HOW TO KEEP A HOUSEHOLD IN HEALTH.

AN ADDRESS

DELIVERED BEFORE THE WORKING WOMAN'S COLLEGE.

BY DR. ELIZABETH BLACKWELL.

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HOW TO KEEP A HOUSEHOLD IN HEALTH.

I have accepted Mrs. Malleson's invitation to meet you to-night with unusual pleasure; for holding work, as I do, in especial honour, having worked hard all my life, having lived for many years in a country where the chief magistrate may feel an honest pride in having been a "hewer of wood," my sympathies are necessarily very closely bound to the working classes. But, equally with the strength, efficiency, and power of work, I honour the refinement of culture; that invisible essence that doubles the strength, directs the efficiency, and makes human the power of work. All this true culture does; it changes sight into insight, and converts the animal into the man. This culture is compatible with every kind of work. Nothing is more painful to the philanthropist than the coarse rude manners and selfish disregard of the rights of others so often found in workpeople, because it seems to establish a connection, which is not essential, between position and human refinement. One of the most courteous gentlemen I have ever known, was a black coachman of Charleston, South Carolina; from the family he was attached to, he had drawn, into his own loyal nature, the social culture that so distinguished him.

I honour, then, this institution as a centre of culture for the workers, and feel proud to be allowed to contribute my mite. I was asked to give this lecture, on
account of the frequent prevalence of epidemics of contagious disease in the poorer parts of London.

What I am going to say to-night will have a direct bearing on the prevention of the ravages of that terrible scourge, scarlet fever. It is, perhaps, not generally known that "there is scarcely a year but that scarlet fever slays some 20,000 persons in England alone." During the epidemic that lately raged in this neighbourhood, the deaths during four weeks, amounted to more than 200 a week, i.e. at a rate of above 100,000 persons a year, dying of this dangerous disease.

That such a fearful mortality is not necessarily connected with the disease is shown by many statistics, and by the practice of many physicians. I, myself, have practised for sixteen years as a family physician, and have seen a generation of little ones grow up under my care, passing through all the usual childish diseases. I have never lost a case of scarlet fever. I have been fortunate in never having had, or of averting, any case of malignant disease (for under unfavourable conditions the simple form may become malignant). My children have always recovered as perfectly from scarlet fever as from measles.

Now, the conditions under which the human being is placed when disease attacks him, are of immense importance, and it is to these conditions that I want particularly to call your attention. I will divide my subject, therefore, into two parts. One, "How to prevent the spread of infectious disease." Another, "How to recover speedily and perfectly if attacked."
This latter division we will consider first, because it involves the great subject of health, and "how to keep a household in health?" for it is quite certain that when two persons are attacked with the same form of disease, he who is in the best health, and under the most favourable conditions for preserving health, will recover the most rapidly and the most completely from that disease.

It is sad to see how that precious boon of physical health is thoughtlessly squandered by most people. Physical health is the first greatest good which is granted to us, for it is the condition of mental health. This world is so constituted that the spiritual and material elements must work in harmony together, or discord and evil will result. The battle between body and soul may wage fiercely, but they will slay one another in the end. Thus you will see the literary man losing his sound judgment, and his hopes of humanity, when chronic indigestion has injured the working of his physical functions. You see the bright young woman over-burdened with child-bearing, grow peevish, fretful, impatient of daily duties; you see the strong man, injured by gin, grow brutal and cruel, lose his self-respect, and become the father of miserable offspring. Thus, physical and mental health, working together, are the source of all other good; the foundation of social progress, and national prosperity.

The possession of health equalises far more than is generally supposed the conditions of rich and poor. The health of the working classes is far better than that of the idle classes; it is more substantial, the enjoyment of life is keener; the simpler habits, greater freedom, and en-
growing occupation, prevent that miserable fragility of the nervous system, which produces so large a class of hopeless invalids amongst non-workers, or causes that utter weariness of life which checks all generous enthusiasm, and leaves nothing worth the doing. (Of course I do not refer to that stratum of hopeless misery which is the disgrace and despair of a Christian country.)

