

CALDWELL

ON

THE TRUE MODE

OF

IMPROVING THE CONDITION OF MAN.

This page in the original text is blank.

THOUGHTS

ON

THE TRUE MODE

OF

IMPROVING THE CONDITION OF MAN.

BY CHARLES CALDWELL, M. D.

READ TO THE LEXINGTON MEDICAL SOCIETY,

AND PRINTED AT 175 N. BRUNST.



LEXINGTON, KY.

PRINTED BY H. SAVARY & CO. BOOK AND JOB PRINTERS.

.....

1833.

This page in the original text is blank.

THOUGHTS, &c.



TO improve in some way the condition of man, and thus enlarge the general stock of human happiness, is the professed object of every one who appears in a public capacity. A declaration to that effect is a sort of standing preface to all enterprises, in which the interest of the community is concerned. Every one who acts on a broad scale, whether in civil or military life—in church or state affairs, in commerce, agriculture or the arts, in the conquest of nations, or in defence of their rights—endeavors to persuade others, as well perhaps as himself, that his design is to prove a benefactor of his race. Nor is this true of those alone who more directly serve the public. Others of humbler standing, and in narrower spheres, indulge in the same philanthropic pretension. Even the day-labourer at his task, the fisherman at his net, and the solitary huntsman, as he strays through the forest, flatter themselves with the persuasion, that their toils have not an exclusive bearing on themselves; but that the condition of others will be in some shape amended by them. Each one, moreover, if interrogated on the subject, will offer a plausible reason for his belief.

Such, I say, and so multiplied are the schemes and the modes of accomplishing them, that have, from time immemorial, been devised and practised, with a view to the improvement of the condition of man. But has the success of the experiment equalled the pomp and parade that have attended it, and the number and talents of those that have been engaged in it? Has the condition of the human family been actually improved. in proportion to the extent of the effort made to

that effect? If history and observation furnish the reply, it will be decidedly negative. I do not say that the state of society throughout the civilized world is not improving. On the contrary, I admit that it is. In its extent and depth neither misery nor crime is comparable now to what it was at the commencement of the revival of letters. But it cannot be denied that the march of improvement is exceedingly slow. In several countries, not excepting those that rank with the most enlightened and the wisest, it would seem, for some time past, to have been, in certain respects, retrograde. Whole classes of their inhabitants are not a little deteriorated in both mind and body; and, among no inconsiderable portion of them, misery appears as deep, and prospects as disheartening, as adversity coupled with despair can render them.

Since it is true, then, that the improvement in the condition of man is greatly disproportioned to the united and long continued efforts of so many millions of individuals for the promotion of it, the failure must be owing to some powerful and deep-rooted cause. For, that he is a being highly susceptible of improvement, cannot be doubted. To detect that cause, then, and point out the means, by which it may be successfully counteracted or removed, would constitute a memorable, not to call it a glorious epoch, in the history and progress of human happiness. While philanthropy would rejoice at an event so auspicious, and a liberal philosophy hail it as a boon of peculiar value, even stoicism itself could scarcely fail to bid it welcome. Let me invite your attention, then, to a few thoughts on this important subject.

As respects the cause why the efforts hitherto made for the amelioration of the condition of man have proved unsuccessful, it may be easily rendered. They have been instituted on fallacious grounds. Neither has science directed nor nature sanctioned them. On the contrary, both have concurred in pronouncing them wrong, and in dissuading from the prosecution of them. That the end aimed at by them, then, should be attained, was impossible. It is an axiom in

philosophy, that nothing in opposition to nature, or apart from it, shall succeed. The authors of the efforts referred to had not a correct knowledge of the human system, the complicated machine which it was their object to improve. Of all earthly things that are highly important, men would seem to be least acquainted with themselves and their external relations. Under such circumstances, to look for human amendment as the result of their labours, is unreasonable; not to use a more condemnatory term, and pronounce it absurd. That man should be deteriorated by the ignorance and mismanagement of those who attempt to better his condition, is much more probable.

I have employed the phrase "human system," as indicating the subject to be acted on, in all attempts at human amendment. And I mean by it the material fabric of man, possessed of life and its numerous attributes. To improve that, in a suitable manner, is all that can be done, and all that is requisite for the end contemplated. Let that be brought to the highest perfection of which it is susceptible, and the work will be complete. The condition of man will be as felicitous as the laws of his nature admit. I allude to his earthly condition. But the subject must be treated more circumstantially.

The human family is made up of individuals. Its prosperity therefore, in the aggregate, is composed of that of all its separate members. The greater the number of its members, and the more prosperous the condition of each, the higher will be the prosperity and comfort of the whole. These postulates will not be denied. The questions, therefore, to be solved in the present case are, "In what does individual prosperity consist?" and "In what way can it be promoted most certainly, and in the highest degree?" Satisfactory answers to these questions will be tantamount to directions for the best mode of improving the condition of the human race. The first of them, being simple and limited, can be briefly answered. The latter is more complicated, and must be answered in detail.

Apart from wealth, station, and other incidental considerations, which cannot be embraced in the present discussion, individual prosperity, when as perfect as it can be made, consists in a capacity for the highest degree of personal efficiency and rational enjoyment. In plainer terms, it is a fitness in man to be as happy in himself, and as useful to others, as the laws of his being admit. And that fitness is the result of a fair development and sound condition of all the various organs of the system; of that which constitutes man's greatest good; a sound mind in a sound body. And to a certain extent these are inseparable. Let the corporeal condition be as here set forth, and the intellectual will correspond with it as certainly, as, in any other case, the effect harmonizes with the cause.

I have here again spoken of the organized system, as constituting the real subject of improvement. This I have done intentionally and with a precise meaning, which I wish to be distinctly understood. It is as follows. All that we practically are, and therefore all that we can do, in our present state is the result of our organization. If well organized and in health, we are in a condition to be comfortable, prosperous, and useful; but if our organization be defective or unsound, the reverse is true. To this not a single exception can be adduced, in the realities of the present, or the history of the past. Opposition to this assertion may be safely challenged. To our organization we are as exclusively indebted for the character and amount of our intellectual and moral faculties, as our physical; as positively so for the strength and activity of our reason and virtue, as of our muscles and joints. However paradoxical this may appear to some, or perhaps heterodoxical to others, a thorough knowledge of man *as he is* testifies to its truth. None doubt it but those who look at human nature through the perverting medium of theory, or prejudice, and endeavor to fashion it to their own conceptions. The brain is as truly and obviously the organ of feeling, sentiment, and thought, as the glands are of secretion, and the muscles of motion. A large, healthy, well

toned, and well formed brain, therefore, gives strength of intellect and soundness of virtue to the philosopher and statesman, as certainly and directly, as large, healthy, and well formed muscles and nerves do to the arm of the blacksmith or the leg of the dancer. The wisdom of Ulysses was no less the result of organization than the swiftness of Achilles, and the morality of Seneca equally so with the strength of Milo. To Homer this truth appears to have been familiar. Hence he has given a large and finely formed head to the Prince of Ithica, and great volume and symmetry of muscles to the son of Peleus. All that is requisite to be learnt, therefore, to insure the highest improvement of the human race, is, how to bestow on individuals the best organization. It must not be forgotten that I mean the organization of every portion of the system. On this I say depend strength, activity, elegance, grace, beauty, genius, and moral worth, and every other excellence corporeal and mental. To the truth of this, all times both ancient and modern, and every country on earth bear testimony. Other things being equal, that community whose individuals are best organized, is most powerful, prosperous, and happy. In proof of this, I refer, in ancient times, to the Greeks and Romans, and in modern, to the inhabitants of Great Britain, France, and the United States. To the superior organization of the two ancient nations, every fact in history relating to the subject, and numerous productions of sculpture and painting amply testify; and they were indebted to it alike for their splendour in peace, and their glory in war. And as to the latter, the reference to them is equally correct, and equally calculated to sustain my position. They are the best organized people in modern times. A fair comparison of them with the natives of other countries proves the fact. Some portions of the Germans,* Spaniards and Ital-

* Owing to the forms of discipline they pursue, there is reason to believe, that certain orders of the Germans are at present improving more rapidly in their organization, than any other people. Should they persevere in this course of improvement, for *another half-century*, with the same zeal and steadiness they have manifested during the *past*, they will be equal to the inhabitants of any other nation, in all the higher qualities of man.

ians come nearest to them, but are still inferior. To this superiority of organization are the British, French, and Americans indebted for pre-eminence in their intellect and morals, prosperity and power. In referring to these points, it must not be forgotten, that the power and efficiency of every description of organized matter are increased by the proper kind and degree of excitement and exercise.

