

Alcott (Wm. A.)

DR. ALCOTT'S ADDRESS

BEFORE THE

A M E R I C A N

PHYSIOLOGICAL SOCIETY.

AN
ADDRESS

DELIVERED BEFORE THE

AMERICAN
PHYSIOLOGICAL SOCIETY,

MARCH 7, 1837.

✓
BY WM. A. ALCOTT.

Published by direction of the Society.

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ADDRESS.

In addressing the American Physiological Society, at its first regular meeting, and by particular request of the Council of the association, it will probably be expected that I say something in regard to our future conduct and course of action. I trust I am not insensible of the honor done me by this appointment, and with those expectations on the part of the society; and yet I hardly need assure you that I enter upon the task assigned me with no little diffidence.

Our course, at best, is beset with difficulties. Many of us are utter strangers to each other, and strangers to the best modes of conducting the affairs of an association of any kind whatever, especially of one for whose conduct we have no model. For it need not be concealed that ours is the only association of the kind, so far as we know, now in existence in either hemisphere; nor are we aware that any other of the kind has ever been formed. It is indeed strange that it should be so when the importance of the subject which we propose to investigate is so obvious, and so generally conceded. But however strange it may seem, thus it is.

But what are the objects of the American Physiological Society? What are the considerations which should move us, and the hopes which should inspire us? And by what means do we expect to accomplish our purposes?

The objects at which we aim are briefly but plainly stated in the Constitution which we have adopted. They are simply the acquisition and diffusion of physiological knowledge. What this physiological knowledge is, I need not now attempt to tell you; especially as the time allotted to this address would be insufficient to do the subject anything like justice. The task has been repeatedly performed among you, by one who is acknowledged, on all hands, to be a master of the science. I need only observe, that Physiology, or the science of life, in its most extended sense, is a knowledge of ourselves. It treats of the laws which obtain in the various parts or organs which go to make up our physical frame; and of the relations of those organs to each other, and to objects in the external world—air, temperature, light, food, drink, &c. It teaches us, in one word, ourselves; and “know thyself,” as you are well aware, has been deemed from all antiquity, an injunction of wisdom. He who truly knows himself, morally and physically, is a wise man, even though he should seem to know little else; he who knows not himself, though he appear to understand “all knowledge and all mysteries” beside, is yet profoundly ignorant.

It is, however, to be remembered, that he who studies the science of life cannot long remain ignorant of other sciences. All the sciences are indeed

related; and they frequently run into each other; so that in becoming thoroughly acquainted with one, we can scarcely fail to know something of many others. But this is eminently true of physiology. A profound knowledge of this great science would lead, very naturally, to the investigation, more or less profound, of the whole range of natural science. Besides, it is an excellent discipline of the mind in all its faculties. Let us pursue for a few moments this train of thought.

If all, or at least the greater part of our knowledge comes to us through the medium of our senses, and if that knowledge may be modified or affected by the degree of perfection which those senses have acquired, then how exceedingly important must be the study, not only of the organs of sight, hearing, smell, taste and feeling, but of that brain and nervous system with which they are so curiously and at the same time so inseparably connected! If our feelings, nay, our very affections and passions are modified—and who can doubt it?—by the state of the stomach, the lungs, the heart, the liver, the skin, the muscular system, &c., must not the study of these organs or parts be a matter of the highest moment and the deepest interest? And can we pursue the study of the human system, with its laws and relations, without being led to explore, in a greater or less degree, those fields of science on whose fair borders we are continually treading?

Suppose we study the eye. How naturally and how necessarily are we led to look a little at the science of optics in general, and the principles on which the common optical instruments are constructed. We examine the ear. How natural the

transition to the study of the laws of sound, or acoustics. We study the nature of locomotion, and the organs by which locomotion is performed—the bones, muscles, tendons, ligaments, &c. This involves a knowledge of the laws of attraction and gravitation; of the various kinds of levers, and of the pulley. We study the heart. It leads us, almost insensibly, to a more or less perfect acquaintance with other branches of natural philosophy—hydrostatics, hydraulics, and pneumatics—and with the instruments which, in the progress of the arts and sciences, have been constructed to develope or execute some of their laws. We study digestion and respiration. Both lead to an acquaintance, in some small degree at least, with chemistry—mechanical, agricultural and vital. We study human anatomy and physiology as a whole, and it leads to *comparative* anatomy and physiology—to the natural history of man and all other animals—to mineralogy, geology and electricity.

Again: the study of the relations of some of the internal organs—the lungs and the stomach—conducts us, almost imperceptibly, to an intimate knowledge of nature in the departments of agriculture, horticulture and botany; as well as to an acquaintance with domestic and political economy.

In short, physiology is like a key, which might lawfully be applied to unlock the hidden treasures and mysteries of all nature herself; and he who, while he understands it, should not avail himself of its use, would be like the person who, possessing such a key as I have described, should never take the pains to employ it.