Now every one is born with a tendency to live; the whole structure of the young being, with its juicy semi-solid tissues, and very active circulation, is moulded on the idea of growth and gradual consolidation, so that infants have a greater proportionate vitality than any other class. This very susceptibility, however, under faulty conditions, proves the destruction of infants, for they die at the rate of 50 per cent. in the worst parts of our towns. After a certain age this excessive susceptibility diminishes, and a great power of endurance takes its place. The strong tendency to live shows itself in a wonderful faculty of resisting unfavourable conditions, and adapting the functions to injurious influences. The struggle to resist death is immense during the plenitude of early vigour.

This tenacity of youthful life hides from us the gradual undermining of health, which is surely, inevitably, taking place when the body has to struggle against destructive agencies. The same causes that kill the infant, convert the adult into an invalid, and cause premature death.

There is no escaping from natural laws. They are around us, unseen, but always steadily working on, ac-
cording to their fixed plan. Each function of the human body has its law, its requirement, and if that requirement is not fulfilled, it gradually breaks down. And remember, that from a break-down of function there is no recovery.

If we realize then, that health is of primary importance, and can only be secured by obedience to law, it becomes necessary to show you how these laws may be obeyed, and what conditions every function requires. But the subject is so large that I have great difficulty in limiting it to one evening. I can only give you an outline of it, noting certain salient points that I wish particularly to impress upon you. I hope that you may become so firmly convinced of the importance of health as the foundation of all other good things, that you will make it one of your most useful studies.

I will arrange what I have to say in relation to health under three heads, for the sake of clearness. These are—First, What relates to a good constitution. Second, What we mean by favourable conditions of life. Third, The observation of functions and tendencies to disease. The thing of first importance then to be secured as a foundation of health, is—

First—A good constitution. The human being must start aright. Now, if any of those present are so unfortunate as to have begun life with a feeble or imperfect constitution, they will realize all the more fully the importance of this first condition of health. For though a feeble constitution may be immensely strengthened (and I shall give you some rules for doing this), it can never be wholly remedied. As most of you probably look
forward to becoming yourselves heads of households, you should understand the importance of marrying rightly. Understand that it is a cruelty and a crime to bring sickly children into the world.

Now I do not consider, as it is so often stated, that the great object of marriage is to produce children; marriage has higher humanitarian objects; but children are a precious privilege of marriage, and their welfare and happiness should always be religiously considered, before forming this lasting union. Observe, then, under the head of what will secure a good constitution, physical suitability, and sincere affection in marriage. By physical suitability, I mean more than that the partners should be of suitable age, with no great disparity of age, not blood relations, and of fair average health. All forms of chronic disease, are so many disqualifications for marriage, and particularly injurious are any scrofulous or consumptive tendencies, or any danger of insanity. Two persons, both possessing one of these diseased tendencies, should be forbidden by law to intermarry, for the offspring are certain to be either idiots, cripples, or defective in organization. Should any person possess even a slight tendency to either of these diseases, she should choose as a partner a person of completely opposite tendencies, as in this way evil consequences may be averted.

I have said that sincere affection is an important element in transmitting a good constitution. There should be not only physical, but mental attraction; a basis of friendship should always exist in marriages, similarity of tastes, and pleasant companionship. The illusions
of the senses, soon pass away, but the association remains for life; and more evils than I have time to tell you of arise in marriage unions both to parents and children, for lack of this mental attraction on which too much stress cannot be laid.

Do not, therefore, marry hastily and blindly. A lonely life may be hard to bear, but the miseries of an unsuitable marriage are far worse; they are not confined to the individual, but involve many others in their evil consequences.

Another important point for parents to observe, in securing good constitutions to their children, is not to burden the household (of which the mother is the centre) with more children than it can bear. The waste of human strength and life, from neglect of this wise rule is fearful.

I once kept a record of sanitary visiting which my assistant did amongst the poor, and such entries as these formed the majority of the cases—1. Mary Murphy, five children, three sickly, two dead; 2. Kate Jones, seven children, three feeble, one a cripple, three dead; 3. Ellen Smith, three miscarriages, three children all dead; and so on through this terrible record of wasted life, and broken-down women.

Now, this subject is largely under the control of established physiological laws, which should be known to parents; and the wife's health and happiness should be considered of paramount importance.

Two other points only I shall lay down under this head of a good constitution, viz., sobriety and morality.
The children of a drunkard, or of a person who wastes his strength in vicious indulgencies, are always defective in stamina. The weak points may not be visible in infancy—and thus, cause and effect is not always traced by parents—but as the child grows, the fatal inheritance is sure to make itself felt in some form of physical or mental weakness.

