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# HYDROPATHY

FOR HOME USE.







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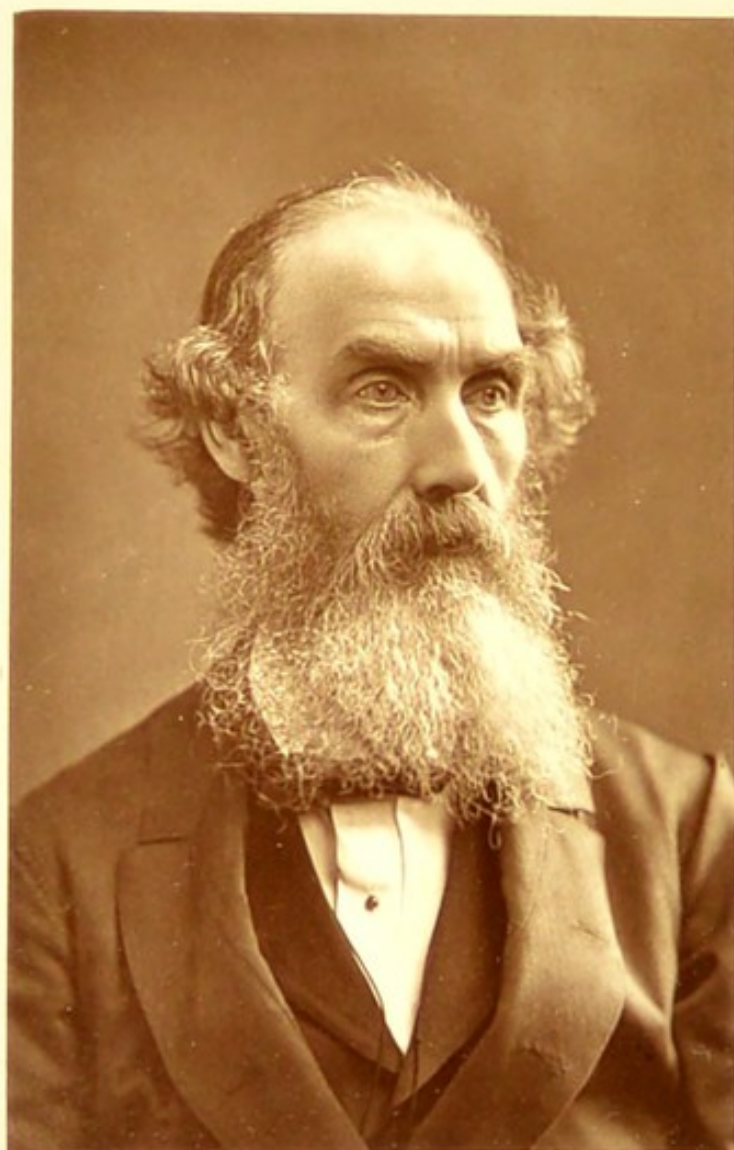












HYDROPATHY:  
ITS PRINCIPLES AND PRACTICE.

FOR HOME USE.

CHIEFLY INTENDED FOR MOTHERS AND FAMILIES.

BY  
ARCHIBALD HUNTER,  
BRIDGE OF ALLAN HYDROPATHIC ESTABLISHMENT.  
(Formerly of Gilmorehill, Glasgow.)

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## P R E F A C E .

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My chief object in the publication of this book is, in some measure, to assist in the work of introducing Hydropathy, or Water Treatment, into families—or, in other words, to afford information to mothers and nurses, so that, in due time, they may become real “Family Physicians.”

I have endeavoured to exhibit the existence of unexceptionable and inflexible laws, surrounding us on every side, embracing the physical, mental, and moral universe; and that these laws are knowable, being written in and on our constitutions, in sensation and consciousness—intimating the reward of obedience, in health of body and soundness of mind; and punishment, in ill health, disease, and discomfort, following disobedience.

Causes and complications of disease are often obscure and remote. But teachers, both on health and morals—parents especially—should be qualified to instruct their children; and generation after generation should advance in knowledge and obedience, and consequent



health and happiness. Social life in cities and countries should be only the extension of the Family order of creation, embracing a wider circle, as we are all children of the same loving and beneficent Father, who has designed all things well, and entrusted their continuation and extension into the hand of man, his vicegerent.

But, keeping to our particular object—HEALTH in the HOUSEHOLD—we know that slight ailments are of frequent occurrence, and believe that the simple domestic aids which Hydropathy furnishes are the proper remedies, without the necessity of resorting to drugs. Warmth (particularly in the feet), cleanliness, pure air, proper diet (at proper times and in proper quantities), out-door exercise, &c., are essentials in MAINTAINING health.

It will be observed that I attach great weight and importance to watching symptoms indicated by states of the head and feet, with means for cooling the head and warming the feet; also to the value of sweatings to meet many phases of disease, as warmth and perspiration, in some form or another, are embodied in almost all modes of cure or restoration to health. I have pointed out many means of attaining these ends, available in every household.

The Summary of Contents, following the pages consecutively, will facilitate reference to special subjects, in addition to the Index.

It is satisfactory to find that the growing intelligence of the age has largely influenced all professions, and we



find the most popular and successful physicians proposing the simplest drug remedies in practice, dwelling earnestly on some cogent hygienic rule to give effect to the medicine.