Is any one inclined to question the ground I have assumed, and to ask me whether real human superiority does not depend more on superiority of mental constitution than of material organization? I answer, no. At least we have no good reason to think so. Of "mental constitution," in the abstract, we know nothing. We cannot even affix to the expression an intelligible meaning. To us, therefore, it has no meaning, and might as well have no existence. Perhaps better. Its operation on us is unfavorable to accuracy in knowledge. It palms on us sound instead of sense, and induces us to pursue a fallacious process in our efforts to improve ourselves. To discuss the difference between the mind or spirit of one individual and that of another, is to toy with words. As well might we attempt to ascertain the difference between the circumference and weight of one moon-beam and another. Each inquiry would be alike futile in its character and unsuccessful in its issue. One person differs from another in his intellect, not because his spirit is different; but because he differs in his organization. Nor do persons differ in figure or muscular power for any other reason. Two men strike with the same weapon; an action which is directed by the intellect; or, if the term be preferred, by the will. One strikes with great force, the other feebly. To what is this difference attributable? To a mere difference in the strength of the mind or will? Assuredly not; but to a difference in the size and organization of bone, muscle, and nerve. The truth of this no one will controvert, because the organic difference is visible, while that of the will or spirit is not. Again; two men think and reason on the same subject, one deeply and powerfully, the other

superficially and without power. Why should this difference be derived from a difference of mind or spirit, any more than the other? No one can render even an intelligible and plausible, much less a solid reason for thus deriving it. No difference of spirit is perceptible here, any more than in the case of muscular action. But a competent examination discovers as real an organic difference between the two latter individuals, as between the two former. True; they do not differ in the same parts of the body; nor is the difference so palpable to the common eye. But, to the practised eye, they differ perceptibly, not to say strikingly, in a much more important part; I mean the brain. And, their training being alike, to this difference alone can their difference in the power of thought be ascribed. Is the existing difference seated in any other faculty of the intellect? It can still be traced to a difference in organization. Do two females differ in grace of attitude and motion, beauty of feature, animation and loveliness of expression, or delicacy or brilliancy of complexion? This again can be clearly shown to arise exclusively from organic difference. In fine, I repeat, that as organization makes man what he is, every difference that exists between one human being and another, arises from that alone. It must still be borne in mind, that tone or intensity makes an important element in organic efficiency. Improve organization, then, especially in certain parts to be hereafter designated, and you improve the race in every excellence; in intellect and morality as well as in animal power. Carry this improvement to the highest attainable pitch, and man is as perfect as he can be made. But that it may be rendered more certainly intelligible, and the truth or falsity of my sentiments respecting it be the more easily perceived, this subject must be considered in further detail. I shall proceed, therefore, to state, with as much succinctness and perspicuity as I can, some of the means by which the organization of man may be so changed as to improve his condition.

Is any one ready to allege that I am about to engage in a discussion fanciful in its nature, and which can never either

develop a truth, settle a principle, or lead to any practical good? If so, he will permit me to ask him, why it should be deemed more visionary to believe in the practicability of improving the race of man, in all their attributes, mental as well as corporeal, than in that of improving, to the same extent, the breed of our domestic animals? and why an attempt to produce the former result should be held less useful in its object, than one to produce the latter? Is there, in the nature of things, any impediment, either physical or moral, to render an effort to the one effect more hopeless than an effort to the other? No cultivated physiologist will reply affirmatively. Nor would a reply from any other source be worth listening to. The two cases are strictly analogous; the end the same, and the means of attaining it precisely alike. This is true, however reluctant false pride may render the superficial and the unthinking to believe it. We are, in the literal sense of the expression, much more assimilated to the worm, than most of us would be willing to admit. Our organization, consisting of similar materials united in a similar manner, is as susceptible of being changed, for either better or worse, as that of the inferior animals; and it can be changed on the same principles. We have an organization superior to theirs in degree, but not in kind, a few portions of the brain excepted; and even they can be altered and amended only on the same ground. Every enlightened and practical agriculturist knows that he can, by proper feeding, exercise, and training, ameliorate his breed of horses and cows, hogs, sheep, and dogs. And he does so. He renders them not only larger and better formed, stronger and fleet, but more intellectual, mild, and docile. He improves them in all the attributes of their races. But previously to suggesting any means for the attainment of the same end, as relates to man, I must offer a brief physiological exposition.

It has been already observed, that the human body is a very complicated apparatus. It consists of many different organs which are again made up of other organs, each perform-

ing its specific functions. But these organs, instead of acting, every one for itself alone, act also for each other, individually and collectively, and are united in a system, by function and sympathy. The condition of one organ, therefore, whether sound or unsound, influences and modifies that of many others. If it be a principal organ it influences the whole machine. There are three great sets of organs, which, while they are intimately and indispensably connected with each other, control all the rest, and assimilate their condition, in no small degree, to their own. These are the chylopoetic organs, the blood-making and blood-circulating organs, consisting of the lungs and the heart, and the brain, spinal cord, and nerves, which, as already mentioned, are the instruments of intellect and feeling, and are essential also to voluntary motion. To the heart must be added its appendages, the bloodvessels. These three sets of organs have been said to control all the others; and this they do chiefly, by mutually controlling themselves; by exercising, I mean, such a reciprocal influence, as to be all, at the same time, somewhat assimilated in condition. They are as necessary to each other, as they are to the whole. Is one of them materially deranged in its action? The two others suffer immediately, and all the rest of the system in its turn. Is the brain diseased? Its healthy influence, which is indispensable to the well-being of the two other sets of associated organs, is withheld from them, and they also fail in their action, as well as in their sound and sustaining sympathies. The chyle and blood are deteriorated. This proves a source of further injury to the brain, which, unless it be supplied with well prepared blood, is neither itself in good condition, nor capable of contributing to the health and efficiency of the other parts of the body. It cannot prepare, from a scanty and bad material, the substance, or agent, of its own influence, whatever it may be, in sufficient quantity, and of sound qualities. The general mischief, arising from a primary morbid affection of either of the two other sets of controlling organs, is equally demonstrable,

and depends on similar principles. But it is needless to dwell longer on this subject. To every physiologist it is already familiar. It is known to him, that out of chyle of bad qualities, or deficient in quantity, a sufficient amount of good blood cannot be prepared; that if respiration be defective, the latter fluid cannot be duly vitalized; and that if the heart be enfeebled, it cannot throw the blood with the requisite force into every part of the system.

Of the three leading sets of organs, the functions of two are comparatively simple; the chylopoetic, and those that prepare and circulate the blood. But, as respects the brain, the reverse is true. Its functions are as numerous and diversified in kind, as they are important in their bearing and character. Besides throwing its influence on every part of the system, to sustain it in a state of common fitness for action, and performing the great work of voluntary motion, it is the immediate seat of every form of sensation, and the instrument of every intellectual faculty. The brain is not, therefore, a single organ. In the necessity of things it cannot be so. Throughout nature no single organ performs more than a single function. Were the case otherwise, creation would be a scene of confusion and chance, every thing future uncertain, and reason but a name. The beauty, order, and harmony that now pervade the universe, and render it so suitable and delightful a dwelling to man, consist in that well adjusted relation of things, according to which every cause produces its own specific and single effect, and nothing more. Destroy that relation, and chaos will have returned, and the earth be uninhabitable, except by a new order of beings.

But I must proceed in my preliminary analysis one step further. And here I am compelled to become the phrenologist. In no other capacity can I speak rationally of the human intellect. On that topic, every thing said apart from phrenology, or in opposition to it, is to me but the language of conjecture or prejudice. I leave it therefore to the incumbents of schools and cloisters, where much of it originated.

I have represented the brain as the instrument of the intellectual faculties. These, besides the external senses and the power of voluntary motion, are thirty-five in number. Nor are they less diversified than numerous. No two of them bear to each other any more resemblance, than vision does to hearing, or tasting to touch. And they are all effects or modes of action. But it has been already observed, that no two effects different from each other can proceed from the same cause, nor two sorts of action from the same piece of machinery; a truth to which nature every where testifies. Nor is the evidence she offers less decisive in the functions of animals, than in the other departments of her works. The same nerve cannot be instrumental to sensation and muscular motion; nor can the same one minister to voluntary and involuntary motion. Each of these modes of action requires a different nerve. The same is true of the several functions of sense. They also are the results of the action of different kinds of organic matter. The visual nerve cannot perform the function of the auditory, the auditory of the olfactory, nor the gustatory of the tactual. Each function requires a different nerve, precisely as any other specific form of action requires a specific cause.