A practical knowledge of physiology is of especial importance to the housewife. How can the best processes of cookery be understood or adopted, without an acquaintance with the constitutional laws and relations of the digestive apparatus—the stomach in particular? How can the housewife prepare the best kinds of food, and present them in a manner best calculated to sustain in the highest and most healthy condition, and for the longest possible period, all the powers of life, unless she understands man's true nature and dietetic character? Above all the rest, how can she, without this knowledge, prepare, in the highest perfection, that almost indispensable article of human sustenance, which has been so universally and so justly called the staff of life? Is it too much to say that no person but a wife and a mother *will* ever make the best of bread, and that no person who is ignorant of physiology *can* ever make it in such perfection as she who is acquainted with the principles of this science? Is it too much to say that she who understands not the art of making a good loaf of bread—one which is best adapted to promote human health and longevity—is destitute of an important part of her profession?

I might illustrate the importance of physiological knowledge to the housewife by relating instances in great numbers, where life has been destroyed, outright, by her ignorance. But these cases are not so frequent as those of quite another character. I allude to cases in which life, though prolonged, is rendered scarcely worth possessing.

I have sometimes been ready to say, that if it were the object of modern cookery not only to

destroy, gradually, all true gustatory pleasure, as well as all other physical comfort and happiness, but by rendering men either a pack of dolts or invalids, as unfit for the exercise or enjoyment of high-toned morality, or even piety, as they are for the healthiest and happiest exercise of all the physical functions, a surer course to effect the object could hardly be pursued than that which is now usually taken. Nay, more; I have sometimes, as a believer in the agency of infernal spirits, been all but driven to the conclusion that here, precisely at these avenues, has the arch destroyer of the human race and arch enemy of human felicity taken his post to lure to destruction.

To no class of persons, however, is the science of human life of more importance than to the mother. She cannot stir a step to any great or valuable purpose in life without it. No, not a step. In the present state of what is called civilization or refinement, she cannot judiciously feed, or dress, or carry her infant, without physiology.

The same information is required in the case of a nurse, whether it be the mother or another individual. She, too, is unfit for her task—almost wholly so—without it. The fire, the lights, the temperature and the purity of the air in the nursery, with a thousand other nameless things, ought to be attended to on the principles of true science, and not as matters of mere hap hazard.

How many thousands of our fellow beings have lost their lives, and how many other thousands have been compelled to drag out a most miserable existence, little better than death itself, because the ignorant attendant of a sick bed understood not the

laws of life, and knew not the indispensable necessity of complying with the requisitions of the physician. I have seen this ignorance take on so much of prejudice as to lead to the rejection of one part of the physician's prescriptions, and the adoption of the other. Thus it has happened as if fire and water had both been prescribed, the latter to counteract the former, and yet the water was omitted and the fire administered,—to ravage, rage and destroy.

There is scarcely a mechanic to be named who would not—as such—be greatly benefited by a knowledge of the science of human life, and especially of the structure of the human form. The best boots, in some of our cities, are said to be constructed on anatomical and physiological principles.

The day laborer, no matter how small or unimportant his employment may seem, (I do not say how *mean*, for I cannot bring myself to attach the idea of meanness to any useful employment,) would find, from investigation, that his condition is susceptible of much improvement and a vast increase of happiness, from understanding and yielding an implicit obedience to the laws of life.

I cannot forbear, in passing, to call your attention, for a few moments, to this valuable but neglected class of citizens. Here is a field wide enough, it seems to me, for the display of all the wise benevolence to be found in this portion of the universe; and that, too, for a thousand years to come. To consider the low condition of our common laborers in the streets, on canals and railroads, in ditches and elsewhere, by hundreds, by thousands,

and by tens of thousands, and to consider the state of their families;—to think, moreover, of their prospects, for time and for eternity—and then to think what blessings physiology has in reserve for them, to raise them from their present physical, intellectual and moral debasement, to a state of comparatively angelic excellence and enjoyment—whose heart should not bleed, and whose bosom should not burn? Is it not true, that while society, constituted as it is, and unenlightened as it is, may be said to be training many of this host of immortals for ignominy—peradventure for the gallows, the result of ignominy—there is no reason to be derived from their internal structure why they should not be made good and virtuous citizens? Their children, at the least, might be made so. And what an accession would this be, not only to society in its outward forms, but to the everlasting kingdom of virtue and happiness!

He who knows the nature of the human stomach, and its constitutional relations to the productions of the earth, will find no difficulty in believing that our present system of agriculture and horticulture, though obviously improving in some respects, is yet, as I have already intimated, very far from being what it should be, and what it is destined yet to become. Who, at present, ever thinks of cultivating, manuring and dressing the soil with a reference to the best health of those who may consume its products? Who is even willing to do this? Who—where is the man—who would not refuse to raise a smaller crop which he knew would be more conducive to health and longevity, when he could get more dollars by a larger crop, whose influence

on the public health was more doubtful? And what market can be found which is not supplied, every year, with productions of the earth, which, if not actually poisonous, are yet very far from being of the very best quality?

Hence, in part, the advantage of physiological science to the farmer. Not that it would of necessity make him better, in proportion as it made him wiser; but only that he will never become greatly better without this additional light. Let him be truly enlightened, and let the public sentiment be enlightened at the same time, and then he will not longer dare to disobey or disregard its voice.

