man. They do not, therefore, deny him the right of directing his partner; and they maintain, that, in the smaller association of husband and wife, as well as in the great social community, the object of democracy is, to regulate and legalize the powers which are necessary, not to subvert all power.

"This opinion is not peculiar to one sex, and contested by the other. I never observed, that the women of America considered conjugal authority as a fortunate usurpation of their rights, nor that they thought themselves degraded by submitting to it. It appears to me, on the contrary, that they attach a sort of pride to the voluntary surrender of their own will, and make it their boast to bend themselves to the yoke, not to shake it off. Such, at least, is the feeling expressed by the most virtuous of their sex; the others are silent; and in the United States it is not the practice for a guilty wife to clamor for the rights of woman, while she is trampling on her holiest duties."

"Although the travellers, who have visited North America, differ on a great number of points, they agree in remarking, that morals are far more strict, there, than

elsewhere.* It is evident that, on this point, the Americans are very superior to their progenitors, the English." "In England, as in all other Countries of Europe, public malice is constantly attacking the frailties of women. Philosophers and statesmen are heard to deplore, that morals are not sufficiently strict; and the literary productions of the Country constantly lead one to suppose so. In America, all books, novels not excepted, suppose women to be chaste; and no one thinks of relating affairs of gallantry."

"It has often been remarked, that, in Europe, a certain degree of contempt lurks, even in the flattery which men lavish upon women. Although a European frequently affects to be the slave of woman, it may be seen, that he never sincerely thinks her his equal. In the United States, men seldom compliment women, but they daily show how much they esteem them. They constantly display an entire confidence in the understanding of a wife, and a profound respect for her freedom.

* Miss Martineau is a singular exception to this remark. After receiving unexampled hospitalities and kindnesses, she gives the following picture of her entertainers. Having in other places spoken of the American woman as having "her intellect confined," and "her morals crushed," and as deficient in education, because she has "none of the objects in life for which an enlarged education is considered requisite," she says,—“It is assumed, in America, particularly in New England, that the morals of society there are peculiarly pure. I am grieved to doubt the fact; but I do doubt it.” “The Auld-Robin-Gray story is a frequently-enacted tragedy here; and one of the worst symptoms that struck me, was, that there was usually a demand upon my sympathy in such cases.”—“The unavoidable consequence of such a mode of marrying, is, that the sanctity of marriage is impaired, and that vice succeeds. There are sad tales in country villages, here and there, that attest this; and yet more in towns, in a rank of society where such things are seldom or never heard of in England.”—“I unavoidably knew of more cases of lapse in highly respectable families in one State, than ever came to my knowledge at home; and they were got over with a disgrace far more temporary and superficial than they could have been visited with in England.”—“The vacuity of mind of many women, is, I conclude, the cause of a vice, which it is painful to allude to, but which cannot honestly be passed over.—It is no secret on the spot, that the habit of intemperance is not infrequent among women of station and education in the most enlightened parts of the Country. I witnessed some instances, and heard of more. It does not seem to me to be regarded with all the dismay which such a symptom ought to excite. To the stranger,

They have decided that her mind is just as fitted as that of a man to discover the plain truth, and her heart as firm to embrace it, and they have never sought to place her virtue, any more than his, under the shelter of prejudice, ignorance, and fear.

"It would seem, that in Europe, where man so easily submits to the despotic sway of woman, they are nevertheless curtailed of some of the greatest qualities of the human species, and considered as seductive, but imperfect beings, and (what may well provoke astonishment) women ultimately look upon themselves in the same light, and almost consider it as a privilege that they are entitled to show themselves futile, feeble, and timid. The women of America claim no such privileges."

"It is true, that the Americans rarely lavish upon women those eager attentions which are commonly paid

a novelty so horrible, a spectacle so fearful, suggests wide and deep subjects of investigation."

It is not possible for language to give representations more false in every item. In evidence of this, the writer would mention, that, within the last few years, she has travelled almost the entire route taken by Miss Martineau, except the lower tier of the Southern States; and, though not meeting the same individuals, has mingled in the very same circles. Moreover, she has resided from several months to several years in *eight* of the different Northern and Western States, and spent several weeks at a time in five other States. She has also had pupils from every State in the Union, but two, and has visited extensively at their houses. But in her whole life, and in all these different positions, the writer has never, to her knowledge, seen even *one* woman, of the classes with which she has associated, who had lapsed in the manner indicated by Miss Martineau; nor does she believe that such a woman could find admission in such circles any where in the Country. As to intemperate women, *five* cases are all of whom the writer has ever heard, in such circles, and two of these many believed to be unwarrantably suspected. After following in Miss Martineau's track, and discovering all the falsehood, twaddle, gossip, old saws, and almanac stories, which have been strung together in her books, no charitable mode of accounting for the medley remains, but to suppose her the pitiable dupe of that love of hoaxing so often found in our Country.

Again, Miss Martineau says, "We passed an unshaded meadow, where the grass had caught fire, *every day*, at *eleven o'clock*, the preceding Summer. This demonstrates the necessity of shade!" A woman, with so little common sense, as to swallow such an absurdity for truth, and then tack to it such an astute deduction, must be a tempting subject for the abovementioned mischievous propensity.

them in Europe. But their conduct to women always implies, that they suppose them to be virtuous and refined; and such is the respect entertained for the moral freedom of the sex, that, in the presence of a woman, the most guarded language is used, lest her ear should be offended by an expression. In America, a young unmarried woman may, alone, and without fear, undertake a long journey."

"Thus the Americans do not think that man and woman have either the duty, or the right, to perform the same offices, but they show an equal regard for both their respective parts; and, though their lot, is different, they consider both of them, as beings of equal value. They do not give to the courage of woman the same form, or the same direction, as to that of man; but they never doubt her courage: and if they hold that man and his partner ought not always to exercise their intellect and understanding in the same manner, they at least believe the understanding of the one to be as sound as that of the other, and her intellect to be as clear. Thus, then, while they have allowed the social inferiority of woman to subsist, they have done all they could to raise her, morally and intellectually, to the level of man; and, in this respect, they appear to me to have excellently understood the true principle of democratic improvement.

"As for myself, I do not hesitate to avow, that, although the women of the United States are confined within the narrow circle of domestic life, and their situation is, in some respects, one of extreme dependence, I have nowhere seen women occupying a loftier position; and if I were asked, now I am drawing to the close of this work, in which I have spoken of so many important things done by the Americans, to what the singular prosperity and growing strength of that people ought mainly to be attributed, I should reply,—to the *superiority of their women.*"

This testimony of a foreigner, who has had abundant opportunities of making a comparison, is sanctioned by

the assent of all candid and intelligent men, who have enjoyed similar opportunities.

It appears, then, that it is in America, alone, that women are raised to an equality with the other sex; and that, both in theory and practice, their interests are regarded as of equal value. They are made subordinate in station, only where a regard to their best interests demands it, while, as if in compensation for this, by custom and courtesy, they are always treated as superiors. Universally, in this Country, through every class of society, precedence is given to woman, in all the comforts, conveniences, and courtesies, of life.

In civil and political affairs, American women take no interest or concern, except so far as they sympathize with their family and personal friends; but in all cases, in which they do feel a concern, their opinions and feelings have a consideration, equal, or even superior, to that of the other sex.

In matters pertaining to the education of their children, in the selection and support of a clergyman, in all benevolent enterprises, and in all questions relating to morals or manners, they have a superior influence. In such concerns, it would be impossible to carry a point, contrary to their judgement and feelings; while an enterprise, sustained by them, will seldom fail of success.

If those who are bewailing themselves over the fancied wrongs and injuries of women in this Nation, could only see things as they are, they would know, that, whatever remnants of a barbarous or aristocratic age may remain in our civil institutions, in reference to the interests of women, it is only because they are ignorant of them, or do not use their influence to have them rectified; for it is very certain that there is nothing reasonable, which American women would unite in asking, that would not readily be bestowed.

The preceding remarks, then, illustrate the position, that the democratic institutions of this Country are in

reality no other than the principles of Christianity carried into operation, and that they tend to place woman in her true position in society, as having equal rights with the other sex; and that, in fact, they have secured to American women a lofty and fortunate position, which, as yet, has been attained by the women of no other nation.

There is another topic, presented in the work of the above author, which demands the profound attention of American women.

The following is taken from that part of the Introduction to the work, illustrating the position, that, for ages, there has been a constant progress, in all civilized nations, towards the democratic equality attained in this Country.

“The various occurrences of national existence have every where turned to the advantage of democracy; all men have aided it by their exertions; those who have intentionally labored in its cause, and those who have served it unwittingly; those who have fought for it, and those who have declared themselves its opponents, have all been driven along in the same track, have all labored to one end;” “all have been blind instruments in the hands of God.”

“The gradual developement of the equality of conditions, is, therefore, a Providential fact; and it possesses all the characteristics of a Divine decree: it is universal, it is durable, it constantly eludes all human interference, and all events, as well as all men, contribute to its progress.”

“The whole book, which is here offered to the public, has been written under the impression of a kind of religious dread, produced in the author’s mind, by the contemplation of so irresistible a revolution, which has advanced for centuries, in spite of such amazing obstacles, and which is still proceeding in the midst of the ruins it has made.

“It is not necessary that God Himself should speak,

in order to disclose to us the unquestionable signs of His will. We can discern them in the habitual course of Nature, and in the invariable tendency of events."

"If the men of our time were led, by attentive observation, and by sincere reflection, to acknowledge that the gradual and progressive developement of social equality is at once the past and future of their history, this solitary truth would confer the sacred character of a Divine decree upon the change. To attempt to check democracy, would be, in that case, to resist the will of God; and the nations would then be constrained to make the best of the social lot awarded to them by Providence."

"It is not, then, merely to satisfy a legitimate curiosity, that I have examined America; my wish has been to find instruction by which we may ourselves profit." "I have not even affected to discuss whether the social revolution, which I believe to be irresistible, is advantageous or prejudicial to mankind. I have acknowledged this revolution, as a fact already accomplished, or on the eve of its accomplishment; and I have selected the nation, from among those which have undergone it, in which its developement has been the most peaceful and the most complete, in order to discern its natural consequences, and, if it be possible, to distinguish the means by which it may be rendered profitable. I confess, that in America I saw more than America; I sought the image of democracy itself, with its inclinations, its character, its prejudices, and its passions, in order to learn what we have to fear, or to hope, from its progress."

It thus appears, that the sublime and elevating anticipations which have filled the mind and heart of the religious world, have become so far developed, that philosophers and statesmen are perceiving the signs, and are predicting the approach, of the same grand consummation. There is a day advancing, "by seers predicted, and by poets sung," when the curse of selfishness shall be removed; when "scenes surpassing fable,

and yet true," shall be realized; when all nations shall rejoice and be made blessed, under those benevolent influences, which the Messiah came to establish on earth.

And this is the Country, which the Disposer of events designs shall go forth as the cynosure of nations, to guide them to the light and blessedness of that day. To us is committed the grand, the responsible privilege, of exhibiting to the world, the beneficent influences of Christianity, when carried into every social, civil, and political institution; and, though we have, as yet, made such imperfect advances, already the light is streaming into the dark prison-house of despotic lands, while startled kings and sages, philosophers and statesmen, are watching us with that interest, which a career so illustrious, and so involving their own destiny, is calculated to excite. They are studying our institutions, scrutinizing our experience, and watching for our mistakes, that they may learn whether "a social revolution, so irresistible, be advantageous or prejudicial to mankind."

There are persons, who regard these interesting truths merely as food for national vanity; but every reflecting and Christian mind, must consider it as an occasion for solemn and anxious reflection. Are we, then, a spectacle to the world? Has the Eternal Lawgiver appointed us to work out a problem, involving the destiny of the whole earth? Are such momentous interests to be advanced or retarded, just in proportion as we are faithful to our high trust? "What manner of persons, then, ought we to be," in attempting to sustain so solemn, so glorious a responsibility?

But the part to be enacted by American women, in this great moral enterprise, is the point to which special attention should here be directed.

The success of democratic institutions, as is conceded by all, depends upon the intellectual and moral character of the mass of the people. If they are intel-

ligent and virtuous, democracy is a blessing; but if they are ignorant and wicked, it is only a curse, and as much more dreadful than any other form of civil government, as a thousand tyrants are more to be dreaded than one. It is equally conceded, that the formation of the moral and intellectual character of the young is committed mainly to the female hand. The mother forms the character of the future man; the sister bends the fibres that are hereafter to be the forest tree; the wife sways the heart, whose energies may turn for good or for evil the destinies of a nation. Let the women of a country be made virtuous and intelligent, and the men will certainly be the same. The proper education of a man decides the welfare of an individual; but educate a woman, and the interests of a whole family are secured.

If this be so, as none will deny, then to American women, more than to any others on earth, is committed the exalted privilege of extending over the world those blessed influences, which are to renovate degraded man, and "clothe all climes with beauty."

No American woman, then, has any occasion for feeling that hers is an humble or insignificant lot. The value of what an individual accomplishes, is to be estimated by the importance of the enterprise achieved, and not by the particular position of the laborer. The drops of heaven which freshen the earth, are each of equal value, whether they fall in the lowland meadow, or the princely parterre. The builders of a temple are of equal importance, whether they labor on the foundations, or toil upon the dome.

Thus, also, with those labors which are to be made effectual in the regeneration of the Earth. And it is by forming a habit of regarding the apparently insignificant efforts of each isolated laborer, in a comprehensive manner, as indispensable portions of a grand result, that the minds of all, however humble their sphere of service, can be invigorated and cheered. The woman,

who is rearing a family of children; the woman, who labors in the schoolroom; the woman, who, in her retired chamber, earns, with her needle, the mite, which contributes to the intellectual and moral elevation of her Country; even the humble domestic, whose example and influence may be moulding and forming young minds, while her faithful services sustain a prosperous domestic state;—each and all may be animated by the consciousness, that they are agents in accomplishing the greatest work that ever was committed to human responsibility. It is the building of a glorious temple, whose base shall be coextensive with the bounds of the earth, whose summit shall pierce the skies, whose splendor shall beam on all lands; and those who hew the lowliest stone, as much as those who carve the highest capital, will be equally honored, when its top-stone shall be laid, with new rejoicings of the morning stars, and shoutings of the sons of God.

CHAPTER II.

DIFFICULTIES PECULIAR TO AMERICAN WOMEN.

In the preceding chapter, were presented those views, which are calculated to inspire American women with a sense of their high responsibilities to their Country, and to the world; and of the excellence and grandeur of the object to which their energies may be consecrated.

But it will be found to be the law of moral action, that whatever involves great results and great benefits, is always attended with great hazards and difficulties. And as it has been shown, that American women have a loftier position, and a more elevated object of enterprise, than the females of any other nation, so it will appear, that they have greater trials and difficulties to

overcome, than any other women are called to encounter.

Properly to appreciate the nature of these trials, it must be borne in mind, that the estimate of evils and privations depends, not so much on their positive nature, as on the character and habits of the person who meets them. A woman, educated in the savage state, finds it no trial to be destitute of many conveniences, which a woman, even of the lowest condition, in this Country, would deem indispensable to existence. So a woman, educated with the tastes and habits of the best New England or Virginia housekeepers, would encounter many deprivations and trials, which would never occur to one reared in the log cabin of a new settlement. So, also, a woman, who has been accustomed to carry forward her arrangements with well-trained domestics, would meet a thousand trials to her feelings and temper, by the substitution of ignorant foreigners, or shiftless slaves, which would be of little account to one who had never enjoyed any better service.

Now, the larger portion of American women are the descendants of English progenitors, who, as a nation, are distinguished for systematic housekeeping, and for a great love of order, cleanliness, and comfort. And American women, to a greater or less extent, have inherited similar tastes and habits. But the prosperity and democratic tendencies of this Country produce results, materially affecting the comfort of housekeepers, which the females of monarchical and aristocratic lands are not called to meet. In such countries, all ranks and classes are fixed in a given position, and each person is educated for a particular sphere and style of living. And the dwellings, conveniences, and customs of life, remain very nearly the same, from generation to generation. This secures the preparation of all classes for their particular station, and makes the lower orders more dependent, and more subservient to employers.

But how different is the state of things in this Country. Every thing is moving and changing. Persons in poverty, are rising to opulence, and persons of wealth, are sinking to poverty. The children of common laborers, by their talents and enterprise, are becoming nobles in intellect, or wealth, or office; while the children of the wealthy, enervated by indulgence, are sinking to humbler stations. The sons of the wealthy are leaving the rich mansions of their fathers, to dwell in the log cabins of the forest, where very soon they bear away the daughters of ease and refinement, to share the privations of a new settlement. Meantime, even in the more stationary portions of the community, there is a mingling of all grades of wealth, intellect, and education. There are no distinct classes, as in aristocratic lands, whose bounds are protected by distinct and impassable lines, but all are thrown into promiscuous masses. Thus, persons of humble means are brought into contact with those of vast wealth, while all intervening grades are placed side by side. Thus, too, there is a constant comparison of conditions, among equals, and a constant temptation presented to imitate the customs, and to strive for the enjoyments, of those who possess larger means.

In addition to this, the flow of wealth, among all classes, is constantly increasing the number of those who live in a style demanding much hired service, while the number of those, who are compelled to go to service, is constantly diminishing. Our manufactories, also, are making increased demands for female labor, and offering larger compensation. In consequence of these things, there is such a disproportion between those who wish to hire, and those who are willing to go to domestic service, that, in the non-slaveholding States, were it not for the supply of poverty-stricken foreigners, there would not be a domestic for each family who demands one. And this resort to foreigners, poor as it is, scarcely meets the demand; while the disproportion must every year increase, especially if our prosperity

increases. For, just in proportion as wealth rolls in upon us, the number of those, who will give up their own independent homes to serve strangers, will be diminished.

The difficulties and sufferings, which have accrued to American women, from this cause, are almost incalculable. There is nothing, which so much demands system and regularity, as the affairs of a housekeeper, made up, as they are, of ten thousand desultory and minute items; and yet, this perpetually fluctuating state of society seems forever to bar any such system and regularity. The anxieties, vexations, perplexities, and even hard labor, which come upon American women, from this state of domestic service, are endless; and many a woman has, in consequence, been disheartened, discouraged, and ruined in health. The only wonder is, that, amid so many real difficulties, American women are still able to maintain such a character for energy, fortitude, and amiableness, as is universally allowed to be their due.