Thus, as the essential foundations of a sound constitution for children, you will place suitable marriage, a regulated family, sober habits, and moral life. Under these conditions, children are a true blessing, and will be a crown of glory to the old age of their parents.

Having provided, then, for a good constitution, the next things to be secured in keeping a household in health, are the favourable conditions of life. These refer chiefly to air, food, cleanliness, exercise, habitations, and cheerfulness.

A long list, you will see, of most important subjects, on each of which a course of lectures might profitably be given. I think, however, that I may give you the main principle of each subject; with which, if you will bear it well in mind, you will read all the more profitably some of the excellent little treatises which are written on the various topics.

Let us take, then, the subject of air, for without an ample supply of fresh air, your lungs will become diseased, and your blood poor and watery. The great essential principle to be remembered in relation to air, is change. Stagnant air means death—rapid death if it be completely stagnant; disease and slower death if
it be only rather stagnant. The reason is, that our bodies are rapidly and constantly throwing off substances which serve as food to plants, but as poison to animals; and if the air around you is stagnant, you are surrounded by poison, and are sure to feel the effects of it. This is true all the time, by night as well as by day. Some persons think that if they open the windows for an hour and so "well air the room," as they say, that their duty is done in respect to air; and that at any rate, they may shut up everything tight at night. But not so, change is always necessary, and you must always provide apertures, through which the miles of fresh air, that are constantly pressing down upon the earth, may have a chance to get in.

Bear in mind, also, that you cannot ventilate a room which is too small for a person; a room that has less than 300 cubic feet of space cannot be ventilated; and with only 300 feet, it is very difficult to secure good air; 600 cubic feet is a much safer, though still small, allowance; and I advise you all to measure your sleeping rooms, and see if you have that allowance for each person. Multiply together the length, breadth, and height of your room, divide the sum so obtained by the number of persons occupying the room, and you will have the amount of air space that each one possesses.

With an allowance of 600 cubic feet, or any number of feet, you must still take care to secure change of air, and if you have no other aperture, open the window half an inch at top and bottom, and pin up a curtain over it; this will secure you change of air, without drafts.
In relation to food, the two chief principles to observe are nourishment and variety.

All parts of the body are made out of blood, and the blood is made out of food. But all kinds of food will not make good blood. There are various parts, or elements, in food, and the same elements are not found in every kind of food. Some kinds of food nourish particularly the muscles, and all other parts that enable us to employ mechanical force; other kinds, by their changes in the body, increase its heat, and make the appropriation of food easier; others especially feed the bones, or the nerves, or favour the healthy growth of those first minute particles called cells, out of which the body is built, so they are all needed because they perform different kinds of work in the production of good blood. Thus, rice alone, will only support life for a very short time, but cook it with milk, and it will nourish for a much longer period; bread contains more elements than rice, but it is deficient in one important principle, which we supply by adding butter. Meat contains still more nourishment, and for this reason good soup will afford more strength to the body than tea and bread and butter.

Variety of diet is also a matter of much importance, for it is found that no one can long remain in health on one or two articles of food. Meat and milk (which may be considered liquid meat) contain all the elements necessary to support life, and in the best proportions, but neither the child nor the adult can live long in health upon this food alone.

This subject of food in relation to age, occupation,
sickness, &c., is of very great importance, and I would advise you all to read an excellent book on food, written by Dr. Letheby.

On the use of water for purposes of personal cleanliness, I shall only give you one piece of advice. It is this, rub the body from head to foot, once a day with a damp towel, and never sleep in any article of dress that you have worn during the day. I know how expensive a luxury personal cleanliness is to the poor. The free use of baths, and clean linen, and fresh clothes are impossible to them. At the same time the proper action of that great breathing surface, we call the skin, is as essential to health as the action of the lungs. If you coat the skin over with impenetrable varnish, you die, just as certainly, though not as rapidly, as if you stop up the mouth and nose. The skin assists all the other functions in their various labours, and is often of very great service to some weak organ. Yet it is the portion of the body we most commonly disregard. Enveloped from birth in wrappings and ligatures, deprived of light and air, the skin in cold latitudes never attains its full power. Observe therefore the simple rule I have given you, many persons are not strong enough to plunge into cold water, but all, even the youngest and weakest, may use the damp towel, followed by dry friction, and the five minutes a day thus spent will be regained, with interest, in increased vigour.