The manufacturer, too, and the shop-keeper,—how advantageous to them would a knowledge of this subject be, especially to the former! How much suffering is produced, directly or indirectly, by congregating human beings in factories! The evils, both moral and physical, connected with these factories, have never, to my knowledge, been over-stated, either in the old world or the new. I am still obliged to acknowledge, it does not follow that if physiology were thoroughly understood, it would at once regulate this matter. It cannot be denied that men do not always act up to the light they possess. But yet it is equally undeniable, I must again say, that without light at all, men cannot be expected to make much permanent effort for the amelioration of their own condition, or the improvement of the condition of others.

I may have seemed to admit that merchants or shop-keepers would be less benefited in the discharge of the duties they owe to the community, by a knowledge of the laws of life, than manufactur-

ers. But I mean not thus much. Would grocers and dry goods dealers, and many other shop-keepers continue to sell some articles or wares—as many are now accustomed to do—which are not only very far from being best calculated to promote human health and longevity, but which are, in a few instances, positively destructive of human happiness, under the full blaze of the light of physiology? Would they continue to plead the vulgar but profane maxim, that if they buy “the devil,” they have a right to sell him again? Could they do it, as honest men? Could they do it, above all, as christians? And I say again, *would* they do it?

Of the advantages of physiological science to instructors of every grade, from the teacher of the infant school to the president or provost of the highest college or university, I hardly need to speak. They have been, in part, suggested by what I have said in regard to its importance to mothers. Besides, it is gratifying to learn from the printed regulations of these institutions, that anatomy and physiology are beginning to have a place in their regular course of instruction.

Physicians—the only class formerly supposed to be entitled to a knowledge of what were deemed the secret mysteries of this science—ought above all other men to be thorough physiologists. But is there one in three of this class, who has very much practical knowledge on the subject? Is there one in three of their number who possesses any other than that confused, and superficial, and unavailable sort of knowledge, which a district school-boy usually has of his grammar and geography, after having

recited it word for word to the teacher, without paying much attention to the sense?

Ministers fail, and have long failed to produce on the community all the effect they might, would they—or rather knew they how—to labor as Paul seems to have done, to promote the redemption, the purification, the sanctification of the whole body;—that is, as I understand him, of the whole being, body, soul and spirit. In regard to this duty, however, many of them seem to be awaking; and I am truly glad they are so. They will not only be thus able to do more for the people of their charge, but also for themselves. Like the great missionary to the Gentiles, they will thus be enabled to labor with more success to keep their bodies in subjection; and we should hear of fewer cast-aways.

To the lawyer, the judge, the legislator, and even to the magistrate, from the highest to the lowest degree, physiology sheds a species of light, without which they must, in the discharge of their respective duties, often grope in thick darkness. Among legislators, above all, I am sometimes surprised to find this matter so wholly overlooked. Since, however, it is a well known fact, that a large majority of these men receive nearly all their instruction, either in the family, or the common or district school, what more could be expected of them? And yet can it be that men are justified in framing laws for their fellow men without any reference to the habitation in which they dwell, and to which they are, while amenable to human laws, inseparably connected?

I have spoken briefly of the general advantages which would result to some of the occupations and

professions of men from the light and truth of physiology. Let not the views I have presented be regarded as misplaced. Let it not be said that several of the callings or professions I have named, have no representatives in this association. There is no assemblage of persons like this, from which, in the good providence of God, individuals may not be selected to fill every one of the stations to which I have alluded, even the presidential chair.

But after all, the great work we have to do is for ourselves—independently, in some degree at least, of occupation or profession. Let us be of what age or sex we may, let us be of what employment we may, let us be in what part of the world we may, let us be sick or well, we have bodies; and much of our happiness will depend on their condition. If man is, as has sometimes been affirmed by theologians, the arbiter of his own fate morally—if his spiritual happiness, here and hereafter, is to be proportional to his own moral efforts to obtain it—is it not still more true that our physical well-being is made to depend, under God, in no inconsiderable degree, on our own exertions? Is not man, in this respect, and in a most remarkable degree, the arbiter of his own destiny?

Physiology does not indeed say, that man shall live forever. Nay, she even disclaims any such doctrine. She distinctly announces an end of his present mode of existence. But she nowhere says how long that existence shall continue;—whether one hundred, two hundred or five hundred years. There is, however, no good reason for believing that anything in the human constitution, aside from our abuse of it, would prevent its lasting, in every

instance, to old age. The sins of our progenitors, visited upon us their children, together with our own numberless transgressions, would, indeed, under the most favorable circumstances, cut short very considerably the days of the years of our pilgrimage, so that a constitution which, in its normal state, might, for ought we know, have lasted to five hundred years, will inevitably be worn out at a hundred. But a generation trained under our hands to follow, from the first, the great laws of nature, might be made to last twenty or thirty or fifty years longer, and a subsequent generation fifty years longer still, and so on. As the Creator has wisely ordered that occasional abuses, though great, instead of destroying us in a single generation, shall only produce a gradual deterioration, so, on the other hand, our obedience can only raise us again gradually to our primitive condition.