But the second, and still greater difficulty, peculiar to American women, is, a delicacy of constitution, which renders them early victims to disease and decay.

The fact that the women of this Country are unusually subject to disease, and that their beauty and youthfulness are of shorter continuance than those of the women of other nations, is one which always attracts the attention of foreigners; while medical men and philanthropists are constantly giving fearful monitions as to the extent and alarming increase of this evil. Investigations make it evident, that a large proportion of young ladies, from the wealthier classes, have the incipient stages of curvature of the spine, one of the most sure and fruitful causes of future disease and decay. The writer has heard medical men, who have made extensive inquiries, say, that a very large proportion of the young women at boarding schools, are affected in this way, while many other indications of disease and

debility exist, in cases where this particular evil cannot be detected.

In consequence of this enfeebled state of their constitutions, induced by a neglect of their physical education, as soon as they are called to the responsibilities and trials of domestic life, their constitution fails, and their whole existence is rendered a burden. For no woman can enjoy existence, when disease throws a dark cloud over the mind, and incapacitates her for the proper discharge of every duty.

The writer, who for some ten years has had the charge of an institution, consisting of young ladies from almost every State in the Union, since relinquishing that charge, has travelled and visited extensively in most of the non-slaveholding States. In these circuits, she has learned the domestic history, not merely of her pupils, but of many other young wives and mothers, whose sorrowful experience has come to her knowledge. And the impression, produced by the dreadful extent of this evil, has at times been almost overwhelming.

It would seem as if the primeval curse, which has written the doom of pain and sorrow on one period of a young mother's life, in this Country had been extended over all; so that the hour seldom arrives, when "she forgetteth her sorrow for joy that a man is born into the world." Many a mother will testify, with shuddering, that the most exquisite sufferings she ever endured, were not those appointed by Nature, but those, which, for week after week, have worn down health and spirits, when nourishing her child. And medical men teach us, that this, in most cases, results from a debility of constitution, consequent on the mismanagement of early life. And so frequent and so mournful are these, and the other distresses that result from the delicacy of the female constitution, that the writer has repeatedly heard mothers say, that they had wept tears of bitterness over their infant daughters, at the thought of the sufferings which they were destined to undergo; while they cherished

the decided wish, that these daughters should never marry. At the same time, many a reflecting young woman is looking to her future prospects, with very different feelings and hopes from those which Providence designed.

A perfectly healthy woman, especially a perfectly healthy mother, is so unfrequent, in some of the wealthier classes, that those, who are so, may be regarded as the exceptions, and not as the general rule. The writer has heard some of her friends declare, that they would ride fifty miles, to see a perfectly healthy and vigorous woman, out of the laboring classes. This, although somewhat jocose, was not an entirely unfair picture of the true state of female health in the wealthier classes.

There are many causes operating, which serve to perpetuate and increase this evil. It is a well-known fact, that mental excitement tends to weaken the physical system, unless it is counterbalanced by a corresponding increase of exercise and fresh air. Now, the people of this Country are under the influence of high commercial, political, and religious stimulus, altogether greater than was ever known by any other nation; and in all this, women are made the sympathizing companions of the other sex. At the same time, young girls, in pursuing an education, have ten times greater an amount of intellectual taxation demanded, than was ever before exacted. Let any daughter, educated in our best schools at this day, compare the course of her study with that pursued in her mother's early life, and it will be seen that this estimate of the increase of mental taxation probably falls below the truth. Though, in some countries, there are small classes of females, in the higher circles, who pursue literature and science to a far greater extent than in any corresponding circles in this Country, yet, in no nation in the world are the advantages of a good intellectual education enjoyed, by so large a proportion of the females. And this education has consisted far less of accomplishments, and far more of those solid studies which demand the exercise of the

various powers of mind, than the education of the women of other lands.

And when American women are called to the responsibilities of domestic life, the degree in which their minds and feelings are taxed, is altogether greater than it is in any other nation.

No women on earth have a higher sense of their moral and religious responsibilities, or better understand, not only what is demanded of them, as housekeepers, but all the claims that rest upon them as wives, mothers, and members of a social community. An American woman, who is the mistress of a family, feels her obligations, in reference to her influence over her husband, and a still greater responsibility in rearing and educating her children. She feels, too, the claims which the moral interests of her domestics have on her watchful care. In social life, she recognises the claims of hospitality, and the demands of friendly visiting. Her responsibility, in reference to the institutions of benevolence and religion, is deeply realized. The regular worship of the Lord's day, and all the various religious meetings and benevolent societies which place so much dependence on female influence and example, she feels obligated to sustain. Add to these multiplied responsibilities, the perplexities and evils which have been pointed out, resulting from the fluctuating state of society, and the deficiency of domestic service, and no one can deny that American women are exposed to a far greater amount of intellectual and moral excitement, than those of any other land. Of course, in order to escape the danger resulting from this, a greater amount of exercise in the fresh air, and all those methods which strengthen the constitution, are imperiously required.

But, instead of this, it will be found, that, owing to the climate and customs of this Nation, there are no women who secure so little of this healthful and protecting regimen, as ours. Walking and riding and gardening, in the open air, are practised by the women of other lands, to a far greater extent, than by American females.

Most English women, in the wealthier classes, are able to walk six and eight miles, without oppressive fatigue; and when they visit this Country, always express their surprise at the inactive habits of American ladies. In England, regular exercise, in the open air, is very commonly required by the mother, as a part of daily duty, and is sought by young women, as an enjoyment. In consequence of a different physical training, English women, in those circles which enjoy competency, present an appearance which always strikes American gentlemen as a contrast to what they see at home. An English mother, at thirty, or thirty-five, is in the full bloom of perfected womanhood; as fresh and healthful as her daughters. But where are the American mothers, who can reach this period unfaded and unworn? In America, young ladies of the wealthier classes are sent to school from early childhood; and neither parents nor teachers make it a definite object to secure a proper amount of fresh air and exercise, to counterbalance this intellectual taxation. As soon as their school days are over, dressing, visiting, evening parties, and stimulating amusements, take the place of study, while the most unhealthful modes of dress add to the physical exposures. To make morning calls, or do a little shopping, is all that can be termed their exercise in the fresh air; and this, compared to what is needed, is absolutely nothing, and on some accounts is worse than nothing.* In consequence of these, and other evils, which will be pointed out more at large in the following pages, the young women of America grow up with such a delicacy of constitution, that probably eight out of ten become subjects of disease, either before or as soon as they are called to the responsibilities of domestic life.

But there is one peculiarity of situation, in regard to American women, which makes this delicacy of consti-

* So little idea have most ladies, in the wealthier classes, of what is a proper amount of exercise, that, if they should succeed in walking a mile or so, at a moderate pace, three or four times a week, they would call it taking a great deal of exercise.

tution still more disastrous. It is the liability to the exposures and hardships of a newly-settled country.

One more extract from De Tocqueville will give a view of this part of the subject, which any one, familiar with Western life, will admire for its verisimilitude.

“The same strength of purpose which the young wives of America display in bending themselves, at once, and without repining, to the austere duties of their new condition, is no less manifest in all the great trials of their lives. In no country in the world, are private fortunes more precarious, than in the United States. It is not uncommon for the same man, in the course of his life, to rise and sink again through all the grades which lead from opulence to poverty. American women support these vicissitudes with a calm and unquenchable energy. It would seem that their desires contract, as easily as they expand, with their fortunes. The greater part of the adventurers, who migrate, every year, to people the Western wilds, belong” “to the old Anglo-American race of the Northern States. Many of these men, who rush so boldly onward in pursuit of wealth, were already in the enjoyment of a competency in their own part of the Country. They take their wives along with them, and make them share the countless perils and privations, which always attend the commencement of these expeditions. I have often met, even on the verge of the wilderness, with young women, who, after having been brought up amid all the comforts of the large towns of New England, had passed, almost without any intermediate stage, from the wealthy abode of their parents, to a comfortless hovel in a forest. Fever, solitude, and a tedious life, had not broken the springs of their courage. Their features were impaired and faded, but their looks were firm: they appeared to be, at once, sad and resolute.”

In another passage, he gives this picturesque sketch: “By the side of the hearth, sits a woman, with a baby on her lap. She nods to us, without disturbing herself. Like the pioneer, this woman is in the prime of life;

her appearance would seem superior to her condition : and her apparel even betrays a lingering taste for dress. But her delicate limbs appear shrunken ; her features are drawn in ; her eye is mild and melancholy ; her whole physiognomy bears marks of a degree of religious resignation, a deep quiet of all passion, and some sort of natural and tranquil firmness, ready to meet all the ills of life, without fearing and without braving them. Her children cluster about her, full of health, turbulence, and energy ; they are true children of the wilderness : their mother watches them, from time to time, with mingled melancholy and joy. To look at their strength, and her languor, one might imagine that the life she had given them had exhausted her own ; and still she regrets not what they have cost her. The house, inhabited by these emigrants, has no internal partition or loft. In the one chamber, of which it consists, the whole family is gathered for the night. The dwelling is itself a little world ; an ark of civilization amid an ocean of foliage. A hundred steps beyond it, the primeval forest spreads its shades, and solitude resumes its sway."

Such scenes, and such women, the writer has met, and few persons realize how many refined and lovely women are scattered over the broad prairies and deep forests of the West ; and none, but the Father above, appreciates the extent of those sacrifices and sufferings, and the value of that firm faith and religious hope, which live, in perennial bloom, amid those vast solitudes. If the American women of the East merit the palm, for their skill and success as accomplished housekeepers, still more is due to the heroines of the West, who, with such unyielding fortitude and cheerful endurance, attempt similar duties, amid so many disadvantages and deprivations.

But, though American women have those elevated principles and feelings, which enable them to meet such trials in so exemplary a manner, their physical energies are not equal to the exertions demanded. Though the

mind may be bright and firm, the casket is shivered ; though the spirit may be willing, the flesh is weak. A woman of firm health, with the hope and elasticity of youth, may be envied rather than pitied, as she shares with her young husband the hopes and enterprises of pioneer life. But, when the body fails, then the eye of hope grows dim, the heart sickens, the courage dies ; and, in solitude, weariness, and suffering, the wanderer pines for the dear voices and the tender sympathies of a far distant home. Then it is, that the darkest shade is presented, which marks the peculiar trials and liabilities of American women, and which exhibits still more forcibly the disastrous results of that delicacy of constitution which has been pointed out. For, though all American women, or even the greater part of them, are not called to encounter such trials, yet no mother, who rears a family of daughters, can say, that such a lot will not fall to one of her flock ; nor can she know which will escape. The reverses of fortune, and the chances of matrimony, expose every woman in the Nation to such liabilities, for which she needs to be prepared.

CHAPTER III.

REMEDIES FOR THE PRECEDING DIFFICULTIES.

HAVING pointed out the peculiar responsibilities of American women, and the peculiar embarrassments which they are called to encounter, the following suggestions are offered, as remedies for such difficulties.

In the first place, the physical and domestic education of daughters should occupy the principal attention of mothers, in childhood ; and the stimulation of the intellect should be very much reduced. As a general rule, daughters should not be sent to school before they are six years old ; and, when they are sent, far more attention should be paid to their physical development,

than is usually done. They should never be confined, at any employment, more than an hour at a time; and this confinement should be followed by sports in the open air. Such accommodations should be secured, that, at all seasons, and in all weathers, the teacher can every half hour send out a portion of her school, for sports. And still more care should be given to preserve pure air in the schoolroom. The close stoves, crowded condition, and poisonous air, of most schoolrooms, act as constant drains on the health and strength of young children.

In addition to this, much less time should be given to school, and much more to domestic employments, especially in the wealthier classes. A little girl may begin, at five or six years of age, to assist her mother; and, if properly trained, by the time she is ten, she can render essential aid. From this time, until she is fourteen or fifteen, it should be the principal object of her education to secure a strong and healthy constitution, and a thorough practical knowledge of all kinds of domestic employments. During this period, though some attention ought to be paid to intellectual culture, it ought to be made altogether secondary in importance; and such a measure of study and intellectual excitement, as is now demanded in our best female seminaries, ought never to be allowed, until a young lady has passed the most critical period of her youth, and has a vigorous and healthful constitution fully established. The plan might be adopted, of having schools for young girls kept only in the afternoon; that their mornings might be occupied in domestic exercise, without interfering with school employments. Where a proper supply of domestic exercise cannot be afforded, the cultivation of flowers and fruits might be resorted to, as a delightful and unfailing promotive of pleasure and health.

And it is to that class of mothers, who have the best means of securing hired service, and who are the most tempted to allow their daughters to grow up with inactive habits, that their Country and the world must

look for a reformation, in this respect. Whatever ladies in the wealthier classes decide shall be fashionable, will be followed by all the rest; but, while they persist in the aristocratic habits, now so common, and bring up their daughters to feel as if labor was degrading and unbecoming, the evils pointed out will never find a remedy. It is, therefore, the peculiar duty of ladies, who have wealth, to set a proper example, in this particular, and make it their first aim to secure a strong and healthful constitution for their daughters, by active domestic employments. All the sweeping, dusting, care of furniture and beds, the clear starching, and the nice cooking, should be done by the daughters of a family, and not by hired servants. It may cost the mother more care, and she may find it needful to hire a person for the express purpose of instructing and superintending her daughters, in these employments; but it should be regarded as indispensable to be secured, either by the mother's agency, or by a substitute.

It is in this point of view, that the dearth of good domestics in this Country may, in its results, prove a substantial blessing. If all housekeepers, who have the means, could secure good servants, there would be little hope that so important a revolution, in the domestic customs of the wealthy classes, could be effected. And so great is the natural indolence of mankind, that the amount of exercise, needful for health, will never be secured by those who are led to it through no necessity, but merely from rational considerations. Yet the pressure of domestic troubles, from the want of good domestics, has already determined many a mother, in the wealthy classes, to train her daughters to aid her in domestic service; and thus necessity is compelling mothers to do what abstract principles of expediency could never secure.

A second method of promoting the same object, is, to raise the science and practice of Domestic Economy to its appropriate place, as a regular study in female seminaries. The succeeding chapter will present the

reasons for this, more at large. But it is to the mothers of our Country, that the community must look for this change. It cannot be expected, that teachers, who have their attention chiefly absorbed by the intellectual and moral interests of their pupils, should properly realize the importance of this department of education. But if mothers generally become convinced of this, their judgement and wishes will meet the respectful consideration they deserve, and the object will be accomplished.

The third method of securing a remedy for the evils pointed out, is, the endowment of female institutions, under the care of suitable trustees, who shall secure a proper course of education. The importance of this measure cannot be realized by those, who have not turned their attention to this subject; and for such, the following considerations are presented.

The endowment of colleges, and of law, medical, and divinity, schools, for the other sex, is designed to secure a thorough and proper education, for those who have the most important duties of society to perform. The men who are to expound the laws, the men who have the care of the public health, and the men who are to communicate religious instruction, should have well-disciplined and well-informed minds; and it is mainly for this object that collegiate and professional institutions are established. Liberal and wealthy individuals contribute funds, and the legislatures of the States also lend assistance, so that every State in this Nation has from one to twenty such endowed institutions, supplied with buildings, apparatus, a library, and a faculty of learned men to carry forward a superior course of instruction. And the use of all these advantages is secured, in many cases, at an expense, no greater than is required to send a boy to a common school and pay his board there. No private school could offer these advantages, without charging such a sum, as would forbid all but the rich from securing its benefits. By furnishing such superior advantages, on low terms, multitudes are properly educated, who would otherwise

remain in ignorance; and thus the professions are supplied, by men properly qualified for them.

Were there no such institutions, and no regular and appropriate course of study demanded for admission to the bar, the pulpit, and to medical practice, the education of most professional men would be desultory, imperfect, and deficient. Parents and children would regulate the course of study according to their own crude notions; and, instead of having institutions which agree in carrying on a similar course of study, each school would have its own peculiar system, and compete and conflict with every other. Meantime, the public would have no means of deciding which was best, nor any opportunity for learning when a professional man was properly qualified for his duties. But as it is, the diploma of a college, and the license of an appointed body of judges, must both be secured, before a young man feels that he has entered the most promising path to success in his profession.

Our Country, then, is most abundantly supplied with endowed institutions, which secure a liberal education, on such low terms as make them accessible to all classes, and in which the interests of education are watched over, sustained, and made permanent, by an appropriate board of trustees.

But are not the most responsible of all duties committed to the charge of woman? Is it not her profession to take care of mind, body, and soul? and that, too, at the most critical of all periods of existence? And is it not as much a matter of public concern, that she should be properly qualified for her duties, as that ministers, lawyers, and physicians, should be prepared for theirs? And is it not as important, to endow institutions which shall make a superior education accessible to all classes,—for females, as for the other sex? And is it not equally important, that institutions for females be under the supervision of intelligent and responsible trustees, whose duty it shall be to secure a uniform and appropriate education for one sex

as much as for the other? It would seem as if every mind must accord an affirmative reply, as soon as the matter is fairly considered.

As the education of females is now conducted, any man or woman who pleases, can establish a female seminary, and secure recommendations which will attract pupils. But whose business is it to see that these young females are not huddled into crowded rooms? or that they do not sleep in ill-ventilated chambers? or that they have healthful food? or that they have the requisite amount of fresh air and exercise? or that they pursue an appropriate and systematic course of study? or that their manners, principles, and morals, are properly regulated? Parents either have not the means, or else are not qualified to judge; or, if they are furnished with means and capacity, they are often restricted to a choice of the best school within reach, even when it is known to be exceedingly objectionable.

If the writer were to disclose all that can truly be told of boarding-school life, and its influence on health, manners, disposition, intellect, and morals, the disclosure would both astonish and shock every rational mind. And yet she believes that such institutions are far better managed in this Country, than in any other; and that the number of those, which are subject to imputations in these respects, is much less than could reasonably be expected. But it is most surely the case, that much remains to be done, in order to supply such institutions as are needed for the proper education of American women.

In attempting a sketch of the kind of institutions which are demanded, it is very fortunate that there is no necessity for presenting a theory, which may, or may not, be approved by experience. It is the greatest honor of one of our newest Western States, that it can boast of such an Institution, endowed, too, wholly by the munificence of a single individual. A slight sketch of this Institution, which the writer has examined in all

its details, will give an idea of what can be done, by showing what has actually been accomplished.