I have had many illustrations of this efficient practice from patients who have consulted eminent physicians. One lady, long afflicted with weak digestion, called, in company with a member of her family, on a popular M.D. in London. He listened patiently to her detail of stomachic ailments, including flatulence, &c., &c. He then emphatically said, "Well, madam, the best thing you can do is to eat slowly and chew well," repeating his advice a second time. The lady took this as prefatory, waited, and made some remark expressing a desire for further advice, when the doctor repeated his former remark, "Be sure to eat slowly and chew your food well." Finding this to be the summary of the recipe for cure, she asked what was the fee. "Two guineas, ma'm." Exit, under great disappointment that she had no Latin prescription to show to the family doctor and friends at home. But the outcome of the advice was afterwards admitted to be well worth the money, as, when any member of the family saw mamma eating in a hurry, she was soon reminded of the advice "to eat slowly and chew well."

A gentleman, also, who called on Sir William G——, after detailing his particular weak points—dwelling on constipation as being aggravated in his case—was gravely



told to take a seidlitz powder every morning. I am ignorant of the outcome of this case; only I know that the gentleman was disappointed.

A famed physician of the last century, in Dublin, attained great reputation for his wonderful cures. His phials of unknown specifics were accompanied with many minute directions, strongly expressed; and after receiving his fee, and when bowing his patients out, he remarked, "Now, observe that you will require to walk, after taking the medicine, to so and so, or so many miles, daily to give it due effect." This peculiar advice by and bye led to remark, and analysis of his medicine, which was found to consist chiefly of coloured water, with the addition of a little simple medicine. Taking advantage of the known indolent habits of his patients, he adopted this plan of drawing on the services of Dr. Air and Dr. Exercise to effect a cure.

Dr. Abernethy, in his noted outspoken, unfashionable advices, such as, "Live on sixpence a-day, and earn it," clearly shows the necessity of sufficient exercise for the maintenance of health. It is recorded of him that one day, being annoyed by the tiresome details of the ailments of a duchess, he simply replied, "Well, madam, you must either eat less, or work more, or be sick," and walked out of the room, leaving her alone, so as to give due effect to his prescription.

One of our most eminent Glasgow professors addressed his students lately somewhat to this effect—"Gentlemen,



we have only lately discovered the great value of the natural agencies, air, exercise, and water."

The same authority extols the benefits of the wet sheet pack, and his students discuss the merits of Hydropathy and Homeopathy with all freedom.

Society will profit more and more by the medical authorities embodying the various processes and applications of water treatment in an improved edition of the Pharmacopeia for family and hospital practice. The difficulties are now much less than formerly, as so many families have seen more or less of Hydropathy in some institution, and are familiar with the simpler processes.

The home circle is the best field for testing the value of Hydropathy, as ailments, slight at first, are of frequent occurrence, and the mother or nurse, after a few lessons, and observing the efficacy of a tepid wash, head bathing, wet bandage, or fomentation, speedily applies the remedy, and prevents disease, or mitigates its violence and shortens its duration.

Water has been the medium of cure in all ages; and although many examples narrated in Scripture were miraculous, still the material was water, as in Naaman's case, when told to dip or wash himself seven times in Jordan. The cures, also, at the Pool of Siloam were by bathing. Maintaining cleanliness alone will often prevent disease.

An expressive illustration of prevention, so as to dispense with a cure, was given by George Stephenson

the eminent engineer. Seeing an old fellow-worker in London, he saluted him with, "Hillo, Tom, what has brought you to London?" His answer was, "Why, I feel very unwell, and have come to have some blood drawn." Stephenson's advice was apropos to his profession, "Nonsense, Tom; go away home; draw your fires, don't blow off steam."

### LEARN AND OBEY.



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THE HISTORY OF THE  
CITY OF BOSTON  
FROM THE FIRST SETTLEMENT  
TO THE PRESENT TIME  
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# HYDROPATHY:

## ITS PRINCIPLES AND PRACTICE.

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HYDROPATHY, as the term is now understood, conveys an imperfect idea of a system, which, as now practised, embodies all the natural influences and agencies in their relationship to life, health, and comfort. Water, in its varied conditions from ice to steam, is the chief agent in Hydropathy, as drugs are of the allopathic school. We consider that, as illness or loss of health is so frequently and readily caused by the excess or deficiency of heat, especially in connection with water or moisture, Providence would supply mankind with some simple and efficient remedies, which we could readily procure and make use of, without the necessity of exploring far distant countries and deep-seated mines in the bowels of the earth, or resorting to the complicated chemical processes which so many famed medicines are subjected to before being available for the cure of disease.

A large class of diseases, connected with the digestive organs, are controllable by the natural laws conjoined with water, as it is the grand solvent and digester, forming, as it does, about three-fourths of the whole substance of the body. With observation of, and obedience to, the laws of health,—with temperance and regularity, we are able to cure many



diseases, and restore functional power to one and all of the digestive organs, without the aid or absorption of drugs. In reference to internal irritation and inflammation, water applications, warm and cold, or alternately, locally applied, while the general circulation is kept active in withdrawing local congestion, are able to give relief speedily, without injury to the skin by bleeding or blisters.

We claim that Hydropathy, in its wonderfully varied powers, is worthy of investigation by the physician, so as to enable him to carry out his own benevolent intentions.