But were it true that no individual of this association could, by the strictest obedience to the great laws of life, prolong his own existence more than ten or a dozen or twenty years beyond what would otherwise have happened, still even that extension is of the utmost importance. For it is not the *mere* extension for a term of years, of a miserable old age: it is the extension of every part of our remaining existence—of our youth and our middle life, no less then of life's later period. Nay, more; conforming from this time forth to nature's laws, we should not be likely to know much about old age. Like the lamp, which goes out quietly when the oil is spent, and not before, so we should pass quietly on till our vitality was gone, when, like the noble patriarchs of old, we should simply lie down

and expire. The science of human life, faithfully taught and everywhere obeyed, would remove—in no small degree—the common form of death, by violence. For may it not be safely affirmed, that seven eighths, if not ninety-nine hundredths of what we call the agonies of death are, philosophically speaking, nothing less than indications of violence—often, too, of violence from our own hands? I will not call it suicide, but it is next door neighbor to it. The God of nature never created a necessity of such agonies, at the dissolution of soul and body. “Man makes” not only a life, but a death, which “nature never made,” and which, properly or at least philosophically speaking, she never contemplated. Old age should be merely a quiet evening, and death a tranquil sleep, preparatory to a glorious and happy morning. And such, physiology, as the handmaid of religion, would tend to render it.

Let me now suggest some of the means by which we may hope to accomplish our purposes as an association; as well as specify more particularly a few of the evils we wish to remove.

We must resolve to become hard students. No depth of present knowledge or height of attainment, whether acquired in one way or another, will supersede the necessity of further inquiry. It is, indeed, the duty of every human being to be a student, from the cradle to the grave. Life is thus a great school—an infant school, if you please to call it so—and life's scenes the lessons of instruction. I say it is our general duty as the creatures of God, but more especially as the disciples of Christ, or at least as bearing his name—that of christian—to

study hard; but as members of a physiological society, our obligations seem to be, if possible, increased. I care not if the knowledge of each member of this association were as profound as that of the most distinguished citizen of this metropolis. I care not, did I say? I recall the expression. Would to Heaven it were so. Still hard study would be required. I "go the whole" for *science* in everything.

There are, however, other sources of information accessible to us besides books. There are students of the volume of nature, as well as of the written volume. Nature's pages are ever open for our inspection. Every day and every hour, if we are in earnest, may be made to shed light on our path. We are not compelled to descend into the deep to bring up knowledge of this sort, nor ascend into the heavens to bring it down from thence. "It is nigh to thee, even in thy mouth," to use, reverently, the language of holy writ, as applied to another subject. It is in every part of our systems. We may learn much by observing and studying ourselves. We may learn by observing others. We may learn by conversation. We may learn from books, even the most common newspaper or miscellaneous volume. He whose physiological eyes are truly opened, may learn from almost every occurrence and object.

Let me not be understood as objecting to the study of books on physiology. I wish we had more of them, provided they were better than those we now have. But herein is one of the great difficulties with which, as an association, we shall be obliged to contend. I believe there is not to be found in the English language, at least on this side

of the water, a single physiological treatise—I mean one which is complete—that is well adapted to popular use; to the wants, for example, of this association. What, then, is to be done? In the absence of those books which are better, we shall simply be obliged to use such as are already within our reach. We prefer the use of tools of an inferior quality and character to none at all.

Mr. George Combe's *Constitution of Man*, rejecting, if you choose, what he says upon phrenology, is, in my view, the best work among us for adults to begin with. But Dr. Combe's physiology is comparatively an inferior work; nor are the compendiums of Hayward, Smith and Comstock, in my view, much better. The last mentioned is perhaps the best. The more scientific and more correct works of Drs. Dunglison and Oliver are rather better, but require a wider range in general science, and more time for profound research, than some among us appear to possess. It is but justice to express the opinion, in passing, that some of our children might be initiated into the science of physiology, and our own labors with them in the family somewhat lightened, by the little work called the "*House I live in*."

Here suffer me to remark, that there is probably no way in which you will make so much progress in this science, or indeed in any other, as in teaching it to your children, if you have any; if not, to your brothers, or sisters, or wives, or husbands. "*Teaching we give, and giving we retain*." And there are few of you, I suspect, who cannot find time—at least half an hour a day—for reading with and instructing others. It is surprising to

observe with how much eagerness children, and indeed persons of every description, drink down physiological knowledge. Let us avail ourselves of this fact in our daily lives.

A popular work on physiology, divested of technicalities, brought down to common apprehension, and rendered sufficiently practical, is at present a desideratum; and perhaps it ought to be one of the first objects of this association, to authorise, or at least to encourage the preparation of such a work. No book would be more useful; few, it is believed, more acceptable.

But whether we have the right books or not, one thing is certain; namely, that we must study. We have committed ourselves to the world as a physiological society. We have done this with our eyes open, and in Boston.

We must become acquainted with each other. This, indeed, is the first step. Such a result we may hope to accomplish, at least in some measure, by our monthly meetings. But these meetings are, for this purpose, insufficient. We must seek an acquaintance by other means. Let not this suggestion be overlooked. Many a noble association has failed, and many more have had their usefulness greatly lessened, by the mutual ignorance and consequent want of sympathy of the members.

We shall next need a library. Such books as are to be found, well calculated to enlighten us on subjects connected with physiology, health and disease, should be carefully sought out on both sides of the Atlantic, and collected together and made accessible to every member of the association. Next to becoming acquainted with each other, I

regard this as the most important measure we can take. Certain portions of those works, embracing new facts, or suggestions, or principles, might be read and commented upon at our monthly meetings, at least in the absence of more important or interesting business.