Of the intellectual faculties the same is true, else must they be anomalous and unintelligible. But they are neither the one nor the other. As respects the point I am considering, they are subject to the same principles that govern all other earthly things, and therefore, like them, susceptible of illustration. They also are the result of the action of organic matter. Being specifically different from each other, the kinds of action producing them must be equally different. This is common sense, as well as philosophy, and cannot therefore be questioned. It follows necessarily, that such differences of action must be the product of instruments equally different. By no law of nature can the same instrument produce them all. Each peculiar intellectual faculty, then, must have its own specific cerebral organ; and one of these organs can no more perform the function of another,

than the ear can see, or the tongue hear. Hence the brain, instead of being single, consists of as many organs as the intellect possesses of faculties; and all these are as different from each other, as a nerve of sensation is from a nerve of motion, or a nerve of taste from one of touch. If these positions are true, as all things seem to testify they are, the inferences deducible from them are peculiarly important, and, as will presently appear, have a direct bearing on the subject I am discussing.

The organs which compose the brain, with the faculties dependent on them, are divided into three classes; the animal, the moral, and the intellectual strictly so denominated. The latter class is subdivided into the *knowing* and the *reflecting* organs; or, as they are sometimes called, the *perceptive* organs and those of *relation*. For the comfort and happiness, as well as for the efficiency of man, and his usefulness as a member of society, it is requisite that these three sets of organs be well balanced in power and action. If one or two of them preponderate, especially in a high degree, some deficiency, irregularity, or impropriety of conduct will occur, to the inconvenience, injury, or ruin of the individual. In proof of this many striking examples might be cited. But the truth is already so palpable, that it would scarcely be extravagant to pronounce it self-evident. In attempting therefore to improve the condition of man, a point of peculiar moment is, to produce and maintain, in his mental powers, the requisite balance. Let each class of organs and its dependent faculties have a full measure of power, but suffer neither of them greatly to predominate over the others. Should the animal class be too feeble, the individual will be defective in practical energy; he will want general vigour and activity of character; and should it be too strong, the danger is great, that he will indulge in practices indecorous and degrading, if not vicious. He will be too much of the animal, in forgetfulness of the man. If the intellectual organs be too feeble, the individual will want both knowledge and the power to use it. If any one, two, or more of them

be disproportionately strong, he will be likely to attach himself inordinately to some favourite pursuit, to the neglect of other requisite ones, or to engage in study with an ardour and intensity ruinous to health, and perhaps productive of mental derangement.* Excessive weakness in the moral organs is tantamount to too much strength in the animal, and may become a source of crime; while excessive strength and activity in some of them produce a stern and inflexible resolution, or an ungovernable enthusiasm, in relation to the objects of them, which misleads the judgement, subverts discretion, and prevents usefulness. An individual thus organized, however virtuous and praiseworthy his intentions may be, can never be *practically* virtuous in a high degree; can never, I mean, do much good to his fellow men. Should the bent of his character be in that direction, he will be a bigot, if not a fanatic in religion. And should it be toward philanthropy, his schemes will be quixotic, and his benefactions misapplied. He will be *ultra* in every thing which conforms to his "ruling passion;" and he will be the more irreclaimable, from fancying that he perseveres for "conscience' sake."

But to establish the balance of the intellect alone is not sufficient to constitute the highest degree of improvement, of which the human condition is susceptible. The whole man must be balanced; the organs of his body in general, no less than his cerebral organs. Nor is this all. The due balance must be established between the other parts of his system and his brain. Neither must inordinately preponderate. Any striking defect of balance, whatever may be its nature or seat, is a constitutional evil, and must necessarily do mischief. To produce therefore the highest perfection, of which man is susceptible, a fair equilibrium must be established in his system, and the whole rendered as powerful

* It is now known that a great preponderance of one or more of the cerebral organs constitutes a strong predisposition to madness. An examination of the insane also testifies, that, in a large majority of cases, the mental faculties *first* deranged, and which often continue to be *alone* deranged, are those belonging to organs inordinately developed—inordinately I mean, in proportion to the other organs of the *same* brain.

as may be practicable. Weak organs must be strengthened, and too vigorous ones reduced, if not actually, at least comparatively, until the requisite balance be attained. In one point, of great moment, the living body of man resembles not a little the body politic. The stronger parts of it have a prevalent tendency to oppress and injure the weaker. Hence local debility, of whatever description, is an invitation to disease, or some kind of discomfort. In every scheme, therefore, for human improvement, to prevent or remove it should be a leading object.

Is any one inclined to ask me how this is to be done?—by what means, and in what mode of employing them, this constitutional harmony is to be established? The question is a fair one; and, were it proposed, I should be bound to reply to it. Without further preface, therefore, I shall proceed to answer it, as if it were proposed.

It is a law of nature that the offspring resemble their parents. As relates to leading points, this is a truism familiar to every one, and is uniformly and successfully acted on, in the breeding of inferior animals. That all constitutional qualities are transmitted from parents to their children, admits not of a doubt. Apparent exceptions are only apparent, not real. Are parents perfectly sound and vigorous in body? So are their children, when they first see the light. Is the reverse true? Are the former constitutionally unsound and debilitated? The evil descends, in some degree, to the latter. Respecting intellect, the same is true. According as it is weak or strong, sound, unsound, or peculiar in the parents, so are its character and condition in the children. I speak in general terms, and refer only to general results, without meaning to entangle myself in the difficulties of abnormal cases. And thus far all testimony concurs to sustain me. The descendants of a community, sound, vigorous, and hardy in mind and body, will be themselves a community of the same description, unless they are changed by adventitious causes. To this, neither does history contain, nor can observation adduce, a single exception Spar-

tan children were like their Spartan parents, and Bœotian children like their Bœotian parents. And, in our times, the descendants of the hill-country and of the valley are very dissimilar.

As relates to the standing and welfare of the human race, this principle is much more extensively and powerfully operative than it is generally supposed to be. It is the reason why children born at different periods of the lives of their parents, and under the influence of different circumstances, especially different degrees of parental health and vigour, are often so unlike each other. It is also the most probable source of the very frequent and strong resemblance of twins, which receive the impress of exactly the same parental condition. Children partake of the constitutional qualities of their parents, for the time being. Years and circumstances alter those qualities, and the offspring produced under the influence of them thus modified, are correspondingly altered. Even the present predominance of any particular faculty of the intellect in the parents, would seem to transmit that faculty to the child in greater vigour than it would be transmitted under the predominance of any other faculty. To illustrate this subject by examples.

The first-born children of parents, who marry when very young, are rarely if ever equal, in either body or intellect, to those born at a subsequent period, provided the parents continue healthy. Hence the younger sons of noblemen so generally surpass, in all the higher attributes of our race, their elder brothers, whose only preeminence depends on the privileges attached to primogeniture. I know that an attempt has been made to explain this on a different ground; that of education, expectancy, and habit. But I also know that the attempt has failed. The difference is too great to be thus accounted for. It often occurs, moreover, when the cause just referred to is wanting. The following is believed to be the true explanation.

Very young parents are, in constitution, immature and comparatively feeble; and that constitutional imperfection

descends to their early offspring. As years pass on, their being ripens, and their strength increases. As a natural effect of this, the constitutions of their children become ameliorated. It was a knowledge of this, derived from observation, that induced the Spartans to prohibit marriage, until the parties had attained entire maturity; the females the age of twenty-two or twenty-five, and the males that of twenty-seven or thirty. I need scarcely add, that they were personally the hardest and most powerful people of Greece, and, as a community, the most warlike.

For reasons well known to phrenologists, the animal organs and faculties predominate during early life. Parents, therefore, who marry, at that period, communicate in a higher degree to their first children the same unfortunate predominance, which renders them less intellectual and moral, and more sensual; less capable, as well as less ambitious of preeminence in knowledge and virtue, and more inclined to animal indulgences. If I am not mistaken, history and observation sustain this view of the subject, and philosophy expounds it.