Hydropathy, as a system, was first brought to bear on all the diversified forms of disease, with an amount of success which astonished the world, by a German peasant. Since that time, some forty years ago, many medical gentlemen, eminent in skill and position, have given the utmost attention to the system, and demonstrated the soundness of its principles and established them on their scientific basis. Varied forms of bathing and applications of water, as in compresses, poultices, and bandages, even to the extent of a full sheet pack, are now in general use. These were largely used by the German physicians in the Franco-German war, both in continued fevers and symptomatic fevers from wounds and erysipelas.

COOLING PROCESSES, by gentle abstraction of morbid heat, properly regulated with due attention to all the vital processes, are invaluable when the temperature and pulsation are too high, indicative of destructive action in one class of diseases; and, on the other hand, GIVING heat with moisture, also under proper conditions and by simple processes, to the other great class of diseases, where the pulsation is low.

Baths and wet cloths are capable of being modified to every condition, on the one hand to cool, and, on the other hand, to warm, by means of water in sitting, foot, or full baths, and sweating by vapour or Turkish baths. All these processes can be adapted to every case of disease, thus assisting nature



(which is all that medical science can promise) to throw off or out morbid material, and by supplying new substances, by appropriate food and drink, to restore blood, tissues, and strength—that is, HEALTH. Such means and influences, employed with due care, will bring thousands through a large majority of the common ailments which humanity is subject to, without the danger resulting from the use of poisonous drugs, irritants and depletion, as by purgation, lancet, or blisters.

Medicines in general throw the strain of action on the internal organs and nerves, stimulating them to expel morbid matter or perform some function, while Hydropathy acts chiefly on the skin and external organs. In this difference of action—relieving the internal organs through the increased action of the skin—its superiority as a system is evident. For we know it to be easier and much safer by means of warmth and moisture to stimulate the exhalations and emanations, even to perspiration, and to wash and rub the skin freely and frequently, than to act on the delicate internal organs by drugs, which so frequently, after compelling some organ to increased action, remain themselves in the body, with more injurious effects than the disease they were intended to remove. With the living vital principle within us, to act and react, we can, by means of water and air at various temperatures, produce stimulant, tonic, alterative, sedative, derivative, and any other influence which drugs are used for, confident that while one special object is aimed at, none of the other conditions and functions of life and health will be injured.

The removal of, or recovery from, disease and ill-health by means of Hydropathy illustrates and applies that wonderful and beneficent law of life, by which every living being or animal is continually, when in vigorous health, emanating or throwing out and off heat and waste, or effete material. But when nature, or the vital power, is weak—it may be from



chill or from overstrain of mental or physical labour, or by improper food or simple excess—these waste or morbid materials, being retained, become impure, and soon form seeds of active disease of a quality peculiar to the organ. Liebig, the ingenious chemist, informed his students that a vigorous man, attentive to his habits in eating, drinking, and other activities of life, had but little need for either bowel or kidney action, these forming only extra or supplementary organs; thus impressing on his pupils that life, through the volatile emanations of the skin and lungs, should be sufficiently powerful to exhale *all* the waste or consumed material of the body, analogous to a clear burning fire of good coal, without smoke or residuum of ashes.

The first stage of almost all disease has, as its conditions, over action, and then congestion of the particular organ. Increased circulation accompanying action into any organ or part of the body or brain, without a corresponding outlet by the venous circulation, soon results in congestion of the minute blood vessels. With this condition there is an increase of heat. The vessels become relaxed and distended, losing their contractile power. Swelling and pressure soon follow, and both blood and tissue sooner or later become diseased or impure, as continuous circulation is essential in maintaining the healthy or living qualities of all the fluids. An excess of heat, and perhaps pain also and swelling, direct attention to the part affected. We find that water, suitably applied, affords a natural and powerful remedy for the altered conditions. With moisture, heat is liberated—volatilised or evaporated—or is absorbed into the simple water or wet cloths applied to the parts affected. With judgment to guide us in regard to general conditions, such as age, duration of symptoms, &c., and in regard to temperature, number, continuance, and frequency of applications, &c., we can give relief, and, most likely, cure.

Another and opposite condition, however, frequently exists



in connection with many forms of disease, sometimes following the other, when, instead of over-action, there is defective vital action, caused by exhaustion from chill, want of food or drink, or excessive labour, or resulting from old age or feebleness. Low or feeble pulsation and want of heat, particularly in the feet and other extremities, are symptoms of such states. We are then more liable to disease, either by retention of some one or more of the natural secretions, or by the absorption of infection or impurity from an external source through the skin or lungs, or by impure food or drink through the stomach.

With depressed or feeble powers, we must *give* a supply of heat with moisture, properly applied, to restore healthy conditions and functions; while with excess, we have to *abstract*, cool, and lower over-activity—in each case endeavouring to attain and maintain the healthy standard. The conducting power or affinity of water for heat is one of the grand principles or secrets of nature adapted and utilised in Hydropathy. Quick breathing and perspiration are processes whereby nature throws off excess of heat when under any strain. As the majority of diseases are in their origin traceable to neglect or violation of one or more of the laws and conditions of life and health, it is of the utmost importance that these laws be learned and obeyed. The laws which govern the universe are imperative and inflexible in all their departments, and man's first duty is to learn those which affect life, health, and comfort, and in obedience seek safety and happiness. Obey and live. "The soul that sinneth (must die) it shall die." The wicked man (even physically) will not live the half of his *proper* days or length of life.