Whether or not we need a periodical just now I am uncertain. Of one thing, however, I am sure, which is, that if the society progresses, as it ought to do, a period cannot be very far distant when it will possess ample and useful materials for filling at least a monthly, perhaps a weekly paper, with just such information, if well selected and judiciously presented, as the popular feeling no less than the public good most imperiously demands.

Having become acquainted with each other, and thoroughly imbued with the spirit of physiological inquiry, and having secured a good library for the use of the society, we must not be backward to communicate the knowledge we possess or may be able to acquire. There is not a member of the association, old or young, male or female, who may not, in this way, do something, or communicate some fact, either verbally or in writing, which will both interest and instruct the association. Let every one, then, consider this as a part of his duty. Facts, whether elicited by his own experience or by that of others, which have a manifest bearing on the subject, will always be useful, and should not only be treasured up by the members of the association, but preserved.

In all our efforts, both to acquire and diffuse knowledge, we should be governed by a desire to *know the truth*. Truth, pure or perfect truth, in

any pursuit, should be the standard. Not that we shall be able to attain it, in every science; but the higher our aim, in everything, the more we shall be likely to accomplish; and by the contrary rule, in proportion to the lowness of our aim will our progress be slow and embarrassed.

We should also *love* the truth. No matter where we find it, whether in our own family, or neighborhood, or party, or sect, or country; no matter whether in this book, or that, or the other; no matter whether it be uttered by this or that learned lecturer, or by a plain unlettered man; no matter whether it stands out on this or that page of the great book of nature. No matter, I say, about any or all these circumstances, provided it have the certain stamp of truth. For if it be truth, that is sufficient. Truth is a diamond. Who would not prize a precious jewel, even though he should find it on a dunghill?

We should not only seek to know and love truth of every kind, especially physiological truth, but the truth should make us free. It should bring us into complete liberty, physical and moral. We say much and hear much said of the slavery of two or three millions of people in these United States. And much that is said on this subject is well said. I have surveyed, to a very considerable extent, the practical enormity of this great national evil. I have not received my information at second hand; my own eyes have witnessed it. Yet I have witnessed other forms of slavery among us, whose effects are to me still more shocking; forms of slavery, too, in whose horrors twelve or fifteen, instead of two or three millions of my countrymen

are involved. I allude of course to the slavery of bad physical habits; the slavery of a being made originally in the image of God, but now very generally subjected to his appetites, lusts and passions. In this view, I feel justified in saying that some of the worst forms of slavery with which I am acquainted exist around us in our own goodly New England, as well as elsewhere; yes, in the proud city of Boston itself.

I have barely alluded to the existence of an intellectual and moral slavery among the rest; and to that freedom to which physiological truth invites us. Half the error in the world, even in theory, results, directly and indirectly, from the use of various forms of animal excitement, which the God of nature never designed for us. I think it would be easy to sustain this position by well known and well attested facts. My present limits, however, do not permit it.

The late excellent and philanthropic Dr. Keagy, of Philadelphia, once made the following remark—"Three fourths of the vice that entails wretchedness on the human family, is, if I may use the expression, physiological vice; that is, vice consisting in the depraved indulgence of the *three appetites*, or in the moral feelings brought immediately into action by their means. I know scores of pious persons, who, for the want of physiological knowledge, cannot be the perfect men and women they desire to be."

This statement is one of great importance, and it comes from good authority. Dr. Keagy was none of your visionaries. He was a plain, practical, common-sense lover of God and man. But is it

true, then, that three fourths of the vice among us is physiological vice? If so, at what a disadvantage have our moral and intellectual teachers labored, who have so long endeavored to reform men without teaching them physiology, and even without understanding it themselves! If so, too, what an amazing work remains for us and for others to do! Will there longer remain a question in the mind of any individual, whether or not physiological societies are necessary?

We must labor, as a society, to free the community from superstition. It is a curious historical fact that Eliot, the Indian apostle, about two hundred years ago, endeavored to teach anatomy and physiology to the Indian tribes of this very region, as a means of freeing them from a blind and superstitious obedience to their powaws or sorcerers, who held them in awe, and almost or quite in adoration, by their pretensions to the art of curing diseases, foretelling events, &c. Eliot actually attempted the work of instruction himself; and when he found he was unable to do everything alone, he sought with long and patient effort to procure aid, both in lecturers and funds, not only at home but in England; and only gave up the project when he was actually compelled to do so, by the iron hand of necessity.

This is a striking lesson to us. For the lapse of two centuries has not diminished the necessity of liberating people from a blind and unreasonable superstition. We, too, have our powaws. At least, we have our quacks—our *cure-alls*, by some nostrum or other—at every corner; and the multitude are deluded by their vain and arrogant pretensions.

Is it then too much to say, that by the mass of mankind, they are adored or worshipped? Is it not strictly true that we bow down to them? Yes, many millions of our race—quite into the dust.

Our object is to prevent evil in the world, rather than attempt to do much in the way of cure. Prevention is our motto. We would be the humble disciples, in one respect, at least, of him who came down from heaven, not to destroy men, but to save them. There are associations enough in the world, already, whose objects, or at least whose results, are to spread destruction; but there are comparatively few whose objects and whose results are to promote human enjoyment and happiness.