Again. The sons of soldiers and military leaders, born during periods of war and peril, are believed to be constitutionally brave. Under such circumstances, a coward has been rarely ushered into the world. The reason would seem plain. In the parents,* the organs and faculties pertaining to

* It is here understood that the females must be intrepid, as well as the males. The children of timid mothers, begotten and born in the midst of danger, where scenes of alarm are of frequent occurrence, are rarely, if ever, possessed of firmness or constitutional vigour. On the contrary, they usually inherit an abundant share of the nervous and cerebral irritability and weakness, which their mothers experienced, during the time of gestation. The reason is plain. The organs of Cautiousness of the mothers, which are large and powerful, being kept in a state of preternatural and exhausting excitement, created for the time a constitutional bias, or "ruling passion," which was, therefore, in obedience to a law of nature, communicated to their offspring. The medical annals of the "reign of terror," in Paris, during the first French Revolution, are fruitful in facts corroborative of this. The children of timid mothers became irresolute and feeble adults, and were in many instances subject to convulsive complaints.

war, excited to inordinate action by scenes congenial to them, predominate for the time, and bravery becomes the native inheritance of their sons. Hence also the phrase "soldier's daughter" means a heroic woman. During the early and warlike age of our frontier States, when the rifle and the tomahock were constantly employed in the work of havock, every child was born an Indian-fighter. The cause, I say, is obvious. In the whole population, which was composed of warriors, the organs and faculties suited to the occasion bore sway, and gave to the constitution of the offspring of the community a corresponding character. For the same reason children born in France, during the revolution, were constitutionally soldiers. The late spectacle of heroism in Paris testifies strongly to this effect. Those who defeated the veterans of Charles X., and wrested from him the sceptre and the sword, were chiefly the sons of the preceding revolution. And never did combatants display valour more firm and resplendent.

Efforts are again made to explain these and all similar events, on the single ground of education and example. But they are made in vain: or rather worse than in vain. They inculcate error. That education and example do much, is not denied. And the principles of their operation will be stated hereafter. But they cannot do every thing. Children born under the shade of the laurel become brave soldiers and heroic leaders more readily, than those who inhale, with their first breath, the perfume of the olive. This is in accordance with nature; and observation, as far as it has been directed to the subject, testifies to its truth. It is on similar ground, that the superior bravery of the Spartans and Lacedemonians may be most rationally explained. I mean the active predominance of the warlike organs in their parents.

On the same principle are we to explain the fact, that the children of Arabs and Tartars are born with propensities to pillage and theft. For centuries, their progenitors have been a pilfering and a "robber-race." The consequence is obvious. The organs of the brain inclining to those vices have

been predominant. They have formed the constitutional bias and ruling passion of their possessors, and have, no doubt, been enlarged by perpetual exercise. For exercise as certainly enlarges particular portions of the brain, as it does particular muscles. By a law of nature, therefore, their excess in both size and action has descended to posterity. And this excess has been augmented by example and practice. The Arab and Tartar character, therefore, is the product of the combined influence of parentage and education.

The first suggestion I shall offer as a means toward the improvement of our race, is the prohibition or voluntary abandonment of too early marriages. Before the parties form a compact fraught with consequences so infinitely weighty, let the constitution and education of both be matured. They will then not only transmit to their offspring a better organization, but be themselves, from the knowledge and experience they have attained, better prepared to improve it by cultivation. For I shall endeavour to make it appear that cultivation can improve it. When a skilful agriculturist wishes to amend his breed of cattle, he does not employ, for that purpose, immature animals. On the contrary, he carefully prevents their intercourse. Experience moreover teaches him not to expect fruit of the best quality from immature fruit-trees or vines. The product of such crudeness is always defective. In like manner, marriages between boarding-school girls and striplings in, or just out of college, ought to be prohibited. In such cases, prohibition is a duty, no less to the parties themselves, than to their offspring and society. Marriages of the kind are rarely productive of any thing desirable. Mischief and unhappiness of some sort are their natural fruit. Patriotism, therefore, philanthropy, and every feeling of kindness to human nature call for their prevention. Objections resting on ground not altogether dissimilar may be justly urged against young women marrying men far advanced in years. Old men should in no case contract marriages likely to prove fruitful. Age has impaired their constitutional qualities, which descending to their offspring, the

practice tends to deteriorate our race. It is rare for the descendants of men far advanced in years to be distinguished for high qualities of either body or mind.

As respects persons seriously deformed, or in any way constitutionally enfeebled—the rickety and club-footed, for instance, and those with distorted spines, or who are predisposed to insanity, scrophula, pulmonary consumption, gout, or epilepsy—all persons of this description should conscientiously abstain from matrimony. In a special manner, where both the male and female labour under a hereditary taint, they should make it a part of their duty to God and their posterity, never to be thus united. Marriage in such individuals cannot be defended on moral ground, much less on that of public usefulness. It is selfish to an extent but little short of crime. Its abandonment or prevention would tend, in a high degree, to the improvement of mankind.

As relates to the present, in common with all other subjects, facts alone are worthy of our attention. A single one, that may be here adduced, is preferable to all the theories that can be framed. It confirms so fully the principle I am contending for, as to render opposition to it hopeless.

In Turkey and Persia, men of rank and wealth marry none but well formed and beautiful women. They procure many of their wives from Georgia and Circassia, the Asiatic paradise of female beauty. Such has been their practice for ages. The consequence is what all enlightened individuals are prepared to expect. As regards their *persons*, the Turks and Persians of the higher casts are among the finest people on earth. Compared to the lower orders of their countrymen, who marry without such selection, and for whose personal improvement therefore no provision is made, their superiority, in all points of elegance, is as striking, as is that of the English hunter, contrasted with the cart-horse. Throughout the world a similar custom would produce a similar effect. It is to be lamented, however, that the practice in Turkey and Persia, of so secluding females as to prevent them from using the proper amount of exercise, operates as a barrier

to the improvement of mankind. I need scarcely add, that it does this by debilitating the female constitution, and entailing comparative feebleness on the offspring. Let it be borne in mind that, in speaking of the fine forms of the Turks and Persians, I allude to their "persons" only; by which I mean their limbs and trunks. In the development and figure of their heads, they are inferior to the Europeans, and the inhabitants of the United States. The reason is plain. Being less devoted to intellectual pursuits, their brains experience less excitement and exercise, and are therefore smaller, and probably also inferior in tone.

To illustrate this subject further, and fortify the sentiments just advanced, the citation of another practice of skilful agriculturists may be useful. It is that of selecting the largest, best formed, and sprightliest of their domestic animals, as breeders, when they wish to improve their stock. The same is true of their efforts to improve even their vegetable productions. Whether they propagate by seeds, roots, or cuttings, they select the largest, best looking, and best conditioned, as the parent race. This practice is founded on experience, and the end aimed at by it, except it be prevented by sinister causes, is always attained. Its relevancy to the subject I am considering is too plain to need any comment. The practice of Frederick II. of Prussia, on this point, is well known. He was inordinately attached to a gigantic stature in his grenadiers. To form this corps therefore he selected the largest men in his kingdom. Nor did his solicitude on the subject suffer him to stop here. That the race might not degenerate, he also selected, as wives for his grenadiers, the largest women in his kingdom. The consequence is, that Pottsdam and its neighborhood, where Frederick's grenadier-corps was stationed, furnish even now a greater number of persons of gigantic size, than any other place of the same amount of population in Europe—perhaps in the world.

In consequence of an unfortunate cerebral organization, some persons who are reared in virtuous society, under the

influence of the best example, possess an uncontrollable propensity to vice—to lying, treachery, theft, robbery, and even murder. Instances of this description are much more numerous than they are thought to be. In case of the marriage of such individuals, the probability is strong that their offspring will inherit their constitutional infirmity. The issue indeed can scarcely be otherwise, unless it be prevented by a better organization in the other parent, or counteracted by education, of whose influence in amending mankind I shall speak hereafter. To refrain from marriage, therefore, would be, in those persons, a redeeming virtue. Of individuals dwarfish in stature, the same is true. All such acts of self-denial would be praiseworthy in them, in as much as they would tend to ameliorate the condition of man.