This Institution * is under the supervision of a Board of Trustees, who hold the property in trust for the object to which it is devoted, and who have the power to fill their own vacancies. It is furnished with a noble and tasteful building, of stone, so liberal in dimensions and arrangement, that it can accommodate ninety pupils and teachers, giving one room to every two pupils, and all being so arranged, as to admit of thorough ventilation. This building is surrounded by extensive grounds, enclosed with handsome fences, where remains of the primeval forest still offer refreshing shade for juvenile sports.

To secure adequate exercise for the pupils, two methods are adopted. By the first, each young lady is required to spend a certain portion of time in domestic employments, either in sweeping, dusting, setting and clearing tables, washing and ironing, or other household concerns.

Let not the aristocratic mother and daughter express their dislike of such an arrangement, till they can learn how well it succeeds. Let them walk, as the writer has done, through the large airy halls, kept clean and in order by their fair occupants, to the washing and ironing-rooms. There they will see a long hall, conveniently fitted up with some thirty neatly-painted tubs, with a clean floor, and water conducted so as to save both labor and slopping. Let them see some thirty or forty merry girls, superintended by a motherly lady, chatting and singing, washing and starching, while every convenience is at hand, and every thing around is clean and comfortable. Two hours, thus employed, enable

* The writer omits the name of this Institution, lest an inference should be drawn which would be unjust to other institutions. There are others equally worthy of notice, and the writer selects this only because her attention was especially directed to it as being in a new State, and endowed wholly by an individual.

each young lady to wash the articles she used during the previous week, which is all that is demanded, while thus they are all practically initiated into the arts and mysteries of the wash-tub. The Superintendent remarked to the writer, that, after a few weeks of probation, most of her young washers succeeded quite as well as those whom she could hire, and who made it their business. Adjacent to the washing-room, is the ironing establishment; where another class are arranged, on the ironing-day, around long, extended tables, with heating-furnaces, clothes-frames, and all needful appliances.

By a systematic arrangement of school and domestic duties, a moderate portion of time, usually not exceeding two hours a day, from each of the pupils, accomplished all the domestic labor of a family of ninety, except the cooking, which was done by two hired domestics. This part of domestic labor it was deemed inexpedient to incorporate as a portion of the business of the pupils, inasmuch as it could not be accommodated to the arrangements of the school, and was in other respects objectionable.

Is it asked, how can young ladies paint, play the piano, and study, when their hands and dresses must be unfitted by such drudgery? The woman who asks this question, has yet to learn that a pure and delicate skin is better secured by healthful exercise, than by any other method; and that a young lady, who will spend two hours a day at the wash-tub, or with a broom, is far more likely to have rosy cheeks, a finely-moulded form, and a delicate skin, than one who lolls all day in her parlor or chamber, or only leaves it, girt in tight dresses, to make fashionable calls. It is true, that long-protracted daily labor hardens the hand, and unfits it for delicate employments; but the amount of labor needful for health produces no such effect. As to dress, and appearance, if neat and convenient accommodations are furnished, there is no occasion for the exposures which demand shabby dresses. A dark cali-

co, genteelly made, with an oiled-silk apron, and wide cuffs of the same material, secures both good looks and good service. This plan of domestic employments for the pupils in this Institution, not only secures regular healthful exercise, but also aids to reduce the expenses of education, so that, with the help of the endowments, it is brought within the reach of many, who otherwise could never gain such advantages.

In addition to this, a system of Calisthenic* exercises is introduced, which secures all the advantages which dancing is supposed to effect, and which is free from the dangerous tendencies of that fascinating and fashionable amusement. This system is so combined with music, and constantly varying evolutions, as to serve as an amusement, and also as a mode of curing distortions, particularly all tendencies to curvature of the spine; while, at the same time, it tends to promote grace of movement, and easy manners.

Another advantage of this Institution, is, an elevated and invigorating course of mental discipline. Many persons seem to suppose, that the chief object of an intellectual education is the acquisition of knowledge. But it will be found, that this is only a secondary object. The formation of habits of investigation, of correct reasoning, of persevering attention, of regular system, of accurate analysis, and of vigorous mental action, is the primary object to be sought in preparing American women for their arduous duties; duties which will demand not only quickness of perception, but steadiness of purpose, regularity of system, and perseverance in action.

It is for such purposes, that the discipline of the Mathematics is so important an element in female

* From two Greek words,—*καλος*, *kalos*, beauty, and *σθενος*, *sthenos*, strength, being the union of both. The writer is now preparing for the press, an improved system, of her own invention, which, in some of its parts, has been successfully introduced into several female seminar'ies, with advantage. This plan combines singing with a great variety of amusing and graceful evolutions, designed to promote both health and easy manners.

education; and it is in this aspect, that the mere acquisition of facts, and the attainment of accomplishments, should be made of altogether secondary account.

In the Institution here described, a systematic course of study is adopted, as in our colleges; designed to occupy three years. The following slight outline of the course, will exhibit the liberal plan adopted in this respect.

In Mathematics, the whole of Arithmetic contained in the larger works used in schools, the whole of Euclid, and such portions from Day's Mathematics as are requisite to enable the pupils to demonstrate the various problems in Olmsted's larger work on Natural Philosophy. In Language, besides English Grammar, a short course in Latin is required, sufficient to secure an understanding of the philosophy of the language, and that kind of mental discipline which the exercise of translating affords. In Philosophy, Chemistry, Astronomy, Botany, Geology and Mineralogy, Intellectual and Moral Philosophy, Political Economy, and the Evidences of Christianity, the same textbooks are used as are required at our best colleges. In Geography, the most thorough course is adopted; and in History, a more complete knowledge is secured, by means of charts and textbooks, than most of our colleges offer. To these branches, are added Griscom's Physiology,* Bigelow's Technology, and Jahn's Archæology, together with a course of instruction in polite literature, for which Chambers's English Literature is employed as the textbook, each recitation being attended with selections and criticisms, from teacher or pupils, on the various authors brought into notice. Vocal Music, on the plan of the Boston Academy, is a part of the daily instructions.

* This work, which has gone through numerous editions, and been received by the public with great favour, forms No. lxxxv. of the "Family Library," and No. lvii. of the "School District Library," issued by the publishers of this volume. It is abundantly illustrated by engravings, and has been extensively introduced as a school text-book.

Linear drawing, and pencilling, are designed also to be a part of the course. Instrumental Music is taught, but not as a part of the regular course of study.

To secure the proper instruction in all these branches, the division of labor, adopted in colleges, is pursued. Each teacher has distinct branches as her department, for which she is responsible, and in which she is independent. One teacher performs the duties of a *governess*, in maintaining rules, and attending to the habits and manners of the pupils. By this method, the teachers have sufficient time, both to prepare themselves, and to impart instruction and illustration in the classroom. In this Institution it is made a direct object of effort *to cure defects of character and habits*. At the frequent meetings of the Principal and teachers, the peculiarities of each pupil are made the subjects of inquiry; and methods are devised for remedying defects through the personal influence of the several teachers. This, when thus made a direct object of combined effort, often secures results most gratifying and encouraging.

One peculiarity of this Institution demands consideration. By the method adopted here, the exclusive business of educating their own sex is, as it ever ought to be, confined to females. The Principal of the Institution, indeed, is a gentleman; but, while he takes the position of a father of the family, and responsible head of the whole concern, the entire charge of instruction, and most of the responsibilities in regard to health, morals, and manners, rest upon the female teachers, in their several departments. The Principal is the chaplain and religious teacher; and is a member of the board of instructors, so far as to have a right to advise, and an equal vote, in every question pertaining to the concerns of the School; and thus he acts as a sort of regulator and mainspring in all the various departments. But no one person in the Institution is loaded with the excessive responsibilities, which rest upon one, where a large institution of this kind has a Principal, who employs and directs all the subordinate

assistants. The writer has never before seen the principle of the division of labor and responsibility so perfectly carried out in any female institution; and she believes that experience will prove that this is the true model for combining, in appropriate proportions, the agency of both sexes in carrying forward such an institution. There are cases where females are well qualified, and feel willing to take the place occupied by the Principal; but such cases are rare.

One thing more should be noticed, to the credit of the rising State where this Institution is located. A female association has been formed, embracing a large portion of the ladies of standing and wealth, the design of which, is, to educate, gratuitously, at this, and other similar, institutions, such females as are anxious to obtain a good education, and are destitute of the means. If this enterprise is continued, with the same energy and perseverance as has been manifested during the last few years, that State will take the lead of her sister States in well-educated women; and if the views in the preceding pages are correct, this will give her precedence in every intellectual and moral advantage.

Many, who are not aware of the great economy secured by a proper division of labor, will not understand how so extensive a course can be properly completed in three years. But in this Institution, none are received under fourteen; and a certain amount of previous acquisition is required, in order to admission, as is done in our colleges. This secures a diminution of classes, so that but few studies are pursued at one time; while the number of well-qualified teachers is so adequate, that full time is afforded for all needful instruction and illustration. Where teachers have so many classes, that they merely have time to find out what the pupils learn from books, without any aid from their teachers, the acquisitions of the pupils are vague and imperfect, and soon pass away; so that an immense amount of expense, time, and labor, is spent in acquiring or recalling what is lost about as fast as it is gained.

Parents are little aware of the immense waste incurred by the present mode of conducting female education. In the wealthy classes, young girls are sent to school, as a matter of course, year after year, confined, for six hours a day, to the schoolhouse, and required to add some time out of school to learning their lessons. Thus, during the most critical period of life, they are for a long time immured in a room, filled with an atmosphere vitiated by many breaths, and are constantly kept under some sort of responsibility in regard to mental effort. Their studies are pursued at random, often changed with changing schools, while book after book (heavily taxing the parent's purse) is conned awhile, and then supplanted by others. Teachers have usually so many pupils, and such a variety of branches to teach, that little time can be afforded to each pupil; while scholars, at this thoughtless period of life, feeling sure of going to school as long as they please, manifest little interest in their pursuits.

The writer believes that the actual amount of education, permanently secured by most young ladies from the age of ten to fourteen, could all be acquired in one year, at the Institution described, by a young lady at the age of fifteen or sixteen.

Instead of such a course as the common one, if mothers would keep their daughters as their domestic assistants, until they are fourteen, requiring them to study one lesson, and go out, once a day, to recite it to a teacher, it would abundantly prepare them, after their constitutions are firmly established, to enter such an institution, where, in three years, they could secure more, than almost any young lady in the Country now gains by giving the whole of her youth to school pursuits.

In the early years of female life, reading, writing, needlework, drawing, and music, should alternate with domestic duties; and one hour a day, devoted to some study, in addition to the above pursuits, would be all that is needful to prepare them for a thorough educa-

tion after growth is attained, and the constitution established. This is the time when young women would feel the value of an education, and pursue their studies with that maturity of mind, and vividness of interest, which would double the perpetuity and value of all their acquisitions.

The great difficulty, which opposes such a plan, is, the want of institutions that would enable a young lady to complete, in three years, the liberal course of study, here described. But if American mothers become convinced of the importance of such advantages for their daughters, and will use their influence appropriately and efficiently, they will certainly be furnished. There are other men of liberality and wealth, besides the individual referred to, who can be made to feel that a fortune, expended in securing an appropriate education to American women, is as wisely bestowed, as in founding colleges for the other sex, who are already so abundantly supplied. We ought to have institutions, similar to the one described, in every part of this Nation; and funds should be provided, for educating young women destitute of means: and if American women think and feel, that, by such a method, their own trials will be lightened, and their daughters will secure a healthful constitution and a thorough domestic and intellectual education, the appropriate expression of their wishes will secure the necessary funds. The tide of charity, which has been so long flowing from the female hand to provide a liberal education for young men, will flow back with abundant remuneration.

The last method suggested for lessening the evils peculiar to American women, is, a decided effort to oppose the aristocratic feeling, that labor is degrading; and to bring about the impression, that it is refined and lady-like to engage in domestic pursuits. In past ages, and in aristocratic countries, leisure and indolence and frivolous pursuits have been deemed lady-like and refined, because those classes, which were most refined, countenanced such an opinion. But whenever ladies of refine

class
ment, as a general custom, patronise domestic pursuits, then these employments will be deemed lady-like. It may be urged, however, that it is impossible for a woman who cooks, washes, and sweeps, to appear in the dress, or acquire the habits and manners, of a lady; that the drudgery of the kitchen is dirty work, and that no one can appear delicate and refined, while engaged in it. Now all this depends on circumstances. If a woman has a house, destitute of neat and convenient facilities; if she has no habits of order and system; if she is remiss and careless in person and dress;—then all this may be true. But, if a woman will make some sacrifices of costly ornaments in her parlor, in order to make her kitchen neat and tasteful; if she will sacrifice expensive dishes, in order to secure such conveniences for labor as protect from exposures; if she will take pains to have the dresses, in which she works, made of suitable materials, and in good taste; if she will rise early, and systematize and oversee the work of her family, so as to have it done thoroughly, neatly, and in the early part of the day; she will find no necessity for any such apprehensions. It is because such work has generally been done by vulgar people, and in a vulgar way, that we have such associations; and when ladies manage such things, as ladies should, then such associations will be removed. There are pursuits, deemed very refined and genteel, which involve quite as much exposure as kitchen employments. For example, to draw a large landscape, in colored crayons, would be deemed very lady-like; but the writer can testify, from sad experience, that no cooking, washing, sweeping, or any other domestic duty, ever left such deplorable traces on hands, face, and dress, as this same lady-like pursuit. Such things depend entirely on custom and associations; and every American woman, who values the institutions of her Country, and wishes to lend her influence in extending and perpetuating such blessings, may feel that she is doing this, whenever, by her example and influence, she destroys the aristocratic association, which would render domestic labor degrading.

CHAPTER IV.

ON DOMESTIC ECONOMY AS A BRANCH OF STUDY.

THE greatest impediment to making Domestic Economy a branch of study, is, the fact, that neither parents nor teachers realize the importance, or the practicability of constituting it a regular part of school education.

It is with reference to this, that the first aim of the writer will be, to point out some of the reasons for introducing Domestic Economy as a branch of female education, to be studied at school.

The first reason, is, that there is no period, in a young lady's life, when she will not find such knowledge useful to herself and to others. The state of domestic service, in this Country, is so precarious, that there is scarcely a family, in the free States, of whom it can be affirmed, that neither sickness, discontent, nor love of change, will deprive them of all their domestics, so that every female member of the family will be required to lend some aid, in providing food and the conveniences of living; and the better she is qualified to render it, the happier she will be, and the more she will contribute to the enjoyment of others.

A second reason, is, that every young lady, at the close of her schooldays, and even before they are closed, is liable to be placed in a situation, in which she will need to do, herself, or to teach others to do, all the various processes and duties detailed in this work. That this may be more fully realized, the writer will detail some instances, which have come under her own observation.

The eldest daughter of a family returned from school, on a visit, at sixteen years of age. Before her vacation had closed, her mother was laid in the grave; and such were her father's circumstances, that she was obliged to assume the cares and duties of her lost parent. The

care of an infant, the management of young children, the superintendence of domestics, the charge of family expenses, the responsibility of entertaining company, and the many other cares of the family state, all at once came upon this young and inexperienced schoolgirl.

Again; a young lady went to reside with a married sister, in a distant State. While on this visit, the elder sister died, and there was no one but this young lady to fill the vacant place, and assume all the cares of the nursery, parlor, and kitchen.

Again; a pupil of the writer, at the end of her school-days, married, and removed to the West. She was an entire novice in all domestic matters; an utter stranger in the place to which she removed. In a year, she became a mother, and *her health failed*; while, for most of the time, she had no domestics, at all, or only Irish or Germans, who scarcely knew even the names, or the uses, of many cooking utensils. She was treated with politeness by her neighbors, and wished to return their civilities; but how could this young and delicate creature, who had spent all her life at school, or in visiting and amusement, take care of her infant, attend to her cooking, washing, ironing, and baking, the concerns of her parlor, chambers, kitchen, and cellar, and yet visit and receive company? If there is any thing that would make a kindly heart ache, with sorrow and sympathy, it would be to see so young, so amiable, so helpless a martyr to the mistaken system of female education now prevalent. "I have the kindest of husbands," said the young wife, after her narrative of sufferings, "and I never regretted my marriage; but, since this babe was born, I have never had a single waking hour of freedom from anxiety and care. O! how little young girls know what is before them, when they enter married life!" Let the mother or teacher, whose eye may rest on these lines, ask herself, if there is no cause for fear that the young objects of her care may be thrown into similar emergencies, where they may need a kind of preparation, which as yet has been withheld.

Another reason for introducing such a subject, as a distinct branch of school education, is, that, as a general fact, young ladies *will not* be taught these things in any other way. In reply to the thousand-times-repeated remark, that girls must be taught their domestic duties by their mothers, at home, it may be inquired, in the first place, What proportion of mothers are qualified to teach a *proper* and *complete* system of Domestic Economy? When this is answered, it may be asked, What proportion of those who are qualified, have that sense of the importance of such instructions, and that energy and perseverance which would enable them actually to teach their daughters, in all the branches of Domestic Economy presented in this work?

It may then be asked, How many mothers *actually do* give their daughters instruction in the various branches of Domestic Economy? Is it not the case, that, owing to ill health, deficiency of domestics, and multiplied cares and perplexities, a large portion of the most intelligent mothers, and those, too, who most realize the importance of this instruction, actually cannot find the time, and have not the energy, necessary to properly perform the duty? They are taxed to the full amount of both their mental and physical energies, and cannot attempt any thing more. Almost every woman knows, that it is easier to do the work, herself, than it is to teach an awkward and careless novice; and the great majority of women, in this Country, are obliged to do almost every thing in the shortest and easiest way. This is one reason why the daughters of very energetic and accomplished housekeepers are often the most deficient in these respects; while the daughters of ignorant or inefficient mothers, driven to the exercise of their own energies, often become the most systematic and expert.

It may be objected, that such things cannot be taught by books. This position may fairly be questioned. Do not young ladies learn, from books, how to make hydrogen and oxygen? Do they not have pictures of fur-

naces, alembics, and the various utensils employed in *cooking* the chemical agents? Do they not study the various processes of mechanics, and learn to understand and to do many as difficult operations, as any that belong to housekeeping? All these things are explained, studied, and recited in classes, when every one knows that little practical use can ever be made of this knowledge. Why, then, should not that science and art, which a woman is to practise during her whole life, be studied and recited?