We would save men by preventing a flood of intemperance from sweeping over the earth, as it constantly does. We are not willing that nearly a million of our race should die in these United States every thirty years, from the direct effects of intemperance in the use of spirituous and fermented liquors. Nor are we willing that the expense which it involves, in time and money, to say nothing of the suffering and wo, should be incurred. The amount of \$100,000,000 a year wasted in the use of alcoholic drinks, besides \$10,000,000 for coffee and tea, is in thirty years, no less than \$3,300,000,000. I have confidence in the intentions of Temperance Societies. They certainly have done something to arrest the ravages of the destroying angel; but I fear they have done nearly all they can do, till physiology comes to their aid, and shows them, and through them, the community, the why and the wherefore, in this matter. The advocates for temperance have trusted, for the most part, thus

far, in appeals to the feelings of the people, and in statements of facts. They have done very little to show them the causes which lead to intemperate habits, and the consequent means of preventing them. Their efforts have been confined to the work of correction, rather than to the still greater work of prevention.

Nor are we willing that gluttony should continue to swell the flood of human wo, as heretofore. It is believed that as much time and as many persons have been murdered, directly or indirectly, at least in these United States, during the last thirty years, by excess or abuse in eating, as by error in regard to drinking. It is believed that abuses in eating stupify and benumb the soul even more than the usual abuses in drinking; and that if they wear out the powers of life and destroy vitality more slowly, they do it not less surely. But I have no expectation of removing the evil of gluttony from among us, till people cease to swallow all sorts of improper excitants—condiments, gravies, flesh meats, &c. I have little hope of a people who continue to destroy, by these means, as probably the people of the United States do, every thirty years, at least another million of the race, and waste in medicine, medical aid and loss of time, at least another \$3,000,000,000.

Nor are we willing that licentiousness, the companion of drunkenness and gluttony, should continue its ravages, and not only sweep from the earth every year its millions, besides rendering the lives of other millions miserable while they last, but cause a waste of time and money—even in one little United States—which it would be difficult for me to estimate.

We shudder also to see thousands, yes, tens of thousands of our young and middle-aged people, cut off yearly by diseases which are either caused or aggravated by errors in dress. We believe that a knowledge of anatomy and physiology, widely disseminated, would gradually do something to put a stop to this horrid evil. If indeed it should not prevent those whose habits are already formed from destroying themselves, might it not lead them to train properly the rising generation? And might not consumption, and lung fever, and colds, and a thousand ills which flesh is heir to—flesh in our stomachs at least—be thus gradually removed?

In short, is there—can there be any way devised which shall prevent mankind from destroying themselves and others, “before the time,” by abuses of body or mind, in one form or another, except by spreading abroad, far and wide, the science of human life? Is there—can there be any other effectual way of preventing not only those pains and sufferings which are everywhere found among us, but those unnatural and violent deaths?

These considerations suggest to my mind—and I leave it for your consideration—whether this association should not appoint a committee at each annual meeting, whose duty it should be to trace out the causes of the diseases which exist around them, where it could be done without giving offence to the sufferer. One perhaps would trace out the causes of consumption, in some individuals dying from that disease. Another might ascertain what sort of a life a certain apoplectic individual has led. Another might trace out the causes which led to the death of some factory or school girl, and so on.

If such labors could be faithfully performed and honestly reported, and especially by men acquainted with medicine as well as physiology, they would do much for the cause of suffering, bleeding, dying humanity.

I have not taken into particular consideration the expense or rather loss of happiness which ensues—short of actual disease—from errors in regard to food, drink, exercise, dress, &c. It is, of course, difficult to come at a point like this; but is it not well known that one of the worst features of all sorts of physical error, especially intemperance, is its stupifying tendency—the moral insensibility, loss of nervous energy, destitution of cheerfulness, moral courage, &c.? There is a point, very far short of actual disease, at which we may, in these respects, suffer much. He who is given to low or improper indulgence, in any form, is gratifying his appetite with husks, instead of the wholesome, substantial things of a father's house. The truly temperate man does not merely *enjoy*, but he enjoys in a high degree—a degree of which the slave to indulgence has no adequate conception. The mere gustatory pleasures which we secure in living according to the simple laws of nature, are as far beyond the enjoyments of the person who is addicted to gluttony or intemperance, as an animal existence is superior to a merely vegetable life; or to use a strong comparison, as heaven is higher than hell. But to these should be added the increased intellectual and moral enjoyment which follows in the train of temperance. Who has tasted this without sighing for the emancipation of his fellow men? Think, for a moment, of the high

capabilities of our race—designed, no doubt, would they obey all the laws of God, organic and revealed, to stand near his throne, even this side the grave, and yet by their disobedience, through successive generations, thrust down to a place in the scale of existence which some brutes need not envy. What a tremendous loss is here !