Another source of human deterioration is a long series of family intermarriages. Be the *cause* what it may, both history and observation testify to the *fact*, that the issue of marriages between parties related by consanguinity always degenerate. They become enfeebled in time both mentally and corporeally. This practice, which is fostered chiefly by the false pride of rank, has reduced almost to dwarfishness the nobility of several nations, especially of Portugal. It has likewise aided not a little in not only deteriorating, but nearly extinguishing most of the royal families of Europe. This case is strengthened and rendered the more impressive by the fact, that the ancestors of those families were the real *proceres* or *natural nobles* of the land; men peculiarly distinguished in their day, as well for corporeal stature, strength, and comeliness, as for mental excellence. Yet, I repeat, that a long line of family intermarriages has contributed much to reduce below the average of mankind the descendants of those ancient nobles, whose high qualities alone gave them station and influence. In this the human race are analogous to our domestic animals, which are deteriorated by breeding constantly from the same stock. Even among the people of certain sects in religion, much mischief is done by the continued intermarriages of the members with each other.

The condition of the Jews and the Quakers affords proof of this. Those two societies are more afflicted with some form of mental derangement, in proportion to their numbers, than any others in christendom. They are also unusually deficient in distinguished men. This is no doubt attributable, in no small degree, to their so seldom marrying out of their own sects.

The last source of degeneracy I shall specify, under this head, is the marriage of the indigent; of those, I mean, who are destitute of a competent supply of wholesome food for themselves and their children. This is a fearful cause of deterioration. Reason assures us that it must be so. A sound and powerful machine cannot be constructed out of a scanty stock of damaged materials. And to the decision of reason, observation unites its testimony. A glance at the indigent of all nations furnishes incontestible proof of the fact. Monuments of far-gone degeneracy every where present themselves. Witness the large manufacturing towns of Europe. Stinted and unwholesome fare acts on mankind as it does on other forms of living matter. It injures organization and checks developement. Both the vegetables of a barren soil, and the animals scantily nourished by them are diminutive and feeble, as well as unsightly. So is man, when pinched and dispirited by poverty and its concomitants. Even the United States furnish many examples confirmatory of this, while other countries furnish a hundred-fold more. Such are a few of the most prominent and fruitful sources of human degeneracy. The remedy for the evil is, abstinence from marriage in the cases referred to.

But, in no country, perhaps, and least of all in our own, are we to look for the speedy adoption, to any useful extent, of this preventive measure. People will marry and have issue, whether their figures and developments be good or bad, whether they are poor or rich, akin or aliens in blood, and whether their constitutions be sound or otherwise. They will also continue to marry, in many instances, at too early a period of life, as long as subsistence for a family can be

easily procured. Our only practicable remedy, therefore, consists in removing, as far as possible, the evils of improper parentage and other causes, by subsequent treatment. And this can be done by education alone, judiciously adapted, in its principles and administration, to the constitution of man.

But by the term education I would indicate a process exceedingly different from that which is usually so denominated. I do not limit it to the mere attainments made by the youthful in seats of instruction, whether they be primary schools or academies, colleges or universities. I mean by it the training of the whole man, by a suitable course of discipline, during the greater portion of his life. It must begin in infancy and terminate only in advanced age, when the constitution has become so rigid and the habits so confirmed as to be no longer improveable. And even then great care is necessary to preserve the amount of good that has been gained. A process of education short of this is defective in its nature, and must prove alike defective in its issue.

As all men are formed on the same plan, and possess, in different degrees, the same faculties, susceptibilities, and powers of action, the proper training of one will serve as a model for the training of the race. The principles being in every case the same, the slight modifications requisite to suit individual peculiarities can be easily made, and constitute no exception to the general rule. I shall endeavour therefore to sketch a mere outline of the process, as the limits to which I must confine myself forbid the accomplishment of a finished picture.

Education, I say, must begin in infancy, and be administered by means of suitable impressions made on certain ruling organs of the system. The corporeal effects resulting from these, and the corresponding habits established by their continuance, constitute the only improvement to be attained, and therefore the only one to be aimed at. They form indeed the only one we should desire; because it is sufficient for all our purposes. It is moreover the only one we can conceive of, and must therefore satisfy us as reasonable be-

ings. To talk of operating immediately on or exclusively with the mind or spirit, and improving it, is an abuse of words. When speaking thus, no one understands himself, and, of course, is understood by nobody else. We might as well talk of operating, by our schemes of education, on the inhabitants of the planet Jupiter. As already mentioned, the organs to be chiefly acted on are, the chylopoetic viscera—the lungs and heart as the arbiters of the blood—and the nerves and brain. To these may be added, the muscles and skin, which, although subordinate in standing, are nevertheless instruments of great influence in a system of general discipline. In the proper management of these portions of the body does education chiefly consist.

The skin is to be kept free from impurity, and in a state of healthy excitement and action, by bathing, a well regulated temperature, and suitable clothing. Let no one deem lightly of this measure, or think the practice it is intended to establish unworthy to constitute an element of education. Besides being a source of health and vigour, it contributes to mental purity as certainly as to corporeal. To be voluntarily covered with external filth is not only unseemly, and injurious to health; it testifies that all is not right within, and tends to make it worse. Cleanliness is of great importance at every period of life, but more especially during infancy. Without it neither can health be promoted, nor organization improved, or even maintained in a sound condition. The sympathetic connexion of the skin with all the other parts of the body, and the powerful influence it exercises over them, are familiar to physiologists, and might be illustrated by numerous and striking examples. That organ, being the great out-post of the system, receives first, from the external world, several classes of strong impressions, both salutary and deleterious. It is indispensable, therefore, that it be in a condition to receive them with due sensibility, to maintain its harmony with them as well as with the body it covers, to resist them if they tend to mischief, and to act, in all respects, as a suitable medium between them and the parts within.

But, as relates to the subject under consideration, the chylopoetic viscera are of still higher moment, because their control over the other parts of the system is more powerful. They are impressed chiefly by food and drink. Nothing else can directly reach them; and, to the welfare and perfection of the individual, it is of infinite importance that they be impressed suitably. No violence of any kind must be done to them. To irritate them by improper articles of diet or drink, or exhaust them by excessive action of any sort, is highly pernicious. Unless a strict regard be paid to this, organization and vigour will be inevitably deficient, and the general condition of health always feeble and precarious, and often deranged. It would be scarcely extravagant to call the chylopoetic viscera the arbiters of man's being. If they be in any way diseased, they injure the system on a twofold ground. They supply it with chyle unwholesome in quality, as well perhaps as deficient in quantity, and derange it by means of morbid sympathy. These causes will soon transfer disease to other organs, and fix it there. The brain is apt to be a primary and principal sufferer from this condition of things, and to be thus converted into a powerful source of constitutional injury. To a certain extent, therefore, the individual must wither, like a plant, whose sap-juice is poisoned, and its roots enfeebled in their nutritive functions.

It is through the medium of the organs I am considering that children are most frequently and seriously injured, and the foundation of constitutional feebleness in them laid. This is effected in several ways; by giving them aliment deleterious in its qualities, and excessive quantities of that which is wholesome. In either case the stomach is unsuitably impressed, and morbid action necessarily ensues. Add to this, the feeding of them at improper hours, and administering to them irritating or anodyne potions, under the character of medicines, to remove or palliate complaints induced by previous improprieties in food. Do infants exhibit any degree of uneasiness? It is attributed to hunger; and the supposed

remedy is instantly administered. Their mouths are closed up, their fretting silenced, and their stomachs gorged to satiety with food. By these causes the chylopoetic viscera are often so deeply crippled in their powers, and deranged in their functions, as to be unfitted to contribute their part toward the perfect organization and vigour of the body. Perhaps there exists not an individual in our country who has not, on some occasion, suffered from them. Excess and impropriety in eating, and feeding children, are among the most pernicious evils of the land. No one, I repeat, is entirely exempt from their mischievous influence. The indiscretions practised in supplying them with food is the chief reason why infants are less healthy than the young of the inferior animals. We call ourselves rational beings, and yet take our food, an act on which so much of our comfort and efficiency depends, like beings of mere appetite. In common with many of the animals below us, we swallow food as long as we can, pass a few hours in dreamy dullness, and then shake off our torpor to surfeit ourselves again. Such is the constant practice of millions of the human race; and it is the occasional practice of almost every one.