We require warmth, pure air, light, and water. These God gives us without stint, or the materials requisite for their maintenance. We also require houses or shelter, clothing and food. The materials of these we find on the earth in abundance. But the possession and adaptation of them for use



requires labour in proportion to our necessities. Thus in warm countries nature is highly productive, and man requires but little labour; while in colder climates, greater efforts are required. But with these come more enjoyment and higher attainments, as we see on comparing different regions of the earth. Thus we find that labour and active habits are beneficial to man. Man, in his mechanism, embodies power, and all his talents and functions require constant use for their maintenance in full vigour. Activity is a delight, especially in youth and mature age. Races of mankind and individuals who have had to bear the yoke in their youth are, in general, the strongest. The inhabitants of the north are more hardy than those of the south; and continuous invasions or out-pourings have taken place from the northern into the southern regions, such as those of the Goths and Vandals, from time immemorial to the present day.

The physical or animal life must form the basis of man's higher life. The body is the house in which the mental and spiritual dwell; and our first duty is to establish and strengthen the tabernacle of the soul as much as is possible, so that the spirit may embody and work out its highest aspirations and attainments. Perfection should be our object, both of body and soul, matter and mind.

The earth has been abundantly supplied with raw materials for our physical requirements—stone, wood, coal, metals, along with an infinite variety of plants, and animals. But none of these are available or useful to us without labour. By the division of labour we escape in some measure the personal duty of manual labour, while others perform more than is beneficial for health and life, wearing out the constitution prematurely. But the conviction is forced upon us, nevertheless, that some measure of labour or active exertion is essential in every case, both for the purpose of developing and strengthening the constitution, and also to give relish and enjoyment of



home and food, rest and sleep. A few hours daily of physical labour should be sufficient, leaving energy and ability for observation, reflection, and cultivation of the mental and spiritual; for we are convinced that there are infinite realms open to us for mental advancement, and untold happiness to be enjoyed in the attainment of love and wisdom; just as in the material universe there is infinity in space, and eternity in time, past and to come. While recognising the inflexibility of the laws of labour or exercise in regard to health, we see also a danger in excess. Thus a large proportion of mankind, both in civilized and barbarous countries, from the physical or social conditions in which they are placed, must over-tax their powers and faculties in the daily struggle for existence, and hence they are but little superior in mentality to the animal creation. Excess of bodily labour is certain to exhaust and deaden the intellect.

The essentials of health may be summarised as consisting in, first, sufficient warmth—this depending on food, on clothing, and on activity; second, pure air in sufficient quantities; third, food and drink as required; fourth, due exercise, cleanliness, and sleep. The necessity of labour might be added as a fifth, as the first command before forbidding labour on the seventh day is imperative; thus, "Six days shalt thou labour and do all thy work," and this before we can enjoy the rest of the Sabbath.

Children should early be taught the principles of health, and, we may also add, of comfort and happiness, as depending on health. Were the daily teachings of life's lessons pointed out to them—as they learned by experience that fire burns and is painful—that food, if unsuitable or taken in excess, will cause sickness or colic, or some one or other of the endless forms of suffering which follow the violation of physical law—children would soon learn to avoid habits which so frequently result in disease and early death. Similar lessons could also be taught



regarding the effects of heat, and cold, and damp, and other matters affecting health.

When we know what is right, we may become happy in the doing of it ; as the only limit to our attainment lies in the use and appreciation of what we already possess, especially in its multiplication for the good of others. The more we give, the more we get. God, the All Good, is supremely happy in pouring forth His blessings upon all ; and, like the glorious sun his representative, He gives rain and sunshine alike on the evil and on the good, to the just and the unjust. Our own happiness or misery, too, results from the use we make of our talents, for which we are all responsible. The grand principles through which the universe is governed are the same in the physical, mental, and moral, or spiritual. Get, that you may have the power to give. "Give, and it shall be given to you, good measure, pressed down, shaken together, and running over." "With what measure ye mete, it shall be measured to you again."

The severities, storms, and tempests of life, whether in the physical or mental world, are all needful to maintain health and vigour in the human race. Thus the more oppressed and hard wrought the Jews were in Egypt and the Negroes in America, the more they grew and multiplied. But with freedom and luxury they sinned and fell and became weak. When mankind learn these laws and obey them, individually and nationally, there will be little of sin, suffering, or sorrow compared with what now exists. God keeps mankind poor, sick, and unhappy, because they will not learn of Him ; or rather they bring these evils on themselves by abusing the blessings He gives to all. We receive as much power over ourselves and the lower creation around us as we are able or qualified to make use of. Man becomes a God in so far as he acts from godlike principles and qualities, and happiness is the fruit of godliness. But man can only conquer and govern the world



outside and around him in proportion to his self-subjugation and government of himself; for he is first born into the love and gratification of his natural and sensuous nature, and that must be overcome and elevated before the higher pursuits, possessions, and powers are given to him. So true is it that our possessions, and powers, and happiness are only limited by our capacity to receive, to use, and to enjoy.

Disease has long been considered as some mysterious, deadly enemy, always watching for an opportunity to injure and destroy mankind. But science and careful observation have revealed to us that, in many cases and forms of disease, man's own neglect and wilful disobedience of the laws of health, which are easily understood, have been the chief cause of the greater number of diseases that have prematurely decimated the human race. We have no doubt that, in the course of another generation, with peace among the ruling nations, many other forms of disease will also be understood as to their causes, so as to be entirely removed—stamped out—not by destruction or death, but by prevention and cure.