I wish I had time to tell you more of the uses and varieties of exercise.

The muscles (by means of which all kinds of move-
ments are carried on) constitute the great bulk of the body. There are many hundreds of these red muscles, of all sizes, some a foot or two in length and two or three inches thick, others almost invisible; they are full of blood, full of electricity, and their action or inaction produces a powerful effect on the health.

Now, the principle you must remember in relation to exercise is—the moderate use of all the muscles, alternate action and rest. The nervous force of the body is very intimately related to its muscular force; these two forces antagonise or balance one another. The brain and spinal marrow are the seat of the nervous power, as the muscles are of the muscular power. Now, the muscles draw off and use up an immense amount of nervous force.

If you do a large amount of brain work, you cannot take a very large amount of exercise at the same time, and on the other hand if you use your muscles excessively, you cannot at the same time think long and clearly. If you attempt to do both in large amount, you exhaust the body.

Equally great evils may arise from the excessive action or inaction of either of these important portions of the economy. Those who work the brain excessively, and thus draw off too much force from the muscles and organs, are generally martyrs to indigestion, or injure their mental powers; and where the brain is not employed, but the muscles are left inactive, as in those who are shut up in the house, with no objects of especial interest, such persons become frail, hysterical, full of
ailments, and morbid in mind and feeling; this is as true of the seamstress and milliner as of the idle young lady; whilst those whose muscles are overtaxed, become stupid, listless, and stunted in growth.

Bear in mind another fact, viz., that you may overwork one set of muscles, and yet lack complete and proper exercise; the young child who carries a heavy baby about, will become round shouldered and have her spine bent, from the overtaxing of one arm and shoulder; those who write much, find one arm grown larger than the other; the lower limbs may be largely developed from much standing, whilst the chest is narrow and the arms feeble. It is therefore very important to bring those muscles into play, that are not habitually exercised. It would greatly assist those who are engaged in sedentary pursuits, if they would interrupt their labours every two hours for a few minutes, change their position, bring some other muscles into play, and five minutes given night and morning to dumb-bell exercises, and some of those excellent movements, known as light or parlour gymnastics, would save many a day wasted by ill-health.

The next condition of life that I notice is, the habitation that the individual of the family occupies. Attention is generally confined to cheapness and convenience, in selecting the abode of working people. But there are other things of immediate importance to health that should be most carefully considered (and that are entirely compatible with economy), these are perfect sewerage, light, and dryness.
I cannot too much impress upon you the immense importance of good drainage. Sickness (such as fever, diarrhoea, general debility) always arises if refuse matter of all kinds is not rapidly carried away with an abundant flow of clean water down the drain pipes, and if the pipes are not well trapped. By a trap we generally mean a curve, something like the letter S, given to the pipe that carries waste water into the sewers, in which curve, water stands, so that if after throwing away dirty water, you then pour down clean water, this clean water remains in the curve, preventing, for a certain length of time, the return of injurious gases from the sewer, and their escape into the house. You cannot always detect these noxious gases by the smell, and no young woman should take a room in any house where the waste pipes are not trapped, or where there is not an abundant supply of fresh water, or where there is any accumulation of filth in the cellar or yard; for no matter how carefully she may try to ventilate her room by an open window, the impure air of the house will constantly enter in and slowly poison her.

Much sickness arises, even in large and handsome houses, from neglect of drainage.

The more light you can have in your house the better. Light plays an important part in the healthy formation of the body. It contains many substances: light, heat, electricity, and many mineral elements, are all contained in a sunbeam. Without light, the various tissues of the body are imperfectly formed, and the organs composed of these tissues are not strong enough for their
proper uses. A southern aspect is the best for a dwelling, a northern the worst, and an attic, which lifts you out of the shadows of the houses, is better than a ground floor.

Alway select, if you can, a house which has a well- aired cellar under its whole extent. I am very sorry to say that I fear, from my observation of London, that this you can seldom obtain, and I am constantly surprised that in a damp climate like ours, this necessity should be overlooked. What should be the cellar, with a good drain underneath, and ventilation from end to end, is now generally converted into kitchens, where thousands of servant girls pass their lives; the mistress of the house (if she think of the health of her servants at all) being under the mistaken notion, that the kitchen fire obviates the evils of an underground residence.