The reformers of these unrighteous times have waged a crusade against the Saracen, intemperance in drinking; and they have done it from correct motives, and, to a certain extent, wisely. If they have committed a few errors and extravagances, it is what all men do, when they engage in new and difficult enterprises. But those knights of the water-cup have as yet broken no lance with the modern Briareus, Intemperance in eating. On the contrary, many of them might pass for his covenanted votaries, doing homage to him with a degree of zeal that would be honorable to pilgrims, whether of the Cross or the Crescent. Yet he does tenfold as much mischief to frail humanity, as his kinsman and ally, Intemperance in drinking. To drop the metaphor. Before man can attain to the highest and happiest condition of which he is susceptible, this fountain of evil, excess and impropriety in eating, must be dried up. Of all single causes,

it is perhaps the most powerful in retarding our improvement. Yet we make no serious efforts to remove it. We confine our young domestic animals to simple fare, and supply them with it in measured quantities; and they remain healthy, thrive on it, and attain perfection. But we allow, and even entice our children to eat every thing; and the only limit imposed, as to quantity, is the extent of their craving. Nor do we even fail to augment that, by giving them provocatives; stomachics, to re-excite their sated appetites. Such at least is the procedure of millions, in every quarter of christendom where food is abundant. The practice can scarcely be called less than criminal; and the record of its effects, in the history of our race, is appalling to humanity. Feeble health, severe and often loathsome disease, vacant idiocy, raving madness, death, and degeneracy make but a part of the account. All acknowledge that human beings die in myriads, from improper feeding; but it does not seem to be understood, that the race degenerate from the same cause. Yet the latter result is as certain as the former. That which kills many, and sickens a still larger number, must take from the perfection of all who indulge in it.

An excessive devotion to the pleasures of the table, continued through a line of several generations, never fails to produce degeneracy. It gives to animality a preponderance in the constitution. Hence the descendants of royal and imperial houses, accustomed from the cradle to luxurious living, lose in time all the higher attributes of humanity, and become pampered animals. The reason is plain. They are exercised chiefly in animal practices, eating and drinking being one of them. Hence their animal organs gain an ascendancy over those of a nobler order.

Even female beauty, one of the boons of Heaven most highly valued, is recklessly sacrificed on the altar of appetite. However harshly and ungallantly this assertion may sound, it is notwithstanding true. Neither red eyes, a fiery complexion, nor a pimpled nose are elements in the composition of a queen of romance. Yet they are the pro-

ducts of intemperance in eating, no less certainly than of intemperance in drinking.

The enlightened agriculturist, I repeat, never forgets the propriety, nor neglects the practice of feeding the young of his domestic animals, according to rules derived from experience; experience, I mean, of their suitability and usefulness. This he does, because he knows it will contribute to the health and perfection of the objects of his care, and gratify his love of gain, by improving his stock, and augmenting their value. Were he to watch with equal solicitude over the diet of his children, his attention would be equally beneficial to them. Their organization would be better, their powers generally of a higher order, and their condition happier. But, instead of doing this, he often consigns them to the feeding of nurses, to whose skill and care he would not entrust a pig or a calf. The issue is, that man remains stationary, if he does not degenerate; while the breed of our domestic animals is improved. Let the proceeding be reversed, and so will the result. Man will improve, and cattle degenerate. Let all receive the requisite attention, and amendment will be general. Let the chylo-poetic organs, then, be skilfully attended to, as an essential ingredient in a sound education. The measure, by giving health to them, will contribute to the perfection of the entire system.

The lungs are another viscus, whose influence is great in the organization, development, and strength of the body. In the rearing and training of the individual, therefore, to give healthy organization and vigor to them, should be a leading object. They bestow character on the blood, by preparing it, and communicating life to it, while it again, in its round of circulation, gives character to the whole system, by imparting to it nourishment, life and energy. According to their perfection and vigour will be the extent and excellence of their work, in forming the blood, and conferring on it vitality. But, unless supplied with blood suitably vitalized, and possessing all other requisite qualities, no organ of the

body can either attain its most perfect condition, or perform its duty with soundness and competency. This is as true of the brain, as of a common gland or muscle. Deprive it of arterial blood, its functions cease, and intellect is suspended. Asphyxia from unrespirable¹ gases and from hæmorrhagy testifies to this. Supply it again with that fluid, and intellect returns. And, other things being alike, the more perfect the blood, the brighter is perception, and the more vigorous every mental operation. These assertions are susceptible of proof. Shall I be told, in opposition to this sentiment, that men of the most brilliant and powerful minds, have often very feeble and shattered health, and that therefore their brains are not supplied with well prepared blood? I reply that the objection has no weight. The intellects of the individuals referred to are always in the best condition, and work most powerfully when corporeal health and vigour are least impaired. In other words, the more perfect the blood that goes to the brain, and the better that organ is sustained by the sound sympathies of other parts, the more healthfully and vigorously does it perform its functions. Though on account of their cerebral organization, such men are great without very good blood, they would be greater with it.

That which is intended and peculiarly suited to impress the lungs, and maintain them in a healthy and efficient condition, is atmospherical air. But that it may do this fully, two things are necessary. It must be free from pollution, and in a state of motion. At least it must be in a condition to move. Stagnation injures air as certainly as water. In what way it does this is not now the question. The fact is sufficient for my present purpose, and that is indubitable. The atmosphere may be adulterated by various substances. The most common and deleterious are secreted exhalations from living, and chemical ones from dead organic matter. The first prove highly injurious to children that are compelled to breathe the atmosphere of close and crowded apartments. And such is too often the condition of school-rooms, manufactories, foundling and other charitable institutions,

and even of domestic nurseries. Children long confined in such places are destitute of well arterialized blood. Their circulation is also defective, because blood not thus arterialized is unfit to awaken the heart to vigorous action. They are therefore pale, languid, and spiritless. That their organization is faulty, appears from the unnatural softness of their flesh. And this laxness pervades every portion of their systems. That their brain is not in a healthy tone, but probably partakes of the general flaccidity, is manifested by the dulness and feebleness of their intellects. Their appetites are also defective or unnatural, in common with the functions of the digestive organs generally, an evidence that they are deranged by sympathy. For the systems of such children to attain perfection, or for even a single organ to become perfect in them, is impossible. Their entire character, mental and corporeal, must be enfeebled and deteriorated. To other evils is here also added a want of exercise, which is itself a source of infinite mischief. For children thus shut up are necessarily debarred from sufficient action. When they are compelled to pass the night also in apartments crowded by their number, two or perhaps three of them occupying the same bed, with the doors and windows closed, the evil is greatly increased. The human system is more easily injured by deleterious agents in the atmosphere during the inaction of sleep, than in the hours of wakefulness. Nor is this all. Persons when asleep, adulterate, in a given time, a larger volume of air, than they do when they are awake. During the former condition, therefore, they are more liable to injury on a twofold ground; they are more susceptible of it; and the matter producing it is more abundant in the atmosphere around them.

The remedy for these evils is plain. It consists in large and well ventilated apartments, perfectly clean and not crowded, short periods of confinement in them, and much exercise and free respiration in the open air. Children enjoying these privileges have blood well arterialized, abundant in life, and in high circulation. And every manifesta-

tion in their aspects and deportment demonstrates the fact. Their complexions are ruddy, their flesh firm, their spirits buoyant, their eyes sparkling, their appetites keen, their movements elastic, and their intellects sprightly and vigorous. Such beings may attain, under suitable training, a fine organization, with a high intellectual and moral standing. Theirs may be *mens sana in corpore sano*, the *summum bonum* of human existence. And much of the precious boon is derived from the health and vigour of the lungs and heart.

The pollution of the air produced by exhalation from dead matter, can be avoided only by a choice of situation. It is in vain to look for perfection in man, in marshy and alluvial districts not thoroughly cultivated, or in any districts abounding in vegetable and animal matter in a state of dissolution. This truth rests alike on reason and observation. Proofs of it may be derived abundantly from many portions of Italy, France, Spain, Portugal, and England. The same is true of certain districts of the United States. The inhabitants of those places show clearly, in their whole aspect and character, that man cannot, at present, attain there the perfection of his nature. Nor will he ever be able to do it, until the sources of deleterious exhalation shall have been dried up. All this enjoins the maintenance of strict cleanliness in places where human beings reside. It even raises cleanliness above mere neatness and convenience, and enrols it among the virtues. Whatever ministers to the improvement of man is worthy of such a station.