No dispensation by authority of priest, doctor, or lawyer will save us from the consequences of disobedience to, or neglect of, any one of God's laws, all of which are written with his own finger on our constitutions—body, mind, and spirit. The qualification which makes man a responsible being is the ability to perceive, to learn, and to do. "Obey and live." "The soul that sinneth (continueth sinning) it shall die." "God's law is perfect." The elements, which are the basis or materials of our physical existence—earth, water, and air—with the conditions of light, heat, and cold, all of which are adapted or available for man's comfort and happiness when properly made use of, become the chief agencies in punishing him, through dis-ease or dis-comfort, when he neglects their dictates or perverts their use.

Diseases, for our purpose, may be classified under a few



leading divisions, very important to remember, as each class depends on certain constitutional tendencies or habits. First in order may be named diseases of the head and nervous system, the varieties of which, and other classes, will be described in order. Second, those of the chest and heart, affecting the circulation of the blood or the process of breathing, which vitalises and purifies the blood. Third, those of the digestive organs, upon which devolves the duty of forming materials from our food to supply and renew the daily waste. Fourth, those of the skin, which connects us with all nature in sensation, besides performing an important use or function in exhaling or throwing off waste matters, and relieving all the other organs when they are subjected to any unusual strain. For instance, when exposed to excess of heat, we exhale it rapidly by perspiration; and also in situations where we are exposed to impure influences, we can, by keeping the skin open and active, expel many poisonous agencies, which, if retained, would *generate* disease and endanger life. All diseases and tendencies to disease, whether originating in hereditary predisposition or the peculiar influences of climate, diet, occupation, or other general habits, may be much better understood and prevented or cured where there has been a previous knowledge of the special weak organ or function of the individual; for very often some one or other of the effects or merely secondary symptoms are treated, instead of the primary organ or the traceable originating causes.

As health depends on maintaining *all* the important functions of the body in good order, these should be regulated without having recourse to violent remedies, and such indeed are the most of drugs and all blisters. These attain their object by irritating the nerves of the weak organ and the nervous system generally, a result that soon tells on our capital of energy, and exhausts it frequently long before the appointed time.

As almost all diseases and derangements of the healthy



condition consist in, and manifest themselves by, particular symptoms more or less severe, it seems better to describe a series of symptoms as a help to the understanding of their meaning and causes. For we affirm that all suffering and disease express the language of Life, which we should be able to read, understand, and *obey*. It is all important to know whether the beginning of a disease has been from external injury, from indigestion, chill, impure air, improper food or drink, or it may be some habit, as smoking or other sensual indulgence, from mere indolence, or exhaustion from mental and physical strain. By attention to the language of *Pain* and uneasiness we may frequently be able to use some simple remedy, and thus prevent the necessity of stronger language and more violent suffering,—infections such as fevers, or the large class of eruptive diseases, purgations, &c., by which the vital power seeks to rid itself and the tissues and fluids of some morbid substance which endangers life. We know most certainly that those who are attentive and obedient to the known laws of health either escape altogether, or suffer much less from epidemic, and, indeed, all classes of disease, than those who violate or neglect them.

Dr. Balbirnie well expresses these ideas in a book now almost forgotten, "Philosophy of the Water Cure," from which we make considerable quotations in what follows.

The doctrines relative to health and disease are not subjects of barren speculation, but matter of equal interest to all—one that comes home alike to every man's business and bosom. Patients have been too long accustomed to surrender their common sense in the affairs of their health—losing their reason, as it were, at the shrine of medical fashion; and they have heavily paid the penalty of their folly or indifference.

We hope that the time has now arrived wherein how to take care of his corporeal frame will constitute one of the leading parts of the moral and intellectual education of man. For



this purpose he must study the structure and functions of the bodily organs, the phenomena of health and disease, and the means of perfecting the physical development of individuals and communities. He will then learn that health depends, in a very high degree, on the care taken to fulfil the conditions which the Creator has deemed to be essential to the due action and preservation of the various bodily organs.

Prevention is better than cure. The whole art is composed in a few practical rules regarding the management of the skin, muscles, lungs, digestive organs, and brain. Ill-health, therefore, arises from causes open to man's knowledge, and within his control. The stimulus to this study is the penalty of its neglect in ill-health or disease. One of the most useful functions of the physician in the ages to come will be to teach the rising generations the first principles of medical philosophy—to point out the most ordinary sources of disease—to discipline the will to self-denial, the passions to restraint—to teach the best methods of preserving health when in possession, and of regaining it when lost—to aim, in short, at extinguishing maladies by *physical education*, and by the diffusion of sound physiological knowledge. These services may well entitle them to reward, for, in inculcating the precepts of health, physicians will thereby, both directly and indirectly, promote the principles of morality and the public weal.

Quackery will be put down, not by Acts of Parliament, but by the diffusion of knowledge. Pretence alone dreads investigation; real knowledge courts inquiry.