In aiming to save rather than to destroy men's lives, we must study peace. Not indeed in every respect; for I trust that every member of this association does in some respects meditate a war eternal. Against bad habits, especially in ourselves, I trust we have already taken up arms, never to lay them down—no, never, never. But all our principles are otherwise pacific. Carried out, they would supersede the necessity of all peace societies, technically so called. "From whence come wars and fightings among you? Come they not hence, even of your lusts that war in your members?" (James iv. 1.) The apostle was right. He understood this matter. Wars would soon be banished from the earth, were men not only theoretically but practically obedient to the laws of life.

But the kind of peace which we chiefly meditate, as preliminary to such happy results, and indicated by the apostle himself, is peace in our own members. Alas, what wars and fightings exist here, in this little confederacy of the human body! How we daily disturb, by our dietetic and other errors, the harmony of each province of this domain, and kindle a civil war in each separate state, and destroy also the peace, and happiness, and safety of the whole confederacy. Oh when shall we learn so to eat, drink, breathe, bathe, sleep, exercise,

think, speak and act, as shall conduce to the highest happiness, not only of each of the provinces or states to which I refer, but of the whole union? Let us, however, as members of the first society of the kind, aim at nothing short of this; and may the God of universal peace second our exertions!

I have elsewhere quoted the opinion of Dr. Keagy, that three fourths of the vice which exists among us, is physiological vice. Now there is one form of physiological vice which is spreading far and wide in our community; and which threatens to become a foe to human happiness still more deadly in proportion as society becomes more refined, and people more and more effeminate. One motive to urge forward the members of this society, should be the hope of diffusing among parents, masters, guardians and teachers, everywhere, that knowledge which will alone enable them to meet the terrible danger which threatens their offspring; and against whose inroads not a family or school is wholly secure. There may be those among you who will think I exaggerate when I say this; but I have abundant reason for believing that the whole truth has not yet been told. I have proof positive that this species of depravity has reached our common schools, and that unless something is speedily done, it will undermine everything dear and valuable in human character among us. As individuals, then, and as a society, if we can, let us lift our voices and exert our influence to stem this tide of death. Let us, if possible, save the purity of the rising generation; but this, we may rely upon it, can only be done by the diffusion of sound physiological knowledge.

One important aim of societies like our own should be, to effect a reform in medical practice. I regret to say so, especially as I am liable to be misunderstood. I entertain no sentiments of hostility towards medical men, as such, nor towards the medical profession. But I tell you, as I do not hesitate to tell them, that there ought to be a radical reform of their profession.

At the present time, physicians are paid in exact proportion to the amount of disease, real or supposed, which exists in the community. The greater the amount of disease, the greater is the demand for physicians, and the greater the expense to the community for their support. This, I say, is the general truth. And the consequences are obvious. Measures for the prevention of disease, and the promotion of health and longevity, will be so directly in opposition to their pecuniary interests, that though there may be and are many individuals among them anxious for reform, yet, as a body, it cannot be expected they will make any strong efforts for this purpose. Why should they? What motive have they to do so? No expectations of this sort on our part would be encouraged by any known facts in the history of mankind. When and where has any profession of men reformed itself?

I might here add a curious fact in relation to the demand for and employment of physicians, as society is now constituted. Not only is it for the interest of medical men that disease should be increased, and thus an increase of expense incurred, but it is also true that, to a certain extent, the more physicians we have in the community, the more

expense we actually have. Not that many medical men, young or old, are so hardened or so hungry as to cause or prolong disease by design. Such a charge is, by some, often preferred against them; but I regard it as unjust. Yet who has not often witnessed an increase of medical business in a community, in proportion to the increase in the number of physicians? What individual of this assembly, whose opportunities for observation have not been exceedingly limited, will not be ready to attest the truth of this suggestion?

Let me illustrate, more fully, my meaning. Suppose a country town of 2000 inhabitants. Suppose it contains two physicians, whose practice affords, and has long afforded them a comfortable support, but no more. Let a third physician, especially a busy young man, attempt to establish himself in the place, and what will be the result? Will he not often succeed, and that too without a corresponding increase of population or of disease; and also without any decrease of the business of the other physicians? But if so, how is it effected?

The case is something as follows. People are everywhere predisposed to trust to external efforts, rather than nature, for the cure of disease; in other words, they are everywhere disposed to favor quackery. When a young physician plants himself down in a neighborhood, he usually goes abroad daily, more or less, among the people. These, almost universally, have some ailment or other, or at least imagine they have, about which they are very apt to consult him. Did they not see him abroad, the disease might perhaps be trusted to nature. The story has been told over to

the old physicians till they are tired of it. But the presence of a new, sprightly, young physician reminds them of their troubles; and forthwith they apply to him. And thus it is that, in fact, he may be said to *create* business. In short, the more physicians there are in a community, the more there is of disease, real or imaginary, or both, and the more of "doctoring" and "doctors' bills," as well as loss of health and happiness, and perhaps of life. The contrary, also, is true, that, to a certain extent, the less the number of physicians in a community, the less there is of disease, expense, loss of time, &c.

We should not overlook, here, the loss of life in employing, too early, the young physician. Pres. Lindsley, of the College at Nashville, Tennessee, says it may be safely calculated that, as things are in society, every young physician, who succeeds in getting a good run of business, destroys from twelve to twenty lives in accomplishing his purpose. Why should not young physicians first serve a sort of apprenticeship, under the care of some old and experienced practitioner?