It may be urged, that, even if it is studied, it will soon be forgotten. And so will much of every thing studied at school. But why should that knowledge, most needful for daily comfort, most liable to be in demand, be the only study omitted, because it may be forgotten?

It may also be objected, that young ladies can get such books, and attend to them out of school. And so they can get books on Chemistry and Philosophy, and study them out of school; but *will* they do it? And why ought we not to make sure of the most necessary knowledge, and let the less needful be omitted? If young ladies study such a work as this, in school, they will remember a great part of it; and, when they forget, in any emergency, they will know where to resort for instruction. But if such books are not put into schools, probably not one in twenty will see or hear of them, especially in those retired places where they are most needed. And is it at all probable, that a branch, which is so lightly esteemed as to be deemed unworthy a place in the list of female studies, will be sought for and learned by young girls, who so seldom look into works of solid instruction after they leave school? So deeply is the writer impressed with the importance of this, as a branch of female education, at school, that she would deem it far safer and wiser to omit any other, rather than this.

Another reason, for introducing such a branch of study into female schools, is, the influence it would ex-

ert, in leading young ladies more correctly to estimate the importance and dignity of domestic knowledge. It is now often the case, that young ladies rather pride themselves on their ignorance of such subjects; and seem to imagine that it is vulgar and ungentle to know how to work. This is one of the relics of an aristocratic state of society, which is fast passing away. Here, the tendency of every thing is to the equalisation of labor, so that all classes are feeling, more and more, that indolence is disreputable. And there are many mothers, among the best educated and most wealthy classes, who are bringing up their daughters, not only to know how to do, but actually to do, all kinds of domestic work. The writer knows young ladies, who are daughters of men of wealth and standing, and who are among the most accomplished in their sphere, who have for months been sent to work with a mantuamaker, to acquire a practical knowledge of her occupation, and who have at home learned to perform all kinds of domestic labor.

And let the young women of this Nation find, that Domestic Economy is placed, in schools, on equal or superior ground to Chemistry, Philosophy, and Mathematics, and they will blush to be found ignorant of its first principles, as much as they will to hesitate respecting the laws of gravity, or the composition of the atmosphere. But, as matters are now conducted, many young ladies know how to make oxygen and hydrogen, and to discuss questions of Philosophy or Political Economy, far better than they know how to make a bed and sweep a room properly; and they can "construct a diagram" in Geometry, with far more skill than they can make the simplest article of female dress.

It may be urged, that the plan suggested by the writer, in the previous pages, would make such a book as this needless; for young ladies would learn all these things at home, before they go to school. But it must be remembered, that the plan suggested cannot fully be carried into effect, till such endowed institutions, as the

one described, are universally furnished. This probably will not be done, till at least one generation of young women are educated. It is only on the supposition that a young lady can, at fourteen or fifteen years of age, enter such an institution, and continue there three years, that it would be easy to induce her to remain, during all the previous period, at home, in the practice of Domestic Economy, and the limited course of study pointed out. In the present imperfect, desultory, varying, mode of female education, where studies are begun, changed, partially learned, and forgotten, it requires nearly all the years of a woman's youth, to acquire the intellectual education now demanded. While this state of things continues, the only remedy is, to introduce Domestic Economy as a study at school.

It is hoped that these considerations will have weight, not only with parents and teachers, but with young ladies themselves, and that all will unite their influence to introduce this, as a popular and universal branch of education, into every female school.

CHAPTER V.

ON THE CARE OF HEALTH.

THERE is no point, where a woman is more liable to suffer from a want of knowledge and experience, than in reference to the health of a family committed to her care. Many a young lady, who never had any charge of the sick; who never took any care of an infant; who never obtained information on these subjects from books, or from the experience of others; in short, with little or no preparation; has found herself the principal attendant in dangerous sickness, the chief nurse of a feeble infant, and the responsible guardian of the health of a whole family.

The care, the fear, the perplexity, of a woman, sud

denly called to these unwonted duties, none can realize, till they themselves feel it, or till they see some young and anxious novice first attempting to meet such responsibilities. To a woman of age and experience, these duties often involve a measure of trial and difficulty, at times deemed almost insupportable; how hard, then, must they press on the heart of the young and inexperienced!

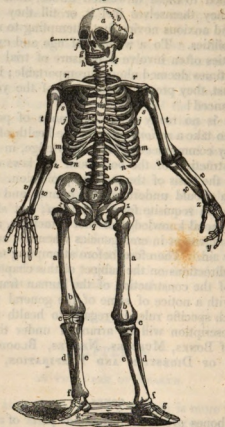
There is no really efficacious mode of preparing a woman to take a *rational* care of the health of a family, except by communicating that knowledge, in regard to the construction of the body, and the laws of health, which is the basis of the medical profession. Not that a woman should undertake the minute and extensive investigation requisite for a physician; but she should gain a general knowledge of first principles, as a guide to her judgement in emergencies when she can rely on no other aid. Therefore, before attempting to give any specific directions on the subject of this chapter, a short sketch of the construction of the human frame will be given, with a notice of some of the general principles, on which specific rules in regard to health are based. This description will be arranged under the general heads of BONES, MUSCLES, NERVES, BLOOD-VESSELS, ORGANS OF DIGESTION AND RESPIRATION, and THE SKIN.

BONES.

The bones are the most solid parts of the body. They are designed to protect and sustain it, and also to secure voluntary motion. They are about two hundred and fifty in number, (there being sometimes a few more or less,) and are fastened together by cartilage, or gristle, a substance like the bones, but softer, and more elastic.

In order to convey a more clear and correct idea of the form, relative position, and connection, of the bones constituting the human framework, the engraving on page 70, (Fig. 1,) is given.

Fig. 1.



By the preceding engraving, it will be seen, that the *cranium*, or *skull*, consists of several distinct pieces, which are united by sutures, (or seams,) as represented by the zigzag lines; *a*, being the *frontal bone*; *b*, the *parietal bone*; *c*, the *temporal bone*; and *d*, the place of the *occipital bone*, which forms the back part of the head, and therefore is not seen in the engraving. The *nasal bones*, or bones of the nose, are shown at *e*; *f*, is the *cheek bone*; *g*, the *upper*, and *h*, the *lower*, *jaw bones*; *i, i*, the *spinal column*, or back bone, consisting of numerous

small bones, called *vertebræ*; *j, j*, the seven *true ribs*, which are fastened to the spine, behind, and by the *cartilages*, *k, k*, to the *sternum*, or *breast bone*, *l*, in front; *m, m*, are the first three *false ribs*, which are so called, because they are not united directly to the breast bone, but by cartilages to the seventh true rib; *n, n*, are the lower two *false*, which are also called *floating ribs*, because they are not connected with the breast bone, nor the other ribs, in front; *o, o, p, q*, are the bones of the *pelvis*, which is the foundation on which the spine rests; *r, r*, are the *collar bones*; *s, s*, the *shoulder blades*; *t, t*, the bones of the *upper arm*; *u, u*, the *elbow joints*, where the bones of the upper arm and fore arm are united in such a way that they can move like a hinge; *v w, v w*, are the bones of the *fore arm*; *x, x*, those of the *wrists*; *y, y*, those of the *fingers*; *z, z*, are the round heads of the thigh bones, where they are inserted into the sockets of the bones of the pelvis, giving motion in every direction, and forming the *hip joint*; *a b, a b*, are the *thigh bones*; *c, c*, the *knee joints*; *d e, d e*, the *leg bones*; *f, f*, the *ankle joints*; *g, g*, the *bones of the foot*.

The bones are composed of two substances,—one animal, and the other mineral. The animal part is a very fine network, called the *cellular membrane*. In this, are deposited the harder mineral substances, which are composed principally of carbonate and phosphate of lime. In very early life, the bones consist chiefly of the animal part, and are then soft and pliant. As the child advances in age, the bones grow harder, by the gradual deposition of the phosphate of lime, which is supplied by the food, and carried to the bones by the blood. In old age, the hardest material preponderates; making the bones more brittle than in earlier life.

As we shall soon have occasion to refer, particularly, to the spinal, or vertebral column, and the derangement to which it is liable, we give, on page 72, representations of the different classes of *vertebræ*; viz. the *cervical*, (from the Latin, *cervix*, the neck,) the *dorsal*, (from *dorsum*, the back,) and *lumbar*, (from *lumbus*, the loins.)

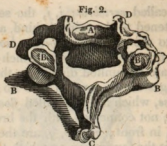


Fig. 2, represents one of the *cervical vertebrae*. Seven of these, placed one above another, constitute that part of the spine which is in the neck.

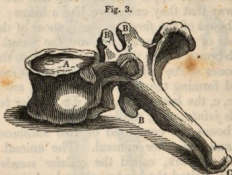


Fig. 3, is one of the *dorsal vertebrae*, twelve of which, form the central part of the spine.

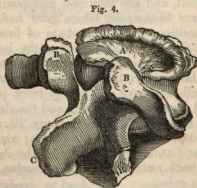


Fig. 4, represents one of the *lumbar vertebræ*, (five in number,) which are immediately above the sacrum. These vertebræ are so fastened, that the spine can bend, in any direction; and the muscles of the trunk are used in holding it erect, or in varying its movements.

By the drawings here presented, it will be seen, that the vertebræ of the neck, back, and loins, differ somewhat in size and shape, although they all possess the same constituent parts; thus, A, in each, represents the body of the vertebræ; B, the articulating processes, by which each is joined to its fellow, above and below it; C, the spinous process, or that part of the vertebræ, which forms the ridge to be felt, on pressure, the whole length of the centre of the back. The back bone receives its name, *spine*, or *spinal column*, from these spinous processes.

It is the universal law of the human frame, that *exercise* is indispensable to the health of the several parts. Thus, if a blood-vessel be tied up, so as not to be used, it shrinks, and becomes a useless string; if a muscle be condemned to inaction, it shrinks in size, and diminishes in power; and thus it is also with the bones. Inactivity produces softness, debility, and unfitness for the functions they are designed to perform. This is one of the causes of the curvature of the spine, that common and pernicious defect in the females of America. From inactivity, the bones of the spine become soft and yielding; and then, if the person is often placed, for a length of time, in positions that throw the weight of the body unequally on certain portions of the spine, they yield to this frequent compression, and a distortion ensues. The positions taken by young persons, when learning to write or draw, or to play on the guitar, harp, or piano, and the position of the body when sleeping on one side, on high pillows, all tend to produce this effect, by throwing the weight of the body unequally, and for a length of time, on particular parts of the spine.

Fig. 5.



MUSCLES.

The muscles are the chief organs of motion, and consist of collections of fine fibres or strings, united in

casings of membrane or thin skin. They possess an elastic power, like India rubber, which enables them to extend and contract. The red meat in animals consists of muscles. Every muscle has connected with it nerves, veins, and arteries; and those designed to move the bones, are fastened to them by tendons at their extremities. The muscles are laid over each other, and are separated by means of membranes and layers of fat, which enable them to move easily, without interfering with each other.

The figure on page 74, represents the muscles of the arm, as they appear when the skin and fat are removed. The muscles *a* and *b* are attached, at their upper ends, to the bone of the arm, and by their lower ends to the upper part of the fore arm, near the elbow joint. When the fibres of these muscles contract, the middle part of them grows larger, and the arm is bent at the elbow. The muscle *c*, is, in like manner, fastened, by its upper end, to the shoulder blade and the upper part of the arm, and by its lower end to one of the bones of the fore arm, near the elbow. When the arm is bent, and we wish to straighten it, it is done by contracting this muscle. The muscles *d, d*, are fastened at one end near the elbow joint, and at the other near the ends of the fingers; and on the back of the hand are reduced in size, appearing like strong cords. These cords are called *tendons*. They are employed in straightening the fingers, when the hand is shut. These tendons are confined by the ligament or band, *e*, which binds them down, around the wrist, and thus enables them to act more efficiently, and secures beauty of form to the limb. The muscles at *f*, are those which enable us to turn the hand and arm outward. Every different motion of the arm has one muscle to produce it, and another to restore the limb to its natural position. Those muscles which bend the body are called *flexors*; those which straighten it, *extensors*. When the arm is thrown up, one set of muscles is used; to pull it down, another set: when it is thrown forward, a still different set is used; when it

is thrown back, another, different from the former ; when the arm turns in its socket, still another set is used ; and thus every different motion of the body is made by a different set of muscles. All these muscles are compactly and skilfully arranged, so as to work with perfect ease. Among them, run the arteries, veins, and nerves, which supply each muscle with blood and nervous power, as will be hereafter described. The size and strength of the muscles depend greatly on their frequent exercise. If left inactive, they grow thin and weak, instead of giving the plumpness to the figure, designed by Nature. The delicate and feeble appearance of many American women, is chiefly owing to the little use they make of their muscles. Many a pale, puny, shad-shaped girl, would have become a plump, rosy, well-formed person, if half the exercise, afforded to her brothers in the open air, had been secured to her, during childhood and youth.

NERVES.

The nerves are the organs of sensation. They enable us to see, hear, feel, taste, and smell ; and also combine with the bones and muscles in producing motion.

The first engraving, on p. 77, (Fig. 6,) is a vertical section of the skull, and of the spinal column, or back bone, which supports the head, and through which runs the spinal cord, whence most of the nerves originate. It is a side view, and represents the head and spine, as they would appear, if they were cut through the middle, from front to back. Fig. 7, exhibits them as they would appear, if viewed from *behind*. In Fig. 6, *a*, represents the *cerebrum*, or great brain ; *b*, the *cerebellum*, or little brain, which is situated directly under the great brain, at the back and lower part of the head ; *c, d, e*, is the spinal marrow, which is connected with the brain at *c*, and runs through the whole length of the spinal column. This column consists, as has already been stated, of a large number of small bones, *f, f*, called *vertebræ*, laid one above another, and fastened together by *cartilage*, or *gristle*, *g*, between them.

Fig. 6.



Fig. 7.



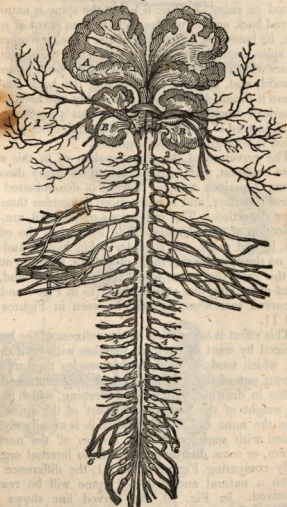
Between each two vertebræ, or spinal bones, there issues from the spine, on each side, a pair of nerves. The lower broad part of the spine, (see *p*, Fig. 1, p. 70, and Fig. 7, p. 77,) is called the *sacrum*; in this, are eight holes, through which the lower pairs of nerves pass off.

The nerves of the head and lungs run directly from the brain; those of all other parts of the body proceed from the spine, passing out in the manner already mentioned.

The nerves which thus proceed from the spine, branch out, like the limbs and twigs of a tree, till they extend over the whole body; and, so minutely are they divided and arranged, that a point, destitute of a nerve, cannot be found on the skin.

Some idea of the ramifications of the nerves, may be obtained by reference to the following engraving, (Fig. 8.) In this, A, A, represents the *cerebrum*, or great brain; B, B, the *cerebellum*, or little brain; (see also *a, b*, in Fig. 6;) C, C, represents the union of the fibres of the cerebrum; D, D, the union of the two sides of the cerebellum; E, E, E, the spinal marrow, which passes through the centre of the spine, (as seen at *c, d, e*, in Fig. 6;) 1, 2, 3, 4, 5, 6, branches of the nerves going to different parts of the body. As the nerves are the organs of sensation, all *pain* is an affection of some portion of the nerves. The health of the nerves depends very greatly on the exercise of the muscles, with which they are so intimately connected. This shows the reason why the *headache*, *tic douloureux*, diseases of the *spine*, and other nervous affections, are so common among American women. Their inactive habits, engender a debility of the nervous system, and these diseases follow, as the consequence.

Fig. 8.



It can be seen, by a reference to the side view, represented on page 77, (Fig. 6,) that the spine is naturally curved back and forward. When, from want of exercise, its bones are softened, and the muscles weakened, the spine acquires an improper curve, and the person becomes what is called *crooked*, having the neck projected forward, and, in some cases, having the back convex, where it should be concave. Probably one half of the American women have the head thus projecting forward, instead of carrying it in the natural, erect position, which is both graceful and dignified.

The curvature of the spine, spoken of in this work as so common, and as the cause of so many diseases among American women, is what is denominated the *lateral curvature*, and is much more dangerous than the other distortion. The indications of this evil, are, the projection of one shoulder blade more than the other, and, in bad cases, one shoulder being higher, and the hip on the opposite side more projecting, than the other. In this case, the spine, when viewed from behind, instead of running in a straight line, (as in Fig. 7 and 9,) is curved somewhat, as may be seen in Figures 10 and 11.

This effect is occasioned by the softness of the bones, induced by want of exercise, together with tight dressing, which tends to weaken the muscles that are thus thrown out of use. Improper and long continued positions in drawing, writing, and sleeping, which throw the weight of the body on one part of the spine, induce the same evil. This distortion is usually accompanied with some consequent disease of the nervous system, or some disarrangement of the internal organs.

By comparing Figures 9 and 11, the difference between a natural and distorted spine will be readily perceived. In Fig. 10, the curved line shows the course of the spine, occasioned by distortion; the perpendicular line, in this and Fig. 11, indicates the true direction of the spine; the horizontal lines show that one shoulder and hip are forced from their proper level.

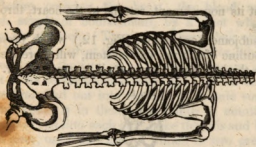


Fig. 9.

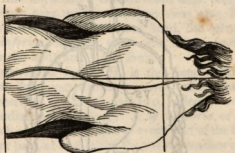


Fig. 10.

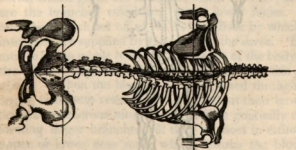


Fig. 11.

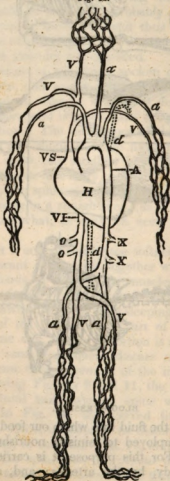
BLOOD-VESSELS.

The blood is the fluid into which our food is changed, and which is employed to minister nourishment to the whole body. For this purpose, it is carried to every part of the body, by the arteries; and, after it has

given out its nourishment, returns to the heart, through the veins.