All great truths are slow in forcing themselves into general assent and acceptance. From the very nature of things it must be so. They must needs encounter opposition and obloquy, as an ordeal by fire, to try them. What is false will not stand the test—will be burnt up as dry stubble, but the truth is indestructible, and endureth for ever. With every fresh effort at extinction, such is the indomitable vitality of



truth, it will rise up, phoenix-like, regenerated from its ashes. The truth, therefore, is immortal. It has always been so, and ever will be so. It cannot be otherwise. This is its constitution by eternal decree. When the truth seems overthrown, suppressed, eradicated, or hidden under a load of errors, corruptions, and abuses, it is like the seed thrown into the ground, it dies but to quicken again—to germinate one day into a plant of renown. Progress is God's law, impressed on all finite beings, and distinguishing them from the Infinite, who is perfection and knoweth no change.

The deep-rooted love of human nature for the complicated, the marvellous, and the mystical, offers one of the greatest hindrances to the reception (among the masses) of the simple system of the Water Cure. The healing virtues of plain cold water, because of its commonness and abundance, are overlooked; while, on the contrary, implicit faith is placed in things made with difficulty and procured with expense.

Opposition to Hydropathy is without reason. The same cold water applications supposed to be dangerous innovations, are but the revival of practices once in vogue in our own country, Germany, and in the South of Europe, and are but an enforcement of the recommendations of modern chemistry. The sanguine predictions of Dr. Currie and his coadjutors are now being realised. The history of medicine is, in fact, but a series of revolutions. Practice that is *now* considered heterodox was *once* most orthodox..

The search after remedies, and the multiplication of their forms, are a necessary result of man's instinct of self-preservation, and his innate desire of health. To remove pain, to mitigate infirmities, and to prolong life, the stores of air, earth, and water are ransacked, and the force of fire invoked. On every discovery of a new substance the chemist and pharmacist set about analysing its constituents, extracting its "active principle," and assigning it a place in the pharmacopœia.



The obscurity and uncertainty of physic have, indeed, in all ages been fearfully destructive to human life. Boerhaave said it had been better that Peruvian Bark had never been known, for it had killed more people than all the armies of Louis XIV! What shall be said of mercury then? Have Napoleon's armies immolated more victims?

The favourite weapons of medical warfare are all elaborate poisons, *e.g.*, mercury, antimony, opium, colchicum, foxglove, aloes, hemlock, hellebore, henbane, stramonium, scammony, gamboge, colocynth, jalap, broom, strychnine, prussic acid, arsenic, &c. Their being poisons would be no valid argument against these substances being used as remedies; for the plainest articles of diet, if unduly used, would act perniciously. The difficulty is precisely to know the due use of the articles in question—their doses, their modes of use, the circumstances under which they are to be used, the cases and constitutions they are fitted for, and the proper mode of preparing them, so as to develop their medicinal virtues. As administered according to medical “use and wont” (for there is no more accurate guide of practice), they are fearfully uncertain in their effect, as well as sophisticated in their preparation by the frauds of the dealer, or the errors of the laboratory. A dose that is inert to some constitutions acts as a poison to others. That you cannot safely experiment with these articles will surely be admitted by every one who considers that the stomach is a delicate, sensitive, vital structure, not tinned like a tea kettle, or cased with cast iron. In the arts of life we use strong materials for rough usage; not so with the drug doctor.

The stomach of man was intended by the Author of nature *only for food and drink*. This is very manifest. The introduction of medicines, or articles foreign to nutrition (as stimulating condiments, alcoholic drinks, &c.), was never contemplated. In the economy of natural digestion there is no provision made for the disposal of such substances. On the



contrary, where introduced, their effect is to rob the stomach of its inherent healthy powers and juices. The gastric juice is a fluid most precious in the economy, never to be imitated or substituted by art, and therefore never to be lightly wasted—a fluid that is excreted on the introduction of food, which rouses the vermicular movements of the stomach. Medicines therefore, in virtue of their irritating qualities, must necessarily prove exceedingly injurious in cases of disease; but doubly so where the fine coats of the stomach are the principal seat of such a malady, inasmuch as they task the organic powers to elaborate the rarest and most expensive fluid of the economy only to waste it, thus depriving the food afterwards introduced of the wherewithal for its own digestion. The useless waste, in this manner, of the real solvent of the food is the greatest injury that could be inflicted on the system, for it dries up at the fountain head the source of all repair and restoration, and destroys the fundamental condition of health. Thus that which should be a laboratory of nourishment and a fountain of strength to the constitution, becomes, in a greater or lesser degree, by the use of drams or drugs, only a source of irritation, discomfort, and disease.

“No disease,” remarks Dr. Trueman in his work on Food, “can be cured by drugs without injury to the health, for the remedies employed for this purpose always cause some excessive and unnatural action of the body, which lessens its power. The administration of drugs goes upon the principle of inflicting a lesser evil to avoid a greater,”

But what have some of the sages and oracles of physic said on the subject? Let us hear their confessions, their death-bed confessions they might be styled. Radcliffe said, “On entering my profession I deemed I knew a hundred remedies for every disease; now, alas! at the close of my career, I leave a hundred diseases without a remedy.” What was the testimony of Baillie, a great master in his art, and, in his day, the undis-



puted monarch of practice. In the prospect of going to render up his great account, his conclusion of the whole matter was this: "He had no faith in medicines whatever; he neither knew their manner of action, nor the principles which should regulate their administration." A priest without faith!