Under this head I might, without an inadmissible departure from my subject, speak of the muscles, the close alliance of their condition with the perfection of man, and the importance of training them, as a part of education. By their action they minister materially to general health. In a particular manner, they contribute much to the vigorous and thorough circulation of the blood, which is no less essential to human perfection than its arterialization. But, when in free exercise, they assist also to arterialize it, by quickening its motion, and making it pass more frequently through

the lungs in a given time. This increases also the frequency of respiration, which always bears a certain ratio to the pulsations of the heart, strengthens the lungs, and thus in a twofold way promotes sanguification. Hence the fine florid appearance which the blood derives from competent exercise, and the darker hue it receives from inaction. Add to these considerations, that much of the practical efficiency and usefulness of man arises from that personal force and dexterity, which are attained only by the training of the muscles. No one, then, whose muscular system is neglected, receives the education calculated to bestow on him his highest perfection. Nor does any one doubt that the entire advantage derived from bodily exercise consists exclusively in the improvement it produces in organization. These remarks apply to females, as well as to males. The degree of confinement imposed on the former, in the course of their education, enfeebles their constitutions, and renders them, in after life, the mothers of a less robust and vigorous race, than they would be, under an improved scheme of training. That their intellects also suffer from the same cause, cannot be doubted. Whatever impairs the bodily constitution cannot fail to injure the mind.

But the most important organ of the human system remains to be considered. It is the brain, of which it may be said that it makes man what he is, whether for good or evil. If well developed and correspondingly trained, it confers on him knowledge and virtue; and, under circumstances the reverse of these, it entails on him ignorance, and gives him a proneness to vice. According therefore to its native character and cultivation, it is the source of human exaltation or debasement.

I have already spoken of the control of the brain over the condition and destiny of the other parts of the system. And I need scarcely repeat, that it is universal and absolute. Facts familiar to all physiologists prove it so. To the performance of every function and movement of the body cerebral influence is essential. In evidence of this, destroy the connexion between the brain and any other organ or part

of the system, by dividing the nerves, and the action of the separated portion ceases. Are the lungs thus separated? Respiration is suspended. The stomach? Digestion is paralyzed, and the food remains in the viscus unchanged. The liver, or any other gland? Its fluid is no longer secreted. The heart, or any other muscle, voluntary or involuntary? Its action is arrested. And the more powerful and cultivated the brain is, in all its compartments, the more abundantly will it send out its influence, and the more steadily and effectually aid in maintaining the healthy condition of the entire system. It is with the brain, then, as with the lungs, stomach, and heart. Exercise gives it strength and habits of ready and dexterous action, not merely for the purposes of its own economy, but to subserve the economy of the parts with which it is connected. I know that the ganglionic system may be said to lie between the brain and some of the organs here specified, and to be the immediate source of their innervation. But I also know that that system itself depends on the brain for its influence and efficiency. In proof of this, let it be detached, by a division of the nervous cords which form its cerebro-spinal connexions, and its power is destroyed. By inaction the organic condition of the brain suffers, and its energy and adroitness are lessened, as certainly, as a muscle is weakened by the same cause. It is a law of nature, from which no portion of living matter is absolved, that a want of action enfeebles it. The converse is equally true. Appropriate action strengthens every portion of living matter. That the brain, then, may be healthy and vigorous throughout, and be instrumental in imparting a similar condition to the other parts of the system, it should be suitably exercised in each of its organs. Inaction in any one of them, except its native vigour be excessive, is prejudicial to the others. And a brain thoroughly disciplined and active in every portion of it, is more favourable, in its functions, to general health, than one that is disciplined only in part. The healthiest men, and those that attain most frequently an advanced age, have well balanced systems and active

brains. Such, moreover, is the connexion between the cerebral organs, that their health and fitness for action are, to a certain extent, in common to them; and the reverse; the condition of one or more of them being communicated to the others by the laws of sympathy. That the brain, then, may be rendered powerful in all its organs, every one of them should be duly exercised.

It has been already stated that the human brain consists of three compartments, the animal, the moral, and the intellectual; and that to raise the mental character to the highest perfection, each of these must be large, well organized and healthy, and that a correct balance must subsist between them. To a solid and infallible foundation for strength and activity of intellect, sound morality, and energy of character, nothing else is necessary. Skilful training, by turning to the proper account these high gifts of nature, and in that way engrafting improvement on capacity, will finish the work. Were the whole human race thus happily tempered, the condition of man would be as perfect as it could be rendered, and the state of society correspondingly prosperous. Talent and knowledge would prevail and be respected, morality and active virtue would predominate over profligacy and vice, and that every one should be happy in himself and useful to others, would be the ambition and earnest endeavour of all. This would be a millennium, brought into existence by means of education, and in conformity to the constitution of human nature. And let that state of improved being occur when it may, the perfect organization of man, more especially of his brain, will constitute its basis. Let me not be misunderstood in this assertion; in a special manner, let it not be imagined that I intend by it any irreverence toward the christian religion. Far from it. My meaning is, that whatever agency, divine or human, may bring about, in man, the change productive of a millennial condition, that change will consist in an improved organization—an organization *made perfect*—by influence FROM ABOVE, if it be so ordained, and if that be the only source from which such in-

fluence can proceed—or by means of education, perfect in its principles, and suitably administered. To me the latter appears most probable; because it is most in accordance with the grounds of other changes and improvements in the great dispensation, under which we live. It is the amendment of man's earthly condition by his own exertions; and there is no reason to believe that it is amended at present, or intended to be hereafter, in any other way. Nor ought it to be. If, possessing, as he does, the capacity and the means, man will not labour for the improvement of his nature, he is unworthy of it; nor, as I confidently believe, will he ever receive it as a gratuity. But, come the amending power from what quarter it may, men, to be fit members of the millennium, must have the fine organization of John, the beloved disciple, rather than that of Judas, which rendered him no less unsightly than treacherous. If all men signalized by virtue are fully developed in their moral organs now, there is good reason to believe that the same law will be in force, during that more felicitous period, when peace and concord shall every where prevail, and righteousness and piety cover the earth. In the mean time, it will not be denied, that it is our duty, both as moralists and christians, to make, by human means, as near an approach as practicable to millennial perfection. And an approach of great value to our race *can* be made, by a well concerted and well administered scheme of education. Progress in virtue and morality is as much the result of practical and proper training, as dexterous horsemanship, or skill in arms. By suitable measures, the former is as easily and certainly attainable as the latter.

Is any one inclined to propose the question, "Can the organs of the brain be *increased in size*, as well as rendered more adroit and vigorous in action, by any process of training?" I answer, yes, with as much certainty as the muscles of the extremities can be increased in size, provided the process be commenced in childhood. On this principle depends the perfectibility of man; I mean his susceptibility of the highest improvement compatible with the laws

imposed on his nature. Abrogate the principle, and his case is hopeless.

Take two children of the same sex and age, formed and organized as nearly alike as possible. Educate one skilfully, and the other unskilfully; or do not educate the latter at all, and, by the time of their maturity, they will differ in figure, size, organization, and faculties. And each point of difference will prove the power and the advantage of education. Have the lower extremities of the one been exercised by walking, running, and leaping, much more than those of the other? They will be larger and more powerful, and much less easily exhausted by fatigue. Have the hands and arms been the subjects of training? They will surpass the untrained ones in bulk and strength. Has the brain of one of the individuals been exercised more than that of the other? The same will be true of it. Its size, figure, and force will be augmented. Has the animal compartment of one party been highly excited and fed by vicious indulgences, and the moral compartment of the other been equally trained in sentiments leading to practical virtue? Here will be ground for another difference. In the latter, the moral organs will be enlarged, and the animal diminished, at least comparatively; while, in the former, the reverse will occur; the animal compartment will be augmented at the expense of the moral. Cultivate the knowing and reflecting compartment, to the neglect of the other two, and in it will be the increase in size and vigour. Thus, as relates to augmentation and diminution, power and weakness, the brain is governed by the same laws with other portions of organic matter. I do not say that it can be increased in bulk, by exercise, as much as muscles; but it can as certainly.

Another principle of great importance invites our attention. Other things being equal, in proportion to the size of either compartment of the brain, is its proneness to action, and the gratification which that action bestows on the individual. Does the animal compartment preponderate? The taste for animal indulgences is keen, the pleasure derived from them

intense, and the danger of lawless devotion to them great. Does the moral compartment surpass in size? A wish to comply with moral obligation constitutes the ruling passion of the party thus organized, and his chief delight is to do his duty. To him each act of well doing is its own reward. He "follows virtue even for virtue's sake." This he does from *moral instinct*, without the influence of human laws, or any positive divine command. The law he obeys is that of his own constitution. He has a law in himself. The person whose intellectual department predominates, is devoted to inquiry, if not to study. He delights in knowledge, deems it a valuable possession, and devises and practises some mode of attaining it. The kind of knowledge most agreeable to him is determined by the intellectual organs most developed.