The subjoined engraving, (Fig. 12,) which presents a rude outline of the vascular system, will more clearly illustrate this operation, as we shall presently show.

Fig. 12.



Before entering the heart, the blood receives a fresh supply of nourishment, by a duct which leads from the stomach. The arteries have their origin from the heart, in a great trunk, called the *aorta*, which is the parent of all the arteries, as the spinal marrow is the parent of the nerves which it sends out. When the arteries have branched out into myriads of minute vessels, the blood which is in them passes into as minute veins; and these run into each other, like the rills and branches of a river, until they are all united in two great veins, which run into the heart. One of these large receivers, called the *vena cava superior*, or *upper vena cava*, brings back the blood from the arms and head, the other, the *vena cava inferior*, or *lower vena cava*, brings back the blood from the body and lower limbs.

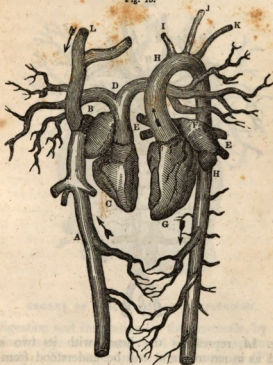
In the preceding figure, H, is the heart, which is divided into four compartments; two, called *auricles*, used for receiving the blood, and two, called *ventricles*, used for sending out the blood. A, is the *aorta*, or great artery, which sends its branches to every part of the body. In the upper part, at a, a, a, are the main branches of the *aorta*, which go to the head and arms. Below, at a, a, are the branches which go to the lower limbs. The branches which set off at X, X, are those by which the intestines are supplied by vessels from the *aorta*. Every muscle in the whole body, all the organs of the body, and the skin, are supplied by branches sent off from this great artery. When the blood is thus dispersed through any organ, in minute vessels, it is received, at their terminations, by numerous minute veins, which gradually unite, forming larger branches, till they all meet in either the upper or lower *vena cava*, which returns the blood to the heart. V I, is the *vena cava inferior*, which receives the blood from the veins of the lower parts of the body, as seen at v, v. The blood, sent into the lower limbs from the *aorta*, is received by minute veins, which finally unite at v, v, and thus it is emptied through the lower *vena cava* into the heart: o, o, represent the points of entrance of those tributaries of the *vena cava*,

which receive that blood from the intestines, which is sent out by the *aorta* at X, X. In the upper part, V S, is the *vena cava superior*, which receives the blood from the head and arms; v, v, v, are the tributaries of the upper *vena cava*, which bring the blood back from the head and arms; d, d, represents the course of the *thoracic duct*, a delicate tube by which the chyle is carried into the blood, as mentioned on page 89; t, shows the place where this duct empties into a branch of the *vena cava*.

It thus appears, that wherever a branch of the *aorta* goes to carry blood, there will be found a tributary of the upper or lower *vena cava*, to bring it back.

The succeeding engravings, will enable the reader to form a more definite idea of this important function of the system,—the circulation of the blood. The heart, in man, and in all warm-blooded animals, is double, having two auricles and two ventricles. In animals with cold blood, (as fishes,) the heart is single, having but one auricle and one ventricle. Fig. 13, represents the double heart as it appears when the two sides are separated, and also the great blood-vessels; those on the left of the figure being on the right side of the body, and *vice versa*. The direction of the blood is represented by the arrows. A, represents the *lower vena cava*, returning the blood from the lower parts of the body, and L, the *upper vena cava*, returning the blood from the head and arms. B, is the *right sinus*, or *auricle*, into which the returned blood is poured. From this cavity of the heart, the blood is carried into the *right ventricle*, C; and from this ventricle, the *pulmonary arteries*, D, convey into the lungs the blood which is returned from the body. These five vessels, A, B, C, D, and L, belong to the right side of the heart, and contain the venous or dark-colored blood, which has been through the circulation, and is now unfit for the uses of the system, till it has passed through the lungs.

Fig. 13.



When the blood reaches the lungs, and is exposed to the action of the air which we breathe, it throws off its impurities, becomes bright in color, and is then called arterial blood. It then returns to the left side of the heart, (on the right of the engraving,) by the pulmonary veins, E, E, (also seen at *m, m*, Fig. 15,) into the left auricle F, whence it is forced into the ventricle, G. From the left ventricle, proceeds the *aorta*, H, H, which is the great artery of the body, and conveys the blood to every part of the system. I, J, K, are branches of the aorta, going to the head and arms.

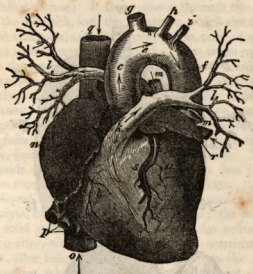
Fig. 14.



Fig. 14, represents the heart, with its two sides united as in nature; and will be understood from the description of Fig. 13.

On the opposite page, Fig. 15, represents the heart, with the great blood-vessels, on a still larger scale; *a*, being the *left ventricle*; *b*, the *right ventricle*; *c*, *e*, *f*, the *aorta*, or great artery, rising out of the left ventricle; *g*, *h*, *i*, the branches of the aorta, going to the head and arms; *k*, *l*, *l*, the *pulmonary artery*, and its branches; *m*, *m*, *veins of the lungs*, which bring the blood back from the lungs to the heart; *n*, *right auricle*; *o*, *vena cava inferior*; *p*, veins returning blood from the liver and bowels; *q*, the *vena cava superior*; *r*, the *left auricle*; *s*, the *left coronary artery*, which distributes the blood exclusively to the substance of the heart.

Fig. 15.

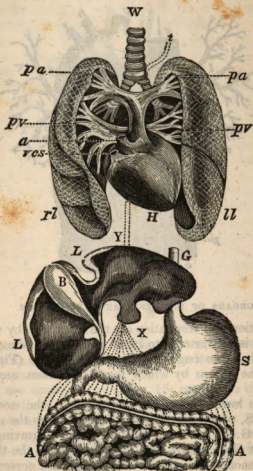


ORGANS OF DIGESTION AND RESPIRATION.

Digestion and respiration are the processes, by which the food is converted into blood for the nourishment of the body. The engraving on the next page (Fig. 16) shows the organs by which these operations are performed.

In the lower part of the engraving, is the stomach, marked S, which receives the food through the *gullet*, marked G. The latter, though in the engraving it is cut off at G, in reality continues upwards to the throat. The stomach is a bag composed of muscles, nerves, and blood-vessels, united by a material similar to that which forms the skin. As soon as food enters the stomach, its nerves are excited to perform their proper function of stimulating the muscles. A muscular (called the *peristaltic*) motion immediately commences, by which the stomach propels its contents around the whole of its circumference, once in every three minutes.

Fig. 16.



This movement of the muscles attracts the blood from other parts of the system; for the blood always hastens to administer its supplies to any organ which is called to work. The blood-vessels of the stomach are soon distended with blood, from which the *gastric juice* is secreted by minute vessels in the coat of the stomach.

This mixes with the food, and reduces it to a soft pulpy mass, called chyme. It then passes through the lower end of the stomach, into the intestines, which are folded up in the abdomen, and the upper portion, only, of which, is shown in the engraving, at A, A. The organ marked L, L, is the liver, which, as the blood passes through its many vessels, secretes a substance called *bile*, which accumulates in the gall-bladder, marked B. After the food passes out of the stomach, it receives from the liver a portion of bile, and from the *pancreas* the *pancreatic juice*. The pancreas does not appear in this drawing, being concealed behind the stomach. These two liquids separate the substance which has passed from the stomach, into two different portions. One is a light liquid, very much like cream in appearance, and called *chyle*, of which the blood is formed; the other is a more solid substance, which contains the refuse and useless matter, with a smaller portion of nourishment; and this, after being further separated from the nourishing matter which it contains, is thrown out of the body. There are multitudes of small vessels, called *lacteals*, which, as these two mixed substances pass through the long and winding folds of the intestines in the abdomen, absorb the chyle, and convey it to the *thoracic duct*, which runs up close by the spine, and carries the chyle, thus received, into a branch of the *vena cava superior*, at *t*, whence it is mingled with the blood going into the heart. In this engraving, the *lacteals* and *thoracic duct* are not shown; but their position is indicated by the dotted lines, marked X, Y; X, being the lacteals, and Y, the thoracic duct.

In the upper half of the engraving, H represents the heart; *a*, the commencement of the *aorta*; *v c s*, the termination of the *vena cava superior*. On each side of the heart, are the lungs; *ll*, being the left lobe, and *rl*, the right lobe. They are composed of a network of air-vessels, blood-vessels, and nerves. W, represents the *trachea*, or *windpipe*, through which, the air we breathe is conducted to the lungs. It branches out

into myriads of minute vessels, which are thus filled with air every time we breathe. From the heart, run the *pulmonary arteries*, marked *p a.* These enter the lungs and spread out along-side of the branches of the air-vessels, so that every air-vessel has a small artery running side by side with it. When the two *vena cavas* empty the blood into the heart, the latter contracts, and sends this blood, through these pulmonary arteries, into the lungs.

As the air and blood meander, side by side, through the lungs, the superabundant carbon and hydrogen of the blood combine with the oxygen of the air, forming carbonic acid gas, and water, which are thrown out of the lungs at every expiration. This is the process by which the chyle is converted into arterial blood, and the venous blood purified of its excess of carbon and hydrogen. When the blood is thus prepared, in the lungs, for its duties, it is received by the small *pulmonary veins*, which gradually unite, and bring the blood back to the heart, through the large *pulmonary veins*, marked *p v, p v.*

On receiving this purified blood from the lungs, the heart contracts, and sends it out again, through the *aorta*, to all parts of the body. It then makes another circuit through every part, ministering to the wants of all, and is afterwards again brought back by the veins to receive the fresh chyle from the stomach, and to be purified by the lungs.

The throbbing of the heart is caused by its alternate expansion and contraction, as it receives and expels the blood. With one throb, the blood is sent from the right ventricle into the lungs, and from the left ventricle into the aorta.

Every time we inspire air, the process of purifying the blood is going on; and every time we expire the air, we throw out the redundant carbon and hydrogen, taken from a portion of the blood. If the waist is compressed by tight clothing, a portion of the lungs be compressed, so that the air-vessels cannot be filled. This

prevents the perfect purification and preparation of the blood, so that a part returns back to the heart unfitted for its duties. This is a slow, but sure, method, by which the constitution of many a young lady is so undermined that she becomes an early victim to disease and to the decay of beauty and strength. The want of *pure air* is another cause of the debility of the female constitution. When air has been rendered impure, by the breath of several persons, or by close confinement, it does not purify the blood properly. Sleeping in close chambers, and sitting in crowded and unventilated schoolrooms, are frequent causes of debility in the constitution of young persons.

OF THE SKIN.

The skin is the covering of the body, and has very important functions to perform. It is more abundantly supplied with nerves and blood-vessels than any other part; and there is no spot of the skin where the point of the finest needle would not pierce a nerve and blood-vessel. Indeed, it may be considered as composed chiefly of an interlacing of minute nerves and blood-vessels, so that it is supposed there is more nervous matter in the skin, than in all the rest of the body united, and that the greater portion of the blood flows through the skin.

The whole animal system is in a state of continual change and renovation. Food is constantly taken into the stomach, only a portion of which is fitted for the supply of the blood. All the rest has to be thrown out of the system, by various organs designed for this purpose. These organs are,—the lungs, which throw off a portion of useless matter when the blood is purified; the kidneys, which secrete liquids that pass into the bladder, and are thrown out from the body by that organ; and the intestines, which carry off the useless and more solid parts of the food, after the lacteals have drawn off the chyle. In addition to these organs, the skin has a similar duty to perform; and as it has

so much larger a supply of blood, it is the chief organ in relieving the body of the useless and noxious parts of the materials which are taken for food.

Various experiments show, that not less than a pound and four ounces of waste matter is thrown off by the skin every twenty-four hours. This is according to the lowest calculation. Most of those, who have made experiments to ascertain the quantity, represent it as much greater; and all agree, that the skin throws off more redundant matter from the body, than the whole of the other organs together. In the ordinary state of the skin, even when there is no apparent perspiration, it is constantly exhaling waste matter, in a form which is called *insensible perspiration*, because it cannot be perceived by the senses. A very cool mirror, brought suddenly near to the skin, will be covered, in that part, with a moisture, which is this effluvium thus made visible. When heat or exercise excites the skin, this perspiration is increased, so as to be apparent to the senses. This shows the reason why it is so important frequently to wash the entire surface of the body. If this be neglected, the pores of the skin are closed by the waste matter thrown from the body, and by small particles of the thin scarf-skin, so that it cannot properly perform its duties. In this way, the other organs are made to work harder, in order to perform the labor the skin would otherwise accomplish, and thus the lungs and bowels are often essentially weakened.

Another office of the skin, is, to regulate the heat of the body. The action of the internal organs is constantly generating heat; and the faster the blood circulates, the greater is the heat evolved. The perspiration of the skin serves to reduce and regulate this heat. For, whenever any liquid changes to a vapor, it absorbs heat from whatever is nearest to it. The faster the blood flows, the more perspiration is evolved. This bedews the skin with a liquid, which the heat of the body turns to a vapor; and in this change, that

heat is absorbed. When a fever takes place, this perspiration ceases, and the body is afflicted with heat. Insensible perspiration is most abundant during sleep, after eating, and when friction is applied to the skin. Perspiration is performed by the terminations of minute arteries in every part of the skin, which exude the perspiration from the blood.

The skin also performs another function. It is provided with a set of small vessels, called *absorbents*, which are exceedingly abundant and minute. When particular substances are brought in contact with the skin, these absorbents take up some portions and carry them into the blood. It is owing to this, that opium, applied on the skin, acts in a manner similar to its operation when taken into the stomach. The power of absorption is increased by friction; and this is the reason that liniments are employed, with much rubbing, to bruises and sprains. The substance applied is thus introduced into the injured part, through the absorbents. This shows another reason for frequent washing of the skin, and for the frequent changes of the garment next the skin. Otherwise portions of the noxious matter, thrown out by the skin, are reabsorbed into the blood, and are slow but sure causes of a decay of the strength of the system.

The skin is also provided with small follicles, or bags, which are filled with an oily substance. This, by gradually exuding over the skin, prevents water from penetrating and injuring its texture.

The skin is also the organ of touch. This office is performed through the instrumentality of the nerves of feeling, which are spread over all parts of the skin.

This general outline of the construction of the human frame is given, with reference to the practical application of this knowledge in the various cases where a woman will be called upon to exercise her own unaided judgement. The application will be further pointed out, in the chapters on Food, Dress, Cleanliness, Care of the Sick, and Care of Infants.

CHAPTER VI.

ON HEALTHFUL FOOD.

THE person who decides what shall be the food and drink of a family, and the modes of preparation, is the one who decides, to a greater or less extent, what shall be the health of that family. It is the opinion of most medical men, that intemperance in eating is the most fruitful of all causes of disease and death. If this be so, the woman who wisely adapts the food and cooking of her family to the laws of health, removes the greatest risk which threatens the lives of those under her care.

To exhibit this subject clearly, it will be needful to refer, more minutely, to the organization and operation of the digestive organs.

It is found, by experiment, that the supply of gastric juice, furnished from the blood, by the arteries of the stomach, is proportioned, not to the amount of food put into the stomach, but to the wants of the body; so that it is possible to put much more into the stomach than can be digested. To guide and regulate in this matter, the sensation called *hunger* is provided. In a healthy state of the body, as soon as the blood has lost its nutritive supplies, the craving of hunger is felt, and then, if the food is suitable, and is taken in the proper manner, this sensation ceases, as soon as the stomach has received enough to supply the wants of the system. But our benevolent Creator, in this, as in our other duties, has connected enjoyment with the operation needful to sustain our bodies. In addition to the allaying of hunger, the gratification of the palate is secured, by the immense variety of food, some articles of which are far more agreeable than others.

This arrangement of Providence, designed for our happiness, has become, either through ignorance, or

want of self-control, the chief cause of the various diseases and sufferings, which afflict those classes who have the means of seeking a variety to gratify the palate. If mankind had only one article of food, and only water to drink, though they would have less enjoyment in eating, they would never be tempted to put any more into the stomach, than the calls of hunger required. But the customs of society, which present an incessant change, and a great variety of food, with those various condiments which stimulate appetite, lead almost every person very frequently to eat merely to gratify the palate, after the stomach has been abundantly supplied, so that hunger has ceased.

When too great a supply of food is put into the stomach, the gastric juice dissolves only that portion which the wants of the system demand. The remainder is ejected, in an unprepared state; the absorbents take portions of it into the system; and all the various functions of the body, which depend on the ministries of the blood, are thus gradually and imperceptibly injured. Very often, intemperance in eating produces immediate results, such as colic, headaches, pains of indigestion, and vertigo. But the more general result, is, a gradual undermining of all parts of the human frame; thus imperceptibly shortening life, by so weakening the constitution, that it is ready to yield, at every point, to any uncommon risk or exposure. Thousands and thousands are passing out of the world, from diseases occasioned by exposures, which a healthy constitution could meet without any danger. It is owing to these considerations, that it becomes the duty of every woman, who has the responsibility of providing food for a family, to avoid a variety of tempting dishes. It is a much safer rule, to have only one kind of healthy food, for each meal, than the abundant variety which is usually met at the tables of almost all classes in this Country. When there is to be any variety of dishes, they ought not to be successive, but so arranged, as to give the opportunity of selection. How

often is it the case, that persons, by the appearance of a favorite article, are tempted to eat, merely to gratify the palate, when the stomach is already adequately supplied. All such intemperance wears on the constitution, and shortens life. It not unfrequently happens, that excess in eating produces a morbid appetite, which must constantly be denied.

But the organization of the digestive organs demands, not only that food be taken in proper quantities, but that it be taken at proper times.

It has before been shown, that, as soon as the food enters the stomach, the muscles are excited by the nerves, and the *peristaltic motion* commences. This is a powerful and constant exercise of the muscles of the stomach, which continues until the process of digestion is complete. During this time, the blood is withdrawn from other parts of the system, to supply the demands of the stomach, which is laboring hard with all its muscles. When this motion ceases, and the digested food has gradually passed out of the stomach, Nature requires that it should have a period of repose. And if another meal be eaten, immediately after one is digested, the stomach is set to work again, before it has had time to rest, and before a sufficient supply of gastric juice is provided.