Rheumatism and scrofula produced by this cause, break down the health of multitudes of most valuable women in the prime of life.

I have set down cheerfulness as the last condition of health on which I shall touch. And I assure you that this moral sunshine, that we call cheerfulness, has a most important influence on the physical health.

The influence of the mind on the body is a fact of universal and daily experience. Solitary eating will impair digestion; emotion will produce diarrhoea, or check the healthy action of many functions; many a nursing mother has killed her infant by anger and passion. A pleasant, cheerful temper, an equable, kindly disposition, have a direct positive influence in securing
the harmonious working of this wonderful physical mechanism we call the body, and in promoting the health as well as comfort of all around. And bear in mind that a cheerful temper can be cultivated, and even the most grumpy Englishman may become a blessing instead of a curse to his wife and children, if he will resolutely fight that demon—grumbling and fault-finding!

I have thus referred as fully as I am now able to, to two of those means by which we secure health, viz., a good constitution, and favourable conditions of life. I will now notice the third means, viz., knowledge and observation of function. I can only touch in the same brief way on the development of the functions of the body, their tendencies to disease, and the choice of occupation.

It should be known to every one, that there are precious opportunities granted to the body, when an originally weak constitution may be especially strengthened, or some morbid tendency averted. There are periods when the organization rouses up to unusual activity, becomes more keenly susceptible to surrounding influences, and change for good or bad takes place with great rapidity.

To a certain extent, the law of periodicity is impressed on all the organs; action and rest, with the varying states implied in action and rest, belong to all. There is a correspondence between them and the varying conditions of the earth on which we live; and individuals are strongly affected by that mysterious electrical force, which, like the ocean, has its daily rising and falling of the tide, its double maximum and minimum of intensity
in every twenty-four hours. But this is not what I now refer to.

It is to the gradual growth of the body, and those changes that make up its complete life. They are six in number, viz., the change from infancy to childhood, from childhood to youth and adult life, thence, through elderly life to old age. Each of these six phases—infancy, childhood, youth, manhood, pause, and decline—is a distinct physical and mental state, with peculiar objects to be accomplished, with a peculiar action going on in all the organs, and requiring special modifications of the conditions of life.

Two of these phases, viz., dentition and puberty are of peculiar value. The most important of all is the latter, that period when the child changes into the man or woman.

It is at this epoch, above all others, that tendencies to any special form of disease are either averted or strengthened. Thus, any scrofulous taint will be likely at this time to pass into chronic weakness of the lungs, or into consumption, or into a confirmed state of bad nutrition of the body; any tendency to nervous trouble may pass into epilepsy, or hysteria, or more gradually into insanity; and any tendency to bilious trouble, may be confirmed into indigestion, piles, chronic diarrhea, &c.

Now, the activity, mobility, and fulness of life which the body possesses at this age, constitute a most valuable opportunity which will never occur again, for almost reforming the constitution of the child, and giving the youth a fresh start in life. Every parent, therefore, who
loves her children should endeavour most anxiously to guard them from physical and social evils, which are so peculiarly disastrous at this age. They should be well-fed, with plenty of plain nourishing food, they can bear privation in food much better in adult life; the regular action of the bowels should be carefully secured, not by medicine, but by suitable food and exercise. The strength should not be over-taxed by labour or nursing the sick; plenty of sleep should be allowed, and as much out-of-door life as possible should be provided. The activities of the body must be used in the rapid growth of the body itself.

To the girl and to the boy the mother's duty at this age of rapid change is somewhat different, owing to the peculiar influence of society upon each. The girl requires out-door life and interest in external objects: the boy peculiarly needs mental and moral guardianship.

I hold it to be the imperative duty of every parent, and particularly of the mother, whether rich or poor, to make herself the intelligent guardian of her children's health, at this critical age. To respect and understand the new life that is being created in them, to make herself their trusted counsellor. She is bound to understand the physical and moral evils to which they are exposed, and to strengthen them to avert or resist these evils.

Most emphatically is it the duty of a mother to watch wisely over her son; and I can assert for the encouragement of mothers, that the most ennobling and restraining influence that can be brought to bear upon a young
man, is that of a mother who is also a wise friend to her son.