As relates to education and the improvement it produces, these views are important and encouraging. They point out a plain and easy process by which the condition of man may be improved. If the moral and intellectual compartments of a child be small, they may be enlarged by training; and, in proportion as they grow, will its taste for knowledge and virtue increase. By maturity in years this taste will be confirmed, and, in organization and its effects, the amended condition of the adult will surpass not a little the promise of the child. By the law of inheritance heretofore referred to, the children of this individual, resembling himself in his mature condition, will be better organized than he was in his childhood. Train them and their descendants as he was trained, and organic improvement will go on in them, until in time, the highest perfection of their nature shall be attained. Extend this treatment to the whole human race, and universal improvement in organization will be the issue. Then will be completed, on grounds that nothing can shake, the triumph of the intellectual and moral over the animal character of man.

Am I asked in what way the moral compartment of the brain is to be cultivated, strengthened, and enlarged? I answer, by all sorts of moral excitement; inculcating moral

precepts, presenting moral examples, eliciting moral sentiments, but more especially by associating with companions strictly moral, and engaging early in the moral practice of doing good. Reading the biographies of men remarkable for high and practical morality, and well written works of moral fiction, contributes materially to the same end. This course, skilfully and inflexibly pursued, will infallibly strengthen and enlarge the moral organs, and confirm those persons subjected to its influence in habits of virtue,

The advantages of the mode of training the brain, to which I have referred, do not consist alone in its improving the taste and capacity of the individual for morality and knowledge. That viscus, as already stated, is improved also in its fitness for superintending generally the functions of the system. Its powers in the aggregate are increased by the judicious and salutary exercise it sustains. No portion of it is suffered to be idle; nor is any one exhausted by excessive labour. Each does its work, to a fair and reasonable extent, and thus, by directly strengthening and benefitting itself, does the same, by sympathy, to the entire organ. But, other things being equal, the more healthy and vigorous the brain is the higher is the health, and the greater the efficiency of the whole system. In a special manner, great advantage, on the score of general health, is derived from the cultivation and strengthening of the moral portion of the brain. The excitement produced on the system by that compartment is comparatively mild, and its influence in a corresponding degree benignant and salutary. When sufficiently powerful it controls the animal compartment, and moderates that vehemence of propensity and storminess of passion, which, like all other excesses, are injurious to health. It is like the cool Etesian winds mitigating the fervours of a southern sky, and restoring health and strength to the exhausted inhabitants. Hence, as a very general rule, those who enjoy the greatest exemption from disease, and attain the most advanced age, are men whose moral deportment is correct. Frequent and boisterous paroxysms of animal feeling are almost

as bad as fits of inebriety. They tend, by their intensity, to debilitate the system, invite sickness, and deteriorate the race. By the mode of training here indicated, then, man is improved in his whole nature.

But may not the brain, by suitable discipline, be amended in another very important point? May not such a happy change be produced in it, as to efface its tendency, when it exists, to hereditary madness? From this question no physiologist will be likely to withhold an affirmative answer. And, although he may be unwilling to speak confidently, because the experiment has never yet been fairly made, he will not deny that all analogy favours the belief. Individually, I verily believe it will be made, and prove successful. A predisposition to madness consists in faulty organization; at least in a condition of the brain destitute of soundness. But the fault has not existed through all generations. It had a beginning; and that beginning was the product of a series of deleterious impressions. Another series of counter-impressions, therefore, may remove the mischief. Changes thus produced, may thus be done away. Of this no reasonable doubt can be entertained. Daily occurrences convince us of its truth. Every thing indeed that bears on it testifies to that effect. No one has ever yet been predisposed to madness in every organ of his brain. The mischief is always local; often, perhaps generally, confined at first to a single organ. Let its seat be ascertained (and the ascertainment is practicable) and proper training will in time remove it. But the process must be commenced in childhood. Should it fail to eradicate entirely the predisposition from the son or daughter of the insane, it will at least weaken it. In his grandchildren it will further weaken it, and in a future generation completely efface it. But to attain the end, the means must be skilfully and steadily applied. Am I asked for a recital of them? I reply, that they must differ in different cases; and time does not permit me to refer to any of them. The enlightened phrenologist will have no difficulty in discovering and employing them. And none but a phrenologist can

have a just conception of the philosophy, prevention, or treatment of madness. Nor ought any other to pretend to them. As well may a tyro, who never witnessed a dissection, or listened to a lecture on anatomy, attempt the most difficult operation in surgery.

But if the brain can be thus changed and amended by education, may not similar benefits be extended, on similar principles, to other organs?—to the lungs and the chylopoetic viscera? Unquestionably they may; and thus may predisposition to pulmonary consumption, gout, dyspepsia, scrofula, and all other maladies transmitted by ancestors, be removed from posterity. The enfeebled organ may be strengthened and placed on a par with the others, and thus the balance of the system be restored. But here again the preventive treatment must begin in childhood, and be steadily persevered in, if not to the close of life, at least to an advanced period in its decline. In a few generations such procedure cannot fail to eradicate the evil. It is believed that, if skillfully and perseveringly applied, the remedy is competent to the end contemplated. Thus may hereditary disease be effaced. The vices, follies, and misfortunes of ancestors will be no longer visited on an amended posterity.

Such are my views, briefly, but, I trust, intelligibly sketched, of the true mode of permanently improving the condition of man. The scheme has in it nothing that is either abstract, visionary, or obscure. Or if it has, I am unable, by the strictest scrutiny, to detect it. It is founded, if I mistake not, on well known laws of the human constitution. Nor is it in any degree impracticable. It requires but resolution, perseverance, and self-control, connected with intelligence in the use of means that are accessible, and the work is done. Its essence consists in this; let man be so reared, that his health may be sound, and so cultivated that his higher powers may have due supremacy over his lower; in other words, that he may be less of an animal, and more of a human being; and his standing will then be as high, and his condition as happy, as his situation and the laws of his being admit.

Does the position, that man, with all his attributes, animal, moral, and intellectual, is the result of organization, seem, on a first view of the subject, to be unfounded? Let it be thoroughly examined, and it will be found to be sustained by every consideration that bears on it, whether it be fact or analogy. Derange the organization in any part of the human system, and the function of the part is also deranged, in direct proportion to the injury received. Is it in a muscle? Its power of motion is lessened or destroyed. A gland? Secretion ceases or is vitiated. The lungs? Respiration is impeded or arrested. The eye? Vision is obscured or extinguished. The brain? The faculty connected with the injured organ is disturbed, suspended, or annihilated. In every case, the læsion of organization is the measure of mischief done to the function or faculty of the part. In other words, according to the perfection or imperfection of organization, is that of the action performed. These are positions which no physiologist will think of controverting. And their language is plain and irresistible. Practically speaking, man, as he is, is the result of organization. To improve his condition, therefore, you must improve that on which it depends.

Shall I be told that this is materialism? I reply, that it is not. I have not denied, nor do I deny the existence of an indestructible and ruling principle, as the spring of action of our organized matter. On the contrary, I acknowledge it, and have always done so. But I repeat that I know nothing of that principle, as a subject of philosophy. Nor does any body else. To speak of it in the abstract, therefore, is to deal in conjecture. Separate it from organized matter, and we can form no conception of its nature or powers. Those who deny this consult their fancy, to the neglect of observation, and the perversion of judgment. An attempt to philosophize on abstract spirituality has been productive of an immensity of error and mischief. It has misdirected the efforts of the human intellect, substituted hypothesis and conjecture for fact and induction, narrowed the sphere of inquiry and retarded the progress of knowledge, and deeply

disturbed the harmony of society. Those who pursue this course, and zealously endeavour to give currency to their notions, are virtually the enemies of human improvement. In the present condition of man, his spiritual principle manifests itself only in its connexion with his organized matter. Nor can any one, consistently with truth deny, that the better the organization is, the more perfectly does the machine work. By improving organization, then, you improve at once the machinery and its performance. Improve it to the highest pitch, and you have done all you can in aid of mind. That principle you cannot alter for better or worse. To be immortal and continue identical, it must be immutable.