The general rule, then, is, that three hours be given to the stomach for labor, and two for rest; and in obedience to this, five hours, at least, ought to elapse between every two regular meals. In cases where exercise produces a flow of perspiration, more food is needed to supply the loss; and strong laboring men may safely eat as often as they feel the want of food. So, young and healthy children, who gambol and exercise much, and whose bodies grow fast, may have a more frequent supply of food. But, as a general rule, meals should be five hours apart, and eating between meals avoided. There is nothing more unsafe, and wearing to the constitution, than a habit of eating at any time, merely to gratify the palate. When a tempt-

ing article is presented, every person should exercise sufficient self-denial, to wait till the proper time for eating arrives. Children, as well as grown persons, are often injured, by eating between their regular meals, thus weakening the stomach, by not affording it any time for rest.

In deciding as to *quantity* of food, there is one great difficulty to be met by a large portion of the community. It has been shown, that the exercise of every part of the body is indispensable to its health and perfection. The bones, the muscles, the nerves, the organs of digestion and respiration, and the skin, all demand exercise, in order properly to perform their functions. When the muscles of the body are called into action, all the blood-vessels entwined among them are frequently compressed. As the arteries are so contrived, that the blood cannot run back, this compression hastens it forward, through the veins, towards that organ. The heart is immediately put in quicker motion, to send it into the lungs; and they, also, are thus stimulated to more rapid action, which is the cause of that panting which active exercise always occasions. The blood thus courses with greater celerity through the body, and sooner loses its nourishing properties. Then the stomach issues its mandate of hunger, and a new supply of food must be furnished. Thus it appears, as a general rule, that the quantity of food, actually needed by the body, depends on the amount of muscular exercise taken. A laboring man, in the open fields, probably throws off from his skin ten times the amount of perspirable matter, which is evolved from the skin of a person of sedentary pursuits. In consequence of this, he demands a far greater amount of food and drink.

Those persons, who keep their bodies in a state of health, by sufficient exercise, can always be guided by the calls of hunger. They can eat when they feel hungry, and stop when hunger ceases; and then they will calculate exactly right. But the difficulty is,

that a large part of the community, especially women, are so inactive in their habits, that they seldom feel the calls of hunger. They habitually eat, merely to gratify the palate. This produces such a state of the system, that they have lost the guide which Nature has provided. They are not called to eat, by hunger, nor admonished, by its cessation, when to stop. In consequence of this, such persons eat what pleases the palate, till they feel no more inclination for the article. It is probable, that three fourths of the women, in the wealthier circles, sit down to each meal without any feeling of hunger, and eat merely on account of the gratification thus afforded them. Such persons find their appetite to depend almost solely upon the kind of food on the table. This is not the case with those, who take the exercise which Nature demands. They approach their meals in such a state that almost any kind of food is acceptable.

The question then arises, how are persons, who have lost the guide which Nature has provided, to determine as to the proper amount of food they shall take?

The only rules they can adopt, are of a general nature; founded on the principles already developed. They should endeavor to proportion their food to the amount of the exercise they ordinarily take. If they take but little exercise, they should eat but little food in comparison with those who are much in the open air and take much exercise; and their food should be chiefly vegetable, and not animal. But how often is it seen, that a student, or a man who sits all day in an office, or a lady who spends the day in her parlor and chamber, will sit down to a loaded table, and, by continuing to partake of the tempting varieties, in the end load the stomach with a supply, which a stout farmer could scarcely digest.

But the health of a family depends, not merely on the *quantity* of food taken; but very much, also, on the *quality*. Some kinds of food are very pernicious

in their nature, and some healthful articles are rendered very injurious by the mode of cooking. Persons who have a strong constitution, and take much exercise, may eat almost any thing, with apparent impunity; but young children, who are forming their constitutions, and persons who are delicate, and who take but little exercise, are very dependent for health, on a proper selection of food.

There are some general principles, which may aid in regulating the judgement on this subject.

It is found, that there are some kinds of food which afford nutriment to the blood, and do not produce any other effect on the system. There are other kinds, which are not only nourishing, but *stimulating*, so that they quicken the functions of the organs on which they operate. The condiments used in cookery, such as pepper, mustard, and spices, are of this nature. There are certain states of the system, when these stimulants are beneficial; but it is only in cases where there is some debility. Such cases can only be pointed out by medical men. But persons in perfect health, and especially young children, never receive any benefit from such kind of food; and just in proportion as condiments operate to quicken the labors of the internal organs, they tend to wear down their powers. A person who thus keeps the body working under an unnatural excitement, *lives faster* than Nature designed, and the sooner the constitution is worn out. A woman, therefore, should provide dishes for her family, which are free from these stimulating condiments, and as much as possible prevent their use. It is also found, by experience, that animal food is more stimulating than vegetable. This is the reason why, in cases of fevers, or inflammations, medical men forbid the use of meat and butter. Animal food supplies chyle much more abundantly than vegetable food does; and this chyle is more stimulating in its nature. Of course, a person who lives chiefly on animal food, is under a higher degree of stimulus than if his food was chiefly

composed of vegetable substances. His blood will flow faster, and all the functions of his body will be quickened.

This makes it important to secure a proper proportion of animal and vegetable diet. Some medical men suppose, that an exclusively vegetable diet is proved, by the experience of many individuals, to be fully sufficient to nourish the body; and bring, as evidence, the fact, that some of the strongest and most robust men in the world, are those, who are trained, from infancy, exclusively on vegetable food. From this, they infer, that life will be shortened, just in proportion as the diet is changed to more stimulating articles; and that, all other things being equal, children will have a better chance of health and long life, if they are brought up solely on vegetable food.

But, though this is not the common opinion of medical men, they all agree, that, in America, far too large a portion of the diet consists of animal food. As a nation, the Americans are proverbial for the gross and luxurious diet with which they load their tables; and there can be no doubt that the general health of the Nation would be increased, by a change in our customs in this respect. To take meat but once a day, and this in small quantities, compared with the common practice, is a rule, the observance of which would probably greatly reduce the amount of fevers, eruptions, headaches, bilious attacks, and the many other ailments which are produced or aggravated by too gross a diet.

The celebrated Roman physician, Baglivi, (who, from practising extensively among Roman Catholics, had ample opportunities to observe,) mentions, that, in Italy, an unusual number of people recover their health in the forty days of Lent, in consequence of the lower diet which is required as a religious duty. An American physician remarks, "For every reeling drunkard that disgraces our Country, it contains one hundred gluttons;—persons, I mean, who eat to excess, and suffer in consequence." Another distinguished physi-

cian says, "I believe that every stomach, not actually impaired by organic disease, will perform its functions, if it receives reasonable attention; and when we perceive the manner in which diet is generally conducted, both in regard to *quantity* and *variety* of articles of food and drink, which are mixed up in one heterogeneous mass,—instead of being astonished at the prevalence of indigestion, our wonder must rather be, that, in such circumstances, any stomach is capable of digesting at all."

In regard to articles which are the most easily digested, only general rules can be given. Tender meats are digested more readily than those which are tough, or than many kinds of vegetable food. The farinaceous articles, such as rice, flour, corn, potatoes, and the like, are the most nutritious, and most easily digested. The popular notion, that meat is more nourishing than bread, is a great mistake. Good bread contains one third more nourishment than butcher's meat. The meat is more *stimulating*, and for this reason is more readily digested. A perfectly healthy stomach can digest almost any healthful food; but when the digestive powers are weak, every stomach has its peculiarities, and what is good for one, is hurtful to another. In such cases, experiment, alone, can decide, which are the most digestible articles of food. A person, whose food troubles him, must deduct one article after another, till he learns, by experience, which is the best for digestion. Much evil has been done, by assuming that the powers of one stomach are to be made the rule in regulating every other.

The most unhealthful kinds of food, are those, which are made so by bad cooking; such as sour and heavy bread, cakes, pie-crust, and other dishes consisting of fat, mixed and cooked with flour; also rancid butter, and high-seasoned food. The fewer mixtures there are in cooking, the more healthful is the food likely to be.

There is one caution, as to the *mode* of eating, which seems peculiarly needful to Americans. It is indispensable to good digestion, that food be well chewed and taken slowly. It needs to be thoroughly chewed, in

order to prepare it for the action of the gastric juice, which, by the *peristaltic motion*, will be thus brought into universal contact with the minute portions. It has been found, that a solid lump of food requires much more time and labor of the stomach, than divided substances. It has also been found, that, as each bolus, or mouthful, enters the stomach, the latter closes, until the portion received has had some time to move around and combine with the gastric juice; and that the orifice of the stomach resists the entrance of any more, till this is accomplished. But, if the eater persists in swallowing fast, the stomach yields; the food is then poured in more rapidly than the organ can perform its duty of digestion; and evil results are sooner or later developed. This exhibits the folly of those hasty meals, so common to travellers, and to men of business, and shows why children should be taught to eat slowly.

After taking a full meal, it is very important to health, that no great bodily or mental exertion be made, till the labor of the stomach is over. Intense mental effort draws the blood to the head, and muscular exertions draw it to the muscles; and in consequence of this, the stomach loses the supply which it requires when performing its office. When the blood is thus withdrawn, the adequate supply of gastric juice is not afforded, and indigestion is the result. The heaviness which follows a full meal, is the indication which Nature gives of the need of quiet. When the meal is moderate, a sufficient quantity of gastric juice is exuded in an hour, or an hour and a half; after which, labor of body and mind may safely be resumed.

When undigested food remains in the stomach, and is at last thrown out into the bowels, it proves an irritating substance, producing an inflamed state in the lining of the stomach and other organs. The same effect is produced by alcoholic drinks.

It is found, that the stomach has the power of gradually accommodating its digestive powers to the food it habitually receives. Thus, animals, which live on

vegetables, can gradually become accustomed to animal food; and the reverse is equally true. Thus, too, the human stomach can eventually accomplish the digestion of some kinds of food, which, at first, were indigestible.

But any changes of this sort should be gradual; as those which are *sudden*, are trying to the powers of the stomach, by furnishing matter for which its gastric juice is not prepared.

In regard to the nature of the meals prepared, the breakfast should furnish a supply of liquids, because the body has been exhausted by the exhalations of the night, and demands them more than at any other period. It should not be the heartiest meal, because the organs of digestion are weakened by long fasting, and the exhalations. Dinner should be the heartiest meal, because then the powers of digestion are strengthened, by the supplies of the morning meal. Light and amusing employments should occupy mind and body for an hour or more after a full meal.

But little drink should be taken, while eating, as it dilutes the gastric juice which is apportioned to each quantity of food as it enters the stomach. It is better to take drink after the meal is past.

Extremes of heat or cold are injurious to the process of digestion. Taking hot food or drink, habitually, tends to debilitate all the organs thus needlessly excited. In using cold substances, it is found that a certain degree of warmth in the stomach is indispensable to their digestion; so that, when the gastric juice is cooled below this temperature, it ceases to act. Indulging in large quantities of cold drinks, or eating ice-creams, after a meal, tends to reduce the temperature of the stomach, and thus to stop digestion. This shows the folly of those refreshments, in convivial meetings, where the guests are tempted to load the stomach with a variety, such as would require the stomach of a stout farmer to digest, and then to wind up with ice-creams, thus destroying whatever ability might otherwise have existed, to digest the heavy load. The fittest tempera-

ture for drinks, if taken when the food is in the digesting process, is blood heat. Cool drinks, and even ice, can be safely taken at other times, if not in excessive quantity. When the thirst is excessive, or the body weakened by fatigue, or when in a state of perspiration, cold drinks are injurious. When the body is perspiring freely, taking a large quantity of cold drink has often produced instant death.

Fluids taken into the stomach are not subject to the slow process of digestion, but are immediately absorbed and carried into the blood. This is the reason why drink, more speedily than food, restores from exhaustion. The minute vessels of the stomach inhale or absorb its fluids, which are carried into the blood, just as the minute extremities of the arteries open upon the inner surface of the stomach, and there exude the gastric juice from the blood.

When food is chiefly liquid, (soup, for example,) the fluid part is rapidly absorbed. The solid parts remain, to be acted on by the gastric juice. In the case of St. Martin,* in fifty minutes after taking soup, the fluids were absorbed, and the remainder was even thicker than is usual after eating solid food. This is the reason why soups are deemed bad for weak stomachs; as this residuum is more difficult of digestion than ordinary food. In recovering from sickness, beef-tea and broths are good, because the system then demands fluids to supply its loss of blood.

Highly-concentrated food, having much nourishment in a small bulk, is not favorable to digestion, because

* The individual here referred to,—Alexis St. Martin,—was a young Canadian, of eighteen years of age, of a good constitution and robust health, who, in 1822, was accidentally wounded by the discharge of a musket, which carried away a part of the ribs, lacerated one of the lobes of the lungs, and perforated the stomach, making a large aperture, which never closed; and which enabled Dr. Beaumont, (a surgeon of the American army, stationed at Michilimackinac, under whose care the patient was placed,) to witness all the processes of digestion and other functions of the body, for several years. The published account of the experiments made by Dr. B., is highly interesting and instructive.

it cannot be properly acted on by the muscular contractions of the stomach, and is not so minutely divided, as to enable the gastric juice to act properly. This is the reason, why a certain *bulk* of food is needful to good digestion ; and why those people, who live on whale oil, and other highly-nourishing food, in cold climates, mix vegetables and even sawdust with it, to make it more acceptable and digestible. So, in civilized lands, bread, potatoes, and vegetables, are mixed with more highly-concentrated nourishment. This explains why coarse bread, of unbolted wheat, so often proves beneficial. Where, from inactive habits, or other causes, the bowels become constipated and sluggish, this kind of food proves the appropriate remedy. One fact on this subject is worthy of notice. Under the administration of William Pitt, for two years or more, there was such a scarcity of wheat, that, to make it hold out longer, Parliament passed a law, that the army should have all their bread made of unbolted flour. The result was, that the health of the soldiers improved so much, as to be a subject of surprise to themselves, the officers, and the physicians. These last came out publicly, and declared, that the soldiers never before were so robust and healthy ; and that disease had nearly disappeared from the army. The civic physicians joined and pronounced it the healthiest bread ; and, for a time, schools, families, and public institutions, used it almost exclusively. Even the nobility, convinced by these facts, adopted it for their common diet ; and the fashion continued a long time after the scarcity ceased, until more luxurious habits resumed their sway. For this reason, also, soups, gellies, and arrow-root, should have bread or crackers mixed with them. We thus see why children should not have cakes and candies allowed them between meals. These are highly-concentrated nourishments, and should be eaten with more bulky and less nourishing substances. The most indigestible of all kinds of food, are fatty and oily substances ; especially if heat-

ed. It is on this account, that pie-crust, and articles boiled and fried in fat or butter, are deemed not so healthful as other food.

The following, then, may be put down as the causes of a debilitated constitution, from the misuse of food. Eating *too much*, eating *too often*, eating *too fast*, eating food and condiments that are *too stimulating*, eating food that is *too warm* or *too cold*, eating food that is *highly-concentrated*, without a proper admixture of less nourishing matter, and eating food that is *difficult of digestion*.

CHAPTER VII.

ON HEALTHFUL DRINKS.

ALTHOUGH intemperance in eating is probably the most prolific cause of the diseases of mankind, intemperance in drink has produced more guilt, misery, and crime, than any other one cause. And the responsibilities of a woman, in this particular, are very great; for the habits and liabilities of those under her care, will very much depend on her opinions and practice.

It is a point fully established by experience, that the full developement of the human body, and the vigorous exercise of all its functions, can be secured without the use of stimulating drinks. It is, therefore, perfectly safe, to bring up children never to use them; no hazard being incurred, by such a course.

It is also found, by experience, that there are two evils incurred, by the use of stimulating drinks. The first, is, their positive effect on the human system. Their peculiarity consists in so exciting the nervous system, that all the functions of the body are accelerated, and the fluids are caused to move quicker than at their natural speed. This increased motion of the animal fluids, always produces an agreeable effect on the mind. The intellect is invigorated, the imagina-

tion is excited, the spirits are enlivened; and these effects are so agreeable, that all mankind, after having once experienced them, feel a great desire for their repetition.

But this temporary invigoration of the system, is always followed by a diminution of the powers of the stimulated organs; so that, though in all cases this reaction may not be perceptible, it is invariably the result. It may be set down as the unchangeable rule of physiology, that stimulating drinks (except in cases of disease) deduct from the powers of the constitution, in exactly the proportion in which they operate to produce temporary invigoration.

The second evil, is, the temptation which always attends the use of stimulants. Their effect on the system is so agreeable, and the evils resulting are so imperceptible and distant, that there is a constant tendency to increase such excitement, both in frequency and power. And the more the system is thus reduced in strength, the more craving is the desire for that which imparts a temporary invigoration. This process of increasing debility and increasing craving for the stimulus that removes it, often goes to such an extreme, that the passion is perfectly uncontrollable, and mind and body perish under this baleful habit.

In this Country, there are five forms in which the use of such stimulants is common; namely, *alcoholic drinks, tea, coffee, opium mixtures, and tobacco*. These are all alike, in the main peculiarity of imparting that extra stimulus to the system, which tends to exhaust its powers.

Multitudes in this Nation are in the habitual use of some one of these stimulants; and each person defends the indulgence by these arguments:

First, that the desire for stimulants is a natural propensity, implanted in man's nature, as is manifest from the universal tendency to such indulgences, in every nation. From this, it is inferred, that it is an innocent desire, which ought to be gratified, to some extent, and

that the aim should be, to keep it within the limits of temperance, instead of attempting to exterminate a natural propensity.

This is an argument, which, if true, makes it equally proper to use opium, brandy, tea, or tobacco, as stimulating principles, provided they are used temperately. But, if it be granted that perfect health and strength can be gained and secured without these stimulants, and that their peculiar effect is to diminish the power of the system, in exactly the same proportion as they stimulate it, then there is no such thing as a temperate use, unless they are so diluted, as to destroy any stimulating power; and in this form, they are seldom desired.

The other argument for their use, is, that they are among the good things provided by the Creator, for our gratification; that, like all other blessings, they are exposed to abuse and excess; and that we should rather seek to regulate their use, than to banish them entirely.