Under our third head, then, we note the observation of the different functions of the body; particularly at those epochs of rapid growth when tendencies to disease may be averted. I have only one more hint to give under this head. It refers to the choice of occupation. The kind of work that anyone chooses should be, if possible, not only in accordance with the taste, but with the individual constitution. A woman with inactive functions should not choose a very sedentary life; no hysterical or nervous person should take charge of children; no one with consumptive tendencies should be shut up in impure air, or obliged to inhale dust or fumes of any kind. I know how difficult it often is to choose your work, how circumstances often compel the adoption of uncongenial or unsuitable occupation; but, nevertheless, the health should always be borne in mind in this important matter. And if these all-important conditions of life cannot be secured by anyone, there is one resource which I would most strongly recommend, it is emigration. In the young untrammelled life of a new country, there is always room and welcome for every willing worker. When I see here the overcrowded condition of every honest labour, when I see refined women without enough bread to eat, children pining in dirt and gloom, and every kind of deprivation; and strong men, listless and hopeless, unable to bring up their families on their scanty wages; when I was shocked inexpressibly this summer to see that horrible
disease prevailing (that I have never known in America), Famine Fever, it seemed to me that the greatest want of the country is a large active system of emigration that shall help away half the working people of England to those newer countries where they are so much needed. And above all, women, should emigrate in large numbers, so as to reduce that enormous superabundance of female population, that depresses their industry and degrades their sex. I think the greatest good that working women can now do to their country, is to leave it.

I have now finished that important part of my topic which refers to securing and maintaining health. Each point I have touched on, in so condensed a matter, is of immense importance to you. You cannot secure health or life without attending to it. And bear in mind that it is quite as much a duty to strive for health, as to continue to live. The religious common sense of the world condemns suicide—neglect of health, is suicide. Let me, before leaving this part of my subject, give to you, what are called "The Seven Rules of Health;" most of them date back, quite to the olden time, before this great country of ours was either known or heard of, so you will understand the authority with which they come down to us, the weight of this universal experience. Here they are, these golden rules of the ages!

THE SEVEN RULES OF HEALTH. (Hoffman).

(1.) Avoid excess in everything: it is the enemy of the organisation.
(2.) Do not break off an old habit abruptly, for habit is second nature.
(3.) Keep a contented heart, and calm mind.
(4.) Breathe pure air habitually, and live in a temperate climate.
(5.) Use simple articles of food, suited to the constitution.
(6.) Maintain constantly a right proportion between the quantity of food daily consumed, and the amount of bodily exercise taken.
(7.) Shun drugs and doctors!

I will now say a few words on the second part of our subject, viz., "How to prevent the spread of infectious disease."

In the first place, there is no medicine that serves as a preventive to scarlet fever, or any other contagious disease. We must depend for safety on those hygienic measures that I have already adverted to. Amongst these, in the foremost rank, stand the four following—Fresh air, dry soil, absence of dirt, and pure drinking water. When you can secure these, you possess the best preservatives from infectious disease.

When a person has taken the disease, the same preservatives, carried to their utmost extent, are necessary to render the attack of disease a light one, and to prevent its spreading. Everything which passes from the sick person has a property of infection in it, but in scarlet fever this is particularly the case, with what comes from the throat and nose (infecting the breath), and from the skin. The bran-like flakes or powder from the skin will preserve the principle of contagion for a very long time. These two facts furnish the clue to the
successful nursing of scarlet fever cases. Everything that neutralises the poisonous breath, and prevents the diffusion of particles from the skin, is eminently useful.

I think I cannot do better than refer you to the rules laid down by Dr. Ballard, a Medical Officer of Health. This paper is published by the Vestry of St. Mary, Islington, and I advise each one present to procure a copy, and always keep it by her.

In conclusion let me add, that I hope you will draw from what I have said, one distinct conviction, viz., that health, which is necessary to happiness, to usefulness, and to every kind of advancement, will not take care of itself. The arrangements of society are highly artificial, often false and injurious. The influences of nature, when not understood, may be dangerous and destructive. We cannot therefore escape the obligation that is laid upon us, as intelligent and responsible beings, to study this subject, to learn what health requires, and resolutely meet those requirements.

Hygiene, therefore, or the science of health, should be the fundamental study of this college, pursued by every member of it. Other studies may be optional, but this one, not; for it is the alphabet of all other knowledge, and without it you will pursue every other study at a disadvantage; and you can never acquire clear, strong minds, without the strong and willing physical organisation in which those minds may grow.