The justly celebrated Dr. Gregory declares, "That more than ninety-nine parts in a hundred of all that has been written on the theory and practice of Physic, for more than two thousand years, is absolutely useless, and worthy to be known but as a matter of curiosity, or a miserable warning and example of the worst errors to which we are prone."

Physic has been defined as "the art of amusing the patient, while nature cures the disease."

The celebrated physician Dumoulin being surrounded in his last moments by several of the most distinguished medical men of Paris, who spoke in strong terms of the loss the public would sustain by his death—"Gentlemen," said he suddenly, "I leave behind me three great physicians." On them pressing him to name them, he briefly added, "Water, Exercise, and Diet."

"My veneration for my profession," remarked Dr. Gregory, "is not excessive, and many things in the theory and practice of it I consider as pure objects of ridicule, contempt, and reproach."

Morbid products may accumulate in the system in various ways, notably in three ways. 1. From deficient vital power in the organism, or from its waste in muscular exertions, the fret of thought or the passions, &c., beyond what the supply of food repairs; there is an increased transformation of tissues greater than can be oxydised or eliminated. 2. From high feeding, excessive luxury, sleep, indolence, constipation, or obstructed excretions, the food is ill-assimilated, or morbid products are elaborated; the same result happens, on accumulation of waste materials more than can be carried out of the



system. 3. The retention in the body of a morbid poison acting as a leaven, corrupting the whole. In any of these cases, the usual elements of waste are not then simply effete and inert, but become active in the circulation. What mode, then, so likely or so effectual for its elimination, as a system whose sole aim in treatment is to excite the activity of the secreting and excreting functions by the processes submitted to, the quantity of water drank, the amount of exercise taken, the powerful demand for, and the proper disposal of, nourishment that is speedily set up? It is hence very apparent how rapidly morbid elements and deposits must be absorbed and thrown out, unhealthy tissue substituted by sound structure, and weakness of function and of frame replaced by strength. To this view of the subject, how strong is the testimony borne by the deposits of fœtid or glutinous débris often left on the sheets and bandages applied by Hydropathy!

Is it rational to suppose that many of the phenomena of disease are the mere efforts of elimination, or the constitutional disturbance of a fermenting process, that, from a small diseased point (as in the case of the virus of small-pox, cow-pox, or in effluvia or miasmata absorbed by the pulmonary surface), taints the whole system with its poisonous leaven? On this hypothesis, which many facts countenance, it should be the aim of treatment to facilitate excretion, to induce new changes, to separate and throw out morbid or effete materials, and to replace them by healthy nutriment.

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## LIFE, HEALTH, AND DISEASE.

Animal life, in its analysis, is nothing more or less than a continued transformation of matter, an uninterrupted decay and restoration of the body, the ceaseless operations of two opposing processes of supply and waste, of building up and taking down, of depositing new materials and removing old.



This perpetual change of matter is the primary law of life. It is this which keeps all the tissues and structures of the body in a constant state of repair, ever renewing the materials of the organisation, and counteracting its wear and tear. Food is changed into blood, and blood becomes solid tissue. This solid fabric, having served its purpose in the economy, becomes in its turn, and piecemeal, dead and effete—is decomposed, and removed from the system in the shape of excretions. These worn-out materials, conveyed away in the returning circuit of the blood, impart to it a black colour and poisonous properties. The lungs, kidneys, liver, and skin, serve as emunctories, or drains, by which these noxious compounds are evacuated from the system. In the same backward current of the blood the new materials of growth, repair, or strength, are poured in by their carriers, the lacteal system, and in the lungs a fresh supply of oxygen is momentarily received. The blood is thus continually recruited, renovated, purified, and made fit for the purposes of life.

These two grand processes of supply and waste comprise the functions of digestion, absorption, circulation, assimilation, respiration, and excretion.

“The blood is the life.” Such is the dictum of Scripture; such is the deduction of Science. The blood is the life, inasmuch as it contains, in itself, the two grand elements by which all the changes in question are effected, by which the functions of life are maintained, namely (1), the nutriment—the new materials for repairing the waste of the living structures, and (2) the oxygen necessary to combine with the wasted materials, and to remove them out of the system. Life, in fact, and without a metaphor, is a flame. The animal body is a furnace. The food is the fuel, and the carbon thus supplied, with the oxygen absorbed by respiration, are the supporters of combustion, and the source of animal heat. There is a precise analogy, if not identity, between the combustion of oxygen in



the body and out of the body. The body is consumed, burned wasted away, transformed by oxygen. The oxygen in both cases combines with their carbon and hydrogen; in both cases the same products are given out, namely, heat, carbonic acid, and the vapour of water. The oxygen of the air enters the circulation by the lungs, and is carried by the blood globules to every part of the structure, uniting with its wasted materials. The carbon is converted into carbonic acid, the hydrogen into the vapour of water or breath. These are emitted as the smoke of the living furnace. Other matters constitute the ashes of the furnace, and fall through the gratings—are removed by the appropriate outlets. Such is animal life.