This argument is based on the assumption, that they are, like healthful foods and drinks, necessary to life and health, and injurious only by excess. But this is not true; for, whenever they are used in any such strength as to be a gratification, they operate, to a greater or less extent, as stimulants; and, to just such extent, they wear out the powers of the constitution; and it is abundantly proved, that they are not, like food and drink, necessary to health. Such articles are designed for medicine, and not for common use. There can be no argument framed to defend the use of one of them, which will not equally defend all. That men have a love for being stimulated, after they have once felt the pleasurable excitement, and that Providence has provided the means for securing it, are arguments as much in favor of alcohol, opium, and tobacco, as of coffee and tea. All that can be said in favor of the last-mentioned favorite beverages, is, that the danger in their use is not so great. Let any one, who defends one kind of stimulating drink, remember, then, that he uses an argument, which, if it be allowed that stimulants are not needed,

and are injurious, will equally defend all kinds; and that all which can be said in defence of tea and coffee, is, that they *may* be used, so weak, as to do no harm, and that they actually have done less harm than some of the other stimulating narcotics.

The writer is of opinion, that tea and coffee are a most extensive cause of much of the nervous debility and suffering endured by American women; and that relinquishing such drinks would save an immense amount of such suffering. But there is little probability that the present generation will make so decided a change in their habits, as to give up these beverages; and the subject is presented rather in reference to forming the habits of children.

It is a fact, that tea and coffee are, at first, seldom or never agreeable to children. It is the mixture of milk, sugar, and water, that reconciles them to a taste, which in this manner gradually becomes agreeable. Now, suppose that those who provide for a family conclude that it is not *their* duty to give up entirely the use of stimulating drinks, may not the case appear different, in regard to teaching their children to love such drinks? Let the matter be regarded thus:—The experiments of physiologists all prove, that stimulants are not needful to health, and that, as the general rule, they tend to debilitate the constitution. Is it right, then, for a parent to tempt a child to drink what is not needful, when there is a probability that it will prove, to some extent, an undermining drain on the constitution? Some constitutions can bear much less excitement than others; and, in every family of children, there is usually one, or more, of delicate organization, and consequently peculiarly exposed to dangers from this source. It is this child who ordinarily becomes the victim to stimulating drinks. The tea and coffee which the parents and the healthier children can use without immediate injury, gradually sap the energies of the feebler child, who proves either an early victim, or a living martyr to all the sufferings that debilitated nerves inflict. Can it be

right, to lead children, where all allow that there is some danger, and where, in many cases, disease and death are met, when another path is known to be perfectly safe?

Of the stimulating drinks in common use, *black tea* is least injurious, because its flavor is so strong, in comparison with its narcotic principle, that one who uses it, is much less liable to excess. Children can be trained to love milk and water sweetened with sugar, so that it will always be a pleasant beverage; or, if there are exceptions to the rule, they will be few. Water is an unfailing resort. Every one loves it, and it is perfectly healthful.

The impression, common in this Country, that *warm drinks*, especially in Winter, are more healthful than cold, is not warranted by any experience, nor by the laws of the physical system. At dinner, cold drinks are universal, and no one deems them injurious. It is only at the other two meals that they are supposed to be hurtful.

There is no doubt that *warm drinks* are healthful, and more agreeable than cold, at certain times and seasons; but it is equally true, that drinks above blood heat are not healthful. If any person should hold a finger in hot water, for a considerable time, twice every day, it would be found that the finger would gradually grow weaker. The frequent application of the stimulus of heat, like all other stimulants, eventually causes debility. If, therefore, a person is in the habit of drinking hot drinks, twice a day, the teeth, throat, and stomach are gradually debilitated. This, most probably, is one of the causes of an early decay of the teeth, which is observed to be much more common among American ladies, than among those in European countries.

It has been stated to the writer, by an intelligent traveller, who had visited Mexico, that it was rare to meet an individual with even a tolerable set of teeth; and that almost every grown person, he met in the street, had merely remnants of teeth. On inquiry into

the customs of the Country, it was found, that it was the universal practice to take their usual beverage at almost the boiling point; and this, doubtless, was the chief cause of the almost entire want of teeth in that Country. In the United States, it cannot be doubted that much evil is done, in this way, by hot drinks. Most tea-drinkers consider tea as ruined, if it stands until it reaches the healthful temperature for drink.

The following extract from Dr. Andrew Combe, presents the opinion of most intelligent medical men, on this subject.*

“*Water* is a safe drink for all constitutions, provided it be resorted to in obedience to the dictates of natural thirst, only, and not of habit. Unless the desire for it is felt, there is no occasion for its use during a meal.”

“The primary effect of all distilled and fermented liquors, is, to *stimulate the nervous system and quicken the circulation*. In infancy and childhood, the circulation is rapid, and easily excited; and the nervous system is strongly acted upon, even by the slightest external impressions. Hence slight causes of irritation readily excite febrile and convulsive disorders. In youth, the natural tendency of the constitution is still to excitement; and consequently, as a general rule, the stimulus of fermented liquors is injurious.”

These remarks show, that parents, who find that stimulating drinks are not injurious to themselves, may mistake in inferring, from this, that they will not be injurious to their children.

Dr. Combe continues thus: “In mature age, when digestion is good and the system in full vigor, if the mode of life be not too exhausting, the nervous functions and general circulation are in their best condition, and require no stimulus for their support. The bodily energy is then easily sustained, by nutritious food and a regular regimen, and consequently artificial excitement

* The writer would here remark, in reference to extracts made from various authors, that, for the sake of abridging, she has often left out parts of a paragraph, but never so as to modify the meaning of the author. Some ideas, not connected with the subject in hand, are omitted, but none are altered.

only increases the wasting of the natural strength. In old age, when the powers of life begin to fail, moderate stimulus may be used with evident advantage."

It may be asked, in this connection, why the stimulus of animal food is not to be regarded in the same light, as that of stimulating drinks. In reply, a very essential difference may be pointed out. Animal food furnishes nutriment to the organs which it stimulates, but stimulating drinks excite the organs to quickened action, without affording any nourishment.

It has been supposed, by some, that tea and coffee have, at least, a degree of nourishing power. But it is proved, that it is the milk and sugar, and not the main portion of the drink, which imparts the nourishment. Tea has not one particle of nourishing properties; and what little exists in the coffee-berry, is lost by roasting it in the usual mode. All that these articles do, is simply *to stimulate, without nourishing*.

It is very common, especially in schools, for children to form a habit of drinking freely of cold water. This is a debilitating habit, and should be corrected. Very often, chewing a bit of cracker will stop a craving for drink, better than taking water; and when teachers are troubled with very thirsty scholars, they should direct them to this remedy. A person who exercises but little, requires no drink, between meals, for health; and the craving for it is unhealthful. Spices, wines, fermented liquors, and all stimulating condiments, produce unhealthful thirst.

CHAPTER VIII.

ON CLOTHING.

It appears, by calculations made from bills of mortality, that one quarter of the human race perishes in infancy. This is a fact not in accordance with the analogy of Nature. No such mortality prevails

among the young of animals; it does not appear to be the design of the Creator; and it must be owing to causes which can be removed. Medical men agree in the opinion, that a great portion of this mortality, is owing to mismanagement, in reference to fresh air, food, and clothing.

At birth, the circulation is chiefly in the vessels of the skin; for the liver and stomach, being feeble in action, demand less blood, and it resorts to the surface. If, therefore, an infant be exposed to cold, the blood is driven inward, by the contracting of the blood-vessels in the skin; and, the internal organs being thus overstimulated, bowel complaints, croup, convulsions, or some other evil, ensues. This shows the sad mistake of parents, who plunge infants in cold water to strengthen their constitution; and teaches, that infants should be washed in warm water, and in a warm room. Some have constitutions strong enough to bear mismanagement in these respects; but many fail in consequence of it.

Hence we see the importance of dressing infants warmly, and protecting them from exposure to a cold temperature. It is for this purpose, that mothers, now, very generally, cover the arms and necks of infants, especially in Winter. Fathers and mothers, if they were obliged to go with bare arms and necks, even in moderate weather, would often shiver with cold; and yet they have a power of constitution which would subject them to far less hazard and discomfort, than a delicate infant must experience from a similar exposure. This mode of dressing infants, with bare necks and arms, has arisen from the common impression, that they have a power of resisting cold superior to older persons. This is a mistake; for the experiments of medical men have established the fact, that the power of producing heat is least in the period of infancy.

Extensive investigations have been made in France, in reference to this point. It is there required, in some districts, that every infant, at birth, be carried to the office of the *maire*, [*mayor*,] to be registered. It is

found, in these districts, that the deaths of newly-born infants, are much more numerous in the cold, than in the warm, months; and that a much greater proportion of such deaths occurs among those who reside at a distance from the office of the *maire*, than among those in its vicinity. This proves, that exposure to cold has much to do with the continuance of infant life.

But it is as dangerous to go to the other extreme, and keep the body too warm. The skin, when kept at too high a temperature, is relaxed and weakened by too profuse perspiration, and becomes more sensitive, and more readily affected by every change of temperature. This increases the liabilities to sudden colds; and it frequently happens, that the children, who are most carefully guarded from cold, are the ones most liable to take sudden and dangerous chills. The reason is, that, by the too great accumulation of clothing, the skin is too much excited, and the blood is withdrawn from the internal organs, thus weakening them, while the skin itself is debilitated by the same process.

The rule of safety, is, so to cover the body, as to keep it entirely warm, but not so as to induce perspiration in any part. The perspiration induced by exercise is healthful, because it increases the appetite; but the perspiration produced by excess of clothing is debilitating. This shows the importance of adjusting beds and their covering to the season. Featherbeds are unhealthful in warm weather, because they induce perspiration; and in all cases, those, who have the care of children, should proportion their covering by night to the season of the year. Infants and children should never be so clothed, as either to feel chilly, or to induce perspiration.

The greatest trouble, in this respect, to those who have the care of children, is owing to their throwing off their covering in the night. The best guard, against such exposures, is a nightgown, of the warmest and thickest flannel, made like pantaloons at the lower part, and the legs long, so that they can be tied over the feet.

This makes less covering needful, and saves the child from excessive cold when it is thrown off.

The clothing ought always to be proportioned to the constitution and habits. A person of strong constitution, who takes much exercise, needs less clothing than one of delicate and sedentary habits. According to this rule, women need much thicker and warmer clothing, when they go out, than men. But how different are our customs, from what sound wisdom dictates! Women go out with thin stockings, thin shoes, and open necks, when men are protected by thick woollen hose and boots, and their whole body encased in many folds of flannel and broadcloth.

Flannel, worn next the skin, is useful, for several reasons. It is a bad conductor of heat, so that it protects the body from *sudden* chills when in a state of perspiration. It also produces a kind of friction on the skin, which aids it in its functions, while its texture, being loose, enables it to receive and retain much matter, thrown off from the body, which would otherwise accumulate on its surface. This is the reason, why medical men direct, that young children wear flannel next the body, and woollen hose, the first two years of life. They are thus protected from sudden exposures. For the same reason, laboring men should thus wear flannels, which are also considered as preservatives from infection, in unhealthy atmospheres. They give a healthy action to the skin, and thus enable it to resist the operation of unhealthy miasms. On this account, persons residing in a new country should wear such clothing next the skin, to guard them from the noxious miasms caused by extensive vegetable decompositions. It is stated, that the fatal influence of the malaria, or noxious exhalations around Rome, has been much diminished by this practice. But those who thus wear flannel, through the day, ought to take it off, at night, when it is not needed. It should be hung so that it can be well aired, during the night.

But the practice, by which females probably suffer

most, is, the use of *tight dresses*. Much has been said against the use of corsets by ladies. But these may be worn with perfect safety, and be left off, and still injury, such as they often produce, be equally felt. It is the *constriction* of dress, that is to be feared, and not any particular article that produces it. A frock, or a belt, may be so tight, as to be even worse than a corset, which would more equally divide the compression.

So long as it is the fashion to admire, as models of elegance, the wasp-like figures which are presented at the rooms of mantuamakers and milliners, there will be hundreds of foolish women, who will risk their lives and health to secure some resemblance to these deformities of the human frame. But it is believed, that all sensible women, when they fairly understand the evils which result from tight dressing, and learn the *real* model of taste and beauty for a perfect female form, will never risk their own health, or the health of their daughters, in efforts to secure one which is as much at variance with good taste, as it is with good health.

Such female figures as our print-shops present, are made, not by the hand of the Author of all grace and beauty, but by the murderous contrivances of the corset-shop; and the more a woman learns the true rules of grace and beauty for the female form, the more her taste will revolt from such ridiculous distortions. The folly of the Chinese belle, who totters on two useless deformities, is nothing, compared to that of the American belle, who impedes all the internal organs in the discharge of their functions, that she may have a slender waist.

It was shown, in the article on the bones and muscles, that exercise was indispensable to their growth and strength. If any muscles are left unemployed, they diminish in size and strength. The girding of tight dresses operates thus on the muscles of the body. If an article, like corsets, is made to hold up the body, then those muscles, which are designed for this purpose, are released from duty, and grow weak; so that, after

this has been continued for some time, leaving off the unnatural support produces a feeling of weakness. Thus a person will complain of feeling so weak and unsupported, without corsets, as to be uncomfortable. This is entirely owing to the disuse of those muscles, which corsets throw out of employ.

Another effect of tight dress, is, to stop or impede the office of the lungs. Unless the chest can expand, fully, and with perfect ease, a portion of the lungs is not filled with air, and thus the full purification of the blood is prevented. This movement of the lungs, when they are fully inflated, increases the peristaltic movement of the stomach and bowels, and promotes digestion; any constriction of the waist tends to impede this important operation, and indigestion, with all its attendant evils, is often the result.

The rule of safety, in regard to the tightness of dress, is this. Every person should be dressed so loosely, that, *when sitting in the posture used in sewing, reading, or study, THE LUNGS can be as fully and as easily inflated, as they are without clothing.* Many a woman thinks she dresses loosely, because, when she stands up, her clothing does not confine her chest. This is not a fair test. It is in the position most used when engaged in common employments, that we are to judge of the constriction of dress. Let every woman, then, bear in mind, that, just so long as her dress and position oppose any resistance to the motion of her chest, in just such proportion her blood is unpurified, and her vital organs are debilitated.

The English ladies set our countrywomen a good example, in accommodating their dress to times and seasons. The richest and noblest among them wear warm cotton hose and thick shoes, when they walk for exercise; and would deem it vulgar to appear, as many of our ladies do, with thin hose and shoes, in damp or cold weather. Any mode of dress, not suited to the employment, the age, the season, or the means of the wearer, is in bad taste.

CHAPTER IX.

ON CLEANLINESS.

THE importance of cleanliness, in person and dress, can never be fully realized, by persons who are ignorant of the construction of the skin, and of the influence which its treatment has on the health of the body. Persons deficient in such knowledge, frequently sneer at what they deem the foolish and fidgety particularity of others, whose frequent ablutions and changes of clothing, exceed their own measure of importance.

The popular maxim, that "dirt is healthy," has probably arisen from the fact, that playing in the open air is very beneficial to the health of children, who thus get dirt on their persons and clothes. But it is the fresh air and exercise, and not the dirt, which promotes the health.

In a previous article, it was shown, that the lungs, bowels, kidneys, and skin, were the organs employed in throwing off those waste and noxious parts of the food not employed in nourishing the body. Of this, the skin has the largest duty to perform; throwing off, at least, twenty ounces every twenty-four hours, by means of insensible perspiration. When exercise sets the blood in quicker motion, it ministers its supplies faster, and there is consequently a greater residuum to be thrown off by the skin; and then the perspiration becomes so abundant as to be perceptible. In this state, if a sudden chill take place, the blood-vessels of the skin contract, the blood is driven from the surface, and the internal organs are taxed with a double duty. If the constitution be a strong one, these organs march on and perform the labor exacted. But if any of these organs be debilitated, the weakest one generally gives way, and some disease ensues.

One of the most frequent illustrations of this recipro-

cated action, is afforded by a convivial meeting in cold weather. The heat of the room, the food, and the excitement, quicken the circulation, and perspiration is evolved. When the company passes into the cold air, a sudden revulsion takes place. The increased circulation continues, for some time after; but the skin being cooled, the blood retreats, and the internal organs are obliged to perform the duties of the skin as well as their own. Then, in case the lungs are the weakest organ, the mucous secretion becomes excessive; so that it would fill up the cells, and stop the breathing, were it not for the spasmodic effort called coughing, by which this substance is thrown out. In case the nerves are the weakest part of the system, such an exposure would result in pains in the head or teeth, or in some other nervous ailment. If the muscles be the weakest part, rheumatic affections will ensue; and if the bowels or kidneys be weakest, some disorder in their functions will result.

But it is found, that the closing of the pores of the skin with other substances, tends to a similar result on the internal organs. In this situation, the skin is unable perfectly to perform its functions, and either the blood remains to a certain extent unpurified, or else the internal organs have an unnatural duty to perform. Either of these results tends to produce disease, and the gradual decay of the vital powers.

Moreover, it has been shown, that the skin has the power of absorbing into the blood particles retained on its surface. In consequence of these peculiarities, the skin of the whole body needs to be washed, every day. This process removes from the pores the matter exhaled from the blood, and also that collected from the atmosphere and other bodies. If this process be not often performed, the pores of the skin fill up with the redundant matter expelled, and being pressed, by the clothing, to the surface of the body, the skin is both interrupted in its exhaling process, and its absorbents take back into the system portions of the noxious matter. Thus the

blood is not relieved to the extent designed, while it receives back noxious particles, which are thus carried to the lungs, liver, and every part of the system.

This is the reason why the articles worn next to the skin should often be changed; and why it is recommended that persons should not sleep in the article they wear next the skin through the day. The alternate change and airing of the articles worn next the body by day or night, is a practice very favorable to the health of the skin. The fresh air has the power of removing much of the noxious effluvia received from the body by the clothing. It is with reference to this, that on leaving a bed, its covering should be thrown open and exposed to the fresh air.

The benefit arising from a proper care of the skin, is the reason why bathing has been so extensively practised by civilized nations. The Greeks and Romans considered bathing as indispensable to daily comfort, as much so, as their meals; and public baths were provided for all classes. In European countries, this practice is very prevalent, but there is no civilized nation which pays so little regard to the rules of health, on this subject, as our own. To wash the face, feet, hands, and neck, is the extent of the ablutions practised by perhaps the majority of our people.