Two things necessary to be secured in the progress of a medical reform are the following:—1. To render the compensation of physicians, surgeons, &c. in just proportion, always, to health, and not to the loss of it. Something not unlike this is said to be done already in China, and a few other countries of the East. But we have examples of the same sort of wisdom still nearer home. The southern planters often employ as skilful a physician as they can to attend their families—especially their slaves—at a fixed salary. Whether the salary be little

or much, it will of course be for the attending physician's interest to earn it as easily as possible. He will, therefore, be furnished not only with a motive for curing those already sick, in the safest and best manner, but also for preventing the recurrence of disease in the same individuals, or the occurrence of it in others.

This effort at prevention is the other important thing to which I referred, as requiring a reformation in medical practice. How much better would it be to pay the physician and the dentist for such advice and aid as would prevent the disorder or decay of our organs, than to lose days and weeks, and months and years of time—to say nothing of the pain and suffering—and pay larger bills besides? The advantage of making more use of the advice and aid of skilful physicians in our families, in the way of prevention rather than cure, when contrasted with our usual injudicious, short-sighted fashion in this matter, would, at the very first view, strike us with surprise, were it not for the tyranny of long established and strongly confirmed habits. If this use, moreover, were to be made of medical men, it would gradually compel them to a more practical acquaintance with the laws of health and life.

How much we can do directly, as an association, in furtherance of a measure of this kind, is uncertain; but *indirectly*, that is, in the carrying out of our plans and purposes, we may probably accomplish a great deal. It is, however, as individuals, and by the force of individual example, as it seems to me, that we shall be able to do most, at least for the present. Let us not hesitate to seek the coun-

sel of the wisest and best medical men we can find, in regard to the future course of ourselves and our families. Let us seek their assistance in determining how far the physiological errors of ourselves and those who preceded us, have deranged our constitutions, and broken in upon the harmony originally intended by the Creator. Let us consult them especially in regard to the appropriate physical management of the younger members of our families. We are not, in these cases, to turn our own experience out of doors, when it appears to conflict, on any point, with the opinion or advice of the physician; nor should we hastily reject the latter. The one may serve to correct the other.

Let us be decided. How much is lost to every good cause for want of decision of character. We but half do our business in this world, especially in associations, because we seem but half convinced of their importance; and because we lack energy and true decision of character. We want not a little of the spirit of Luther, when cited to appear before the diet of Worms. Having made up his mind that it was his duty to go, he was not to be dissuaded from his purpose, though beset with men or devils thick as the tiles on the houses.

If there be a quality or trait in human character in especial demand at the present crisis, it is moral courage. The world is on the eve of a great revolution—the probable results of which are, to some classes and characters of men, but too well known and dreaded. Of course it cannot be expected they will yield, even to an overwhelming force, without a struggle. Did I say we were on the *eve* of a revolution? We are even now in its very midst.

The conflict is already going on ; battles are hourly fought. They are the battles of the great day of the Lord Almighty. Can the issue then be doubtful ? And will any one in this association be found wanting, at a day like this, in moral courage ?

One of the great points now at issue is the right of free discussion—the right of inculcating verbally and by the press, whatever lessons and doctrines we please, provided we do it in a quiet, and peaceable, and citizen-like manner. Shall it be said of republican America, in the sixty-first year of her independence, that we are at this moment fighting for liberty of speech and of the press ? And yet is it not true ?

Fellow citizens and members of this association ; no fears ! The battle may rage sometime longer, and individuals among us may even be called to make sacrifices, not only of property but of reputation. But I say again—let us entertain no fears for the final result.

It is desirable, however, that as a society, we labor to make our objects understood. This is due to the public and to ourselves. These, when once fairly known, cannot fail to commend themselves to the wise and good of every community. I wish it might, therefore, be felt by every member of the association, to be an indispensable and imperious duty to inform those who may wish to know, that we are a society for acquiring and promoting physiological knowledge among ourselves, as a first step, before we hope to be able to communicate it to others.

Lastly, let us resolve to persevere. We have begun a good work ; let us determine to pursue it, and with a strong arm. We have seen that there

is enough for us to do; and though we may not be able to do everything, we are certainly able to do much. And what we *can* do, we *ought* to do. The world is suffering chiefly because men will not do what they know they ought to do. Let us therefore, as the first American Physiological Society, remember the injunction once inculcated on a certain class in another nation—England expects every man to do his duty. We may, indeed, in our own case, slightly change the injunction, and say—“Physiology expects every one of her disciples to do his duty.”

But I have done. Not that the subject is exhausted—but the time; and I fear, your patience. The subject itself is almost as boundless as the universe we inhabit. It is at least as illimitable as human want and human wo. May it be the good fortune of this association, aided by hundreds—perhaps thousands—of auxiliaries, to do something which shall, under divine guidance, contract these limits; something to check the mighty flood of human turpitude—something to restore the divine image to our erring and suffering race. Then when that summons shall arrive, which even physiology cannot always avert, may the formation of this association for the promotion of the study of physiological science, be among the happiest recollections of our departing moments. May it add one smile to our fading, dying countenances; and may the results of our efforts—feeble as they may have been—impart one ray of hope, in a dying hour, for the millions left behind.