In regard to the use of the bath, there is need of some information, in order to prevent danger from its misuse. Persons in good health, and with strong constitutions, can use the cold bath, and the shower-bath, with entire safety and benefit. But if the constitution be feeble, cold bathing is injurious. If it is useful, it can be known by an invigorated feeling, and a warm glow on the skin; but if, instead of this, there be a feeling of debility, and the hands and feet become cold, it is a certain sign, that this kind of bathing is injurious. A bath at ninety-five degrees of Fahrenheit, is about the right temperature. A bath, blood warm, or a little cooler than the skin, is safe for all constitutions, if not protracted over half an hour. After bathing, the body

should be rubbed with a brush or coarse towel, to remove the light scales of scarfskin, which adhere to it, and also to promote a healthful excitement.

A bath should never be taken, till three hours after eating, as it interrupts the process of digestion, by withdrawing the blood from the stomach to the surface. Neither should it be taken, when the body is weary with exercise, nor be immediately followed by severe exercise. Many suppose that a warm bath exposes a person more readily to take cold; and that it tends to debilitate the system. This is not the case, unless it be protracted too long. If it be used so as to cleanse the skin, and give it a gentle stimulus, it is better able to resist cold than before the process. This is the reason why the Swedes and Russians can rush, reeking, out of their steam baths, and throw themselves into the snow, and not only escape injury, but feel invigorated. It is for a similar reason, that we suffer less in going into the cold, from a warm room, with our body entirely warm, than when we go out somewhat chilled. When the skin is warm, the circulation is active on the surface, and the cold does not so reduce its temperature, but that increased exercise will keep up its warmth.

When families have no bathing establishment, every member should wash the whole person, on rising or going to bed, either in cold or warm water, according to the constitution. It is especially important, that children have the perspiration and other impurities, which their exercise and sports have occasioned, removed from their skin before going to bed. The hours of sleep are those when the body most freely exhales the waste matter of the system, and all the pores should be properly freed from impediments to this healthful operation. For this purpose, a large tin wash-pan should be kept for children, just large enough, at bottom, for them to stand in, and flaring outward, so as to be very broad at top. A child can then be placed in it, standing, and washed with a sponge, without wetting the floor. Being small at bottom, it is better than a tub; it is not only smaller, but lighter, and requires less water.

These remarks indicate the wisdom of those parents, who habitually wash their children, all over, before they go to bed. The chance of life and health, to such children, is greatly increased by this practice; and no doubt much of the suffering of childhood, from cutaneous eruptions, weak eyes, earache, colds, and fevers, is owing to a neglect of the skin.

The care of the teeth should be made habitual to children, not merely as promoting an agreeable appearance, but as a needful preservative. The saliva contains tartar, an earthy substance, which is deposited on the teeth, and destroys both their beauty and health. This can be prevented, by the use of the brush, night and morning. But, if this be neglected, the deposite becomes hard, and can be removed only by the dentist. If suffered to remain, it tends to destroy the health of the gums; they gradually decay, and thus the roots of the teeth become bare, and they often drop out.

When children are shedding their first set of teeth, care should be taken, to remove them as soon as they become loose; otherwise the new teeth will grow awry. When persons have defective teeth, they can often be saved, by having them filled by a dentist. This also will frequently prevent the toothache.

Children should be taught to take proper care of their nails. Long and dirty nails have a disagreeable appearance. When children wash, in the morning, they should be supplied with an instrument to clean the nails, and be required to use it.

CHAPTER X.

ON EARLY RISING.

THERE is no practice, which has been more extensively eulogized, in all ages, than early rising; and this universal impression, is an indication that it is founded

on true philosophy. For, it is rarely the case, that the common sense of mankind fastens on a practice, as really beneficial, especially one that demands self-denial, without some substantial reason.

This practice, which may justly be called a domestic virtue, is one, which has a peculiar claim to be styled American and democratic. The distinctive mark of aristocratic nations, is, a disregard of the great mass, and a disproportionate regard for the interests of certain privileged orders. All the customs and habits of such a nation, are, to a greater or less extent, regulated by this principle. Now the mass of any nation must always consist of persons who labor at occupations which demand the light of day. But in aristocratic countries, especially in England, labor is regarded as the mark of the lower classes, and indolence is considered as one mark of a gentleman. This impression has gradually and imperceptibly, to a great extent, regulated their customs, so that, even in their hours of meals and repose, the higher orders aim at being different and distinct from those, who, by laborious pursuits, are placed below them. From this circumstance, while the lower orders labor by day, and sleep at night, the rich, the noble, and the honored, sleep by day, and follow their pursuits and pleasures by night. It will be found, that the aristocracy of London breakfast near mid-day, dine after dark, visit and go to Parliament between ten and twelve at night, and retire to sleep towards morning. In consequence of this, the subordinate classes, who aim at gentility, gradually fall into the same practice. The influence of this custom extends across the ocean, and here, in this democratic land, we find many, who measure their grade of gentility by the late hour at which they arrive at a party. And this aristocratic tendency is growing upon us, so that, throughout the Nation, the hours for visiting and retiring are constantly becoming later, while the hours for rising correspond in lateness.

The question, then, is one which appeals to American

women, as a matter of patriotism; as having a bearing on those great principles of democracy, which we conceive to be equally the principles of Christianity. Shall we form our customs on the principle that labor is degrading, and indolence genteel? Shall we assume, by our practice, that the interests of the great mass are to be sacrificed for the pleasures and honors of a privileged few? Shall we ape the customs of aristocratic lands, in those very practices which result from principles and institutions that we condemn? Shall we not rather take the place to which we are entitled, as the leaders, rather than the followers, in the customs of society, turn back the tide of aristocratic inroads, and carry through the whole, not only of civil and political, but of social and domestic life, the true principles of democratic freedom and equality? The following considerations may serve to strengthen an affirmative decision.

The first, relates to the health of a family. It is a universal law of physiology, that all living things flourish best in the light. Vegetables, in a dark cellar, grow pale and spindling,* and children, brought up in mines, are wan and stunted. This universal law, indicates the folly of turning day into night, thus losing the genial influence, which the light of day produces on all animated creation.

There is another phenomenon in the physiology of Nature, which equally condemns this practice. It has been shown, that the purification of the blood, in the lungs, is secured, by the oxygen of the atmosphere absorbing its carbon and hydrogen. This combination forms carbonic acid and water, which are expired from our lungs into the atmosphere. Now all the vegetable world undergoes a similar process. In the light of day, all the leaves of vegetables absorb carbon and expire oxygen, thus supplying the air with its vital principle, and withdrawing the more deleterious element. But, when the light is withdrawn, this process is reversed,

* Shooting into a long, small, stalk or root.

and all vegetables exhale carbonic acid, and inspire the oxygen of the air. Thus it appears, that the atmosphere of day is much more healthful than that of the night, especially out of doors.

Moreover, when the body is fatigued, it is much more liable to deleterious influences, from noxious particles in the atmosphere, which may be absorbed by the skin or the lungs. In consequence of this, the last hours of daily labor are more likely to be those of risk, especially to delicate constitutions. This is a proper reason for retiring to the house and to slumber, at an early hour, that the body may not be exposed to the most risk, when, after the exertions of the day, it is least able to bear it.

The observations of medical men, whose inquiries have been directed to this point, have decided, that from six to eight hours, is the amount of sleep demanded by persons in health. Some constitutions require as much as eight, and others no more than six, hours of repose. But eight hours is the maximum for all persons in ordinary health, with ordinary occupations. In cases of extra physical exertions, or the debility of disease, or a decayed constitution, more than this is required. Let eight hours, then, be regarded as the ordinary period required for sleep, by an industrious people, like the Americans. According to this, the practice of rising between four and five, and retiring between nine and ten, in Summer, would secure most of the sunlight, and expose us the least to that period of the atmosphere, when it is most noxious. In Winter, the night air is less deleterious, because the frost binds noxious exhalations, and vegetation ceases its inspiring and expiring process; and, moreover, as the constitution is more tried, in cold, than in warm, weather, and as in cold weather the body exhales less during the hours of sleep, it is not so injurious to protract our slumbers beyond the proper period, as it is in the warm months. But in Winter, it is best for grown persons, in health, to rise as soon as they can see to

dress, and retire so as not to allow more than eight hours for sleep.

It thus appears, that the laws of our political condition, the laws of the natural world, and the constitution of our bodies, alike demand that we rise with the light of day to prosecute our employments, and that we retire within doors, when this light is withdrawn.

In regard to the effects of protracting the time spent in repose, many extensive and satisfactory investigations have been made. It has been shown, that, during sleep, the body perspires most freely, while yet neither food nor exercise are ministering to its wants. Of course, if we continue our slumbers, beyond the time required to restore the body to its usual vigor, there is an unperceived undermining of the constitution, by this protracted and debilitating exhalation. This process, in a course of years, renders the body delicate, and less able to withstand disease; and in the result shortens life. Sir John Sinclair, who has written a large work on the Causes of Longevity, states, as one result of his extensive investigations, that he has never yet heard or read of a single case of great longevity, where the individual was not an early riser. He says, that he has found cases, in which the individual has violated some one of all the other laws of health, and yet lived to great age; but never a single instance, in which any constitution has withstood that undermining, consequent on protracting the hours of repose beyond the demands of the system.

Another reason for early rising, is, that it is indispensable to a systematic and well-regulated family. At whatever hour the parents retire, children and domestics, wearied by play or labor, must retire early. Children usually awake with the dawn of light, and commence their play, while domestics usually prefer the freshness of morning for their labors. If, then, the parents rise at a late hour, they either induce a habit of protracting sleep in their children and domestics, or else the family is up, and at their pursuits, while their

supervisors are in bed. Any woman, who asserts that her children and domestics, in the first hours of day, when their spirits are freshest, will be as well regulated without her presence, as with it, confesses that, which surely is little for her credit. It is believed, that any candid woman, whatever may be her excuse for late rising, will concede, that, if she could rise early, it would be for the advantage of her family. A late breakfast puts back the work, through the whole day, for every member of a family; and, if the parents thus occasion the loss of an hour or two, to each individual, who, but for their delay in the morning, would be usefully employed, they, alone, are responsible for all this waste of time. Is it said, that those, who wish to rise early, can go to their employments before breakfast? it may be replied, that, in most cases, it is not safe to use the eyes or the muscles in the morning, till the losses of the night have been repaired by food. In addition to this, it may be urged, that, where the parents set an example of the violation of the rules of health and industry, their influence tends in the wrong direction; so that whatever waste of time is induced, by a practice which they thus uphold, must be set down to their account.

But the practice of early rising has a relation to the general interests of the social community, as well as to that of each distinct family. All that great portion of the community, who are employed in business and labor, find it needful to rise early; and all their hours of meals, and their appointments for business or pleasure, must be accommodated to these arrangements. Now, if a small portion of the community establish very different hours, it makes a kind of jostling, in all the concerns and interests of society. The various appointments for the public, such as meetings, schools, and business hours, must be accommodated to the mass, and not to individuals. The few, then, who establish domestic habits at variance with the majority, are either constantly interrupted in their own arrangements, or

else are interfering with the rights and interests of others. This is exemplified in the case of schools. In families where late rising is practised, either hurry, irregularity, and neglect, are engendered in the family, or else the interests of the school, and thus of the community, are sacrificed. In this, and many other concerns, it can be shown, that the well-being of the bulk of the people, is, to a greater or less extent, impaired by this aristocratic practice. Let any teacher select the unpunctual scholars,—a class who most seriously interfere with the interests of the school;—and let men of business select those who cause them most waste of time and vexation, by unpunctuality; and it will be found, that they are among the late risers, and rarely among those who rise early. Thus, it is manifest, that late rising not only injures the person and family which practise it, but interferes with the rights and convenience of the community.

CHAPTER XI.

ON DOMESTIC EXERCISE.

IN the preceding chapters, we have noticed the various causes, which, one or all, operate to produce that melancholy delicacy and decay of the female constitution, which are the occasion of so much physical and mental suffering throughout this Country.

These, in a more condensed form, may be enumerated thus:

A want of exercise, inducing softness in the bones, weakness in the muscles, inactivity in the digestive organs, and general debility in the nervous system: A neglect of the care of the skin, whereby the blood has not been properly purified, and the internal organs have been weakened: A violation of the laws of health, in regard to food, by eating too much, too fast, and too

often; by using stimulating food and drinks; by using them too warm or too cold; and by eating that which the power of the stomach is not sufficient to digest: A neglect of the laws of health, in regard to clothing, by dressing too tight, and by wearing too little covering, in cold and damp weather, and especially by not sufficiently protecting the feet: A neglect to gain a proper supply of pure air, in sleeping apartments and schoolrooms, and too great a confinement to the house: The pursuit of exciting amusements at unseasonable hours, and the many exposures involved at such times: And lastly, sleeping by day, instead of by night, and protracting the hours of sleep, beyond the period of repose demanded for rest; thus exhausting, instead of recruiting, the energies of the system.

But all the other causes, combined, probably, do not produce one half the evils, which result from a want of proper exercise. A person who keeps all the functions of the system in full play, by the active and frequent use of every muscle, especially if it be in the open air, gains a power of constitution, which can resist many evils that would follow from the other neglects and risks detailed. This being the case, there can be no subject, more important for mothers and young ladies to understand, than the influence on the health, both of body and mind, of the neglect or abuse of the muscular system.

It has been shown, in the previous pages, that all the muscles have nerves and blood-vessels, running in larger trunks, or minute branches, to every portion of the body. The experiments of Sir Charles Bell and others, have developed the curious fact, that each apparently single nerve, in reality consists of two distinct portions, running together in the same covering. One portion, is the nerve of *sensation* or *feeling*, the other, the nerve of *motion*. The nerves of sensation are those which are affected by the emotions and volitions of the mind; and the nerves of motion are those which impart moving power to the muscles. Experiments show,

that, where the nerves issue from the spine, the nerve of sensation may be cut off without severing the nerve of motion, and then the parts, to which this nerve extends, lose the power of feeling, while the power of motion continues; and so, on the other hand, the nerve of motion may be divided, and, the nerve of sensation remaining uninjured, the power of feeling is retained, and the power of motion is lost.

In certain nervous diseases, sometimes a limb loses its power of feeling, and yet retains the power of motion; in other cases, the power of motion is lost, and the power of sensation is retained; and in other cases, still, when a limb is *paralysed*, both the power of motion and of sensation are lost.

Now, the nerves, like all other parts of the body, gain and lose strength, according as they are exercised. If they have too much, or too little, exercise, they lose strength; if they are exercised to a proper degree, they gain strength. When the mind is continuously excited, by business, study, or the imagination, the nerves of feeling are kept in constant action, while the nerves of motion are unemployed. If this is continued, for a long time, the nerves of sensation lose their strength, from over action, and the nerves of motion lose their power, from inactivity. In consequence, there is a morbid excitability of the nervous, and a debility of the muscular, system, which make all exertion irksome and wearisome. The only mode of preserving the health of these systems, is, to keep up in them an equilibrium of action. For this purpose, occupations must be sought, which exercise the muscles, and interest the mind; and thus the equal action of both kinds of nerves is secured. This shows why exercise is so much more healthful and invigorating, when the mind is interested, than when it is not. As an illustration, let a person go a shopping, with a friend, and have nothing to do, but look on; how soon do the continuous walking and standing weary! But suppose one, thus wearied, hears of the arrival of a very dear friend: she can instantly walk off a mile or

two, to meet her, without the least feeling of fatigue. By this is shown the importance of furnishing, for young persons, exercise in which they will take an interest. Long and formal walks, merely for exercise, though they do some good, in securing fresh air and some exercise of the muscles, would be of triple benefit, if changed to amusing sports, or to the cultivation of fruits and flowers, in which it is impossible to engage, without acquiring a great interest. It shows, also, why it is far better to trust to useful domestic exercise, at home, than to send a young person out to walk, for the mere purpose of exercise. Young girls can seldom be made to realize the value of health, and the need of exercise to secure it, so as to feel much interest in walking abroad, when they have no other object. But, if they are brought up to minister to the comfort and enjoyment of themselves and others, by performing domestic duties, they will constantly be interested and cheered in their exercise, by the feeling of usefulness, and the consciousness of having performed their duty.

There are few young persons, it is hoped, who are brought up with such miserable habits of selfishness and indolence, that they cannot be made to feel happier, by the consciousness of being usefully employed. And those who have never been accustomed to think or care for any one but themselves, and who seem to feel little pleasure in making themselves useful, by wise and proper influences, can often be gradually awakened to the new pleasure of benevolent exertion to promote the comfort and enjoyment of others. And the more this sacred and elevating kind of enjoyment is tasted, the greater is the relish induced. Other enjoyments, often cloy; but the heavenly pleasure, secured by virtuous industry and benevolence, while it satisfies, at the time, awakens fresh desires for so ennobling a good.

But, besides the favorable influence on the nervous and muscular system, thus gained, it has been shown, that exercise imparts fresh strength and vitality to all parts of the body. The exertion of the muscles quick-

ens the flow of the blood, which thus ministers its supplies faster to every part of the body, and, of course, loses a portion of its nourishing qualities. When this is the case, the stomach issues its mandate of *hunger*, calling for new supplies. When these are furnished, the action of the muscles again hastens a full supply to every organ, and thus the nerves, the muscles, the bones, the skin, and all the internal organs, are invigorated, and the whole body develops its powers, in fair proportions, fresh strength and full beauty. All the cosmetics of trade, all the labors of mantuamakers, milliners, makers of corsets, shoemakers, and hairdressers, could never confer so clear and pure a skin, so fresh a color, so finely moulded a form, and such cheerful health and spirits, as would be secured by training a child to obey the laws of the benevolent Creator, in the appropriate employment of body and mind in useful domestic exercise. And the present habits of the wealthy, and even of those without wealth, which condemn young girls so exclusively to books or sedentary pursuits, are as destructive to beauty and grace, as they are to health and happiness.

Every allowance should be made for the mistakes of mothers and teachers, to whom the knowledge which would have saved them from the evils of such a course has never been furnished; but as information, on these matters, is every year becoming more abundant, it is to be hoped, that the next generation, at least, may be saved from the evils which afflict those now on the stage. What a change would be made in the happiness of this Country, if all the pale and delicate young girls should become blooming, healthful, and active, and all the enfeebled and care-worn mothers should be transformed into such fresh, active, healthful, and energetic matrons, as are so frequently found in our mother land!

It has been stated, that the excessive use of the muscles, as much as their inactivity, tends to weaken them. Nothing is more painful, than the keeping a muscle constantly on the stretch, without any relaxa-