The proper performance and balance of the above functions, the maintenance of the due relative proportion between supply and waste, according as the body is adolescent, adult, or aged, constitutes HEALTH. It is the equilibrium of the conservative and destructive powers—of the vital power of affinity, on the one hand, which is perpetually depositing the new materials of growth and strength—the nutritious elements of the blood, and of the destructive power of oxygen on the other hand—its chemical affinity for the same elements of the tissues, which tend to break them down and to carry them out of the system. There is an alternate predominance of the vital and chemical affinities; the vital affinity tending to *retain* the elements of the body, and the chemical affinity to *decompose* and remove them. When the vital affinity predominates, the elements are retained in the organism; when the vital affinity is weakened, the affinity of the elements for oxygen prevails, and decomposition is the result. These transformations are effected under the influence of the nerves and the vital principle. These agents modify the mere chemical combinations of the living solids and fluids.

Disease consists in the *undue* action of the one or the other of the two grand functions that are the basis of animal life, the



want of balance between waste and supply, either in a part or in the whole of the organism—a defect, excess, or error in the quantity or quality.

The cause of death in all chronic diseases is the want of the substance whose function is to support respiration. When the organs have lost the power of producing those substances—when they have lost the power of transforming food into that shape in which it may, by entering into combination with the oxygen of the air, protect the system—then the substance of the organs themselves, fat, muscles, nerves, brain, membranes, are unavoidably consumed. The respiratory process is the cause of death. The flame is extinguished because the fuel is exhausted; the oxygen of the air has consumed it. Hence the influence of the *hunger cure*—a scanty diet—in reducing morbid growths, or removing from the body substances incapable of assimilation.

The animal body parts with its heat to surrounding objects by the same laws as any other heated mass; nevertheless, it always retains its uniform standard heat, however low the temperature it is placed in. The generation of animal heat must therefore be rapid in proportion to its abstraction by cold, to the lowering of the temperature, whether momentary or permanent, of a part or of the whole of the body. Thus are brought about the conditions most favourable to the throwing off of diseased action, namely, an increased energy of the living functions and organism within the system, the removal of old materials and the deposition of new, an increased waste, demanding and receiving an increased supply.

The effect of muscular exercise and of abstraction of heat in accelerating the change of matter is accounted for by their extending proportionably the vital power, the substituting of healthy materials for unhealthy deposit, and the elimination of the latter out of the system.

In proportion to the cold endured, to the exercise taken, the



amount of inspired oxygen increases, and with it the necessity for food rich in carbon and hydrogen. By clothing and fires the loss of heat by cooling diminishes, and the amount of heat to be supplied by food decreases. Hence, in such circumstances the appetite is less urgent.

The distinctions of Acute and Chronic disease are the arbitrary divisions of science, but do not imply any essential difference in the ultimate nature of morbid action; nor do they materially alter the indications of cure or the principles of treatment. The subsidence, more or less, of the general or sympathetic suffering, which their first attack produce, chiefly distinguishes chronic from acute disease. The persistence of unsubdued morbid action tends to destruction of the tissue, or organic disease.

The struggle of the vital conservative forces with diseased action, and the token of their triumph, consists, in a multitude of cases, in a return of suppressed excretions, in the setting up of a powerful drain from the bowels, kidneys, skin, or air-tubes, or in the eruptions on the skin. This is called a *crisis*.

Acute disease is often a sort of spontaneous crisis—an effort of self-protection on the part of the economy—a struggle of the conservative powers to throw off the materials of mischief. This effort through defect of constitutional vigour or the want of necessary aids, lays the foundation of severe chronic maladies.

It is the chronic state of disease that unassisted nature chiefly fails to cure, and wherein the means of art are applied with the best effect.

The *indications* or *intentions* of treatment in all diseases, without exception, and the action that is required, is, according to the circumstances of the case, either to depress excessive action, or to stimulate deficient action. In the successful fulfilment of either of these objects, or of both conjointly or alternately, consists the whole Art and Science of Healing.

All remedies are resolvable, in their ultimate analysis, into



one or other of the two grand heads of Stimulants or Sedatives. All the divisions and subdivisions of the Pharmacopœia resolve themselves into these two classes. Physic knows no other objects than increasing or decreasing action. When it has accomplished these ends it has discharged its functions. The ministry of the physician has done its work. The rest is left to nature, who will soon restore the balance of waste and supply in the living economy, the general harmony and easy play of all the functions, and establish that well-being of body and mind which constitutes health.

The effect of stimulants is to augment the vital endowments of the tissues, viz., their sensibility and irritability—to increase the energy of the brain and nerves, of the organs of circulation, secretion, and excretion. The most beneficial stimulants are those that most powerfully excite without exhausting the nervous power. Medicinal stimulants, as alcohol, opium, &c., strongly excite, but then exhaust, nervous power, as well as vascular action. Neither are they immediate in their effects. They must first be absorbed into the circulation. The temporary increase of power they induce is more than compensated by the corresponding exhaustion and collapse that follow, not to speak of the positively noxious materials introduced into the circulation, which go to poison the foundation of life and expend a deal of vital energy ere they are finally ejected from the system.

The stimulant action of water differs from that of alcohol or drugs, producing a permanent exaltation of the vital energies without any subsequent collapse. It is so with the healthy stimulus of plain food or plain black tea.

The effect of sedatives, as bleeding, derivatives, purgatives, emetics, diuretics, diaphoretics, and evacuants of all kinds, together with the more or less prolonged application of cold, is to relieve capillary tension, to remove or reduce that general excitement of the heart and arteries, by the continuance of which local inflammation may be produced or prolonged.



Hydropathy professes to have found the object so long and vainly sought after, the grand desideratum of medical art and science, a remedy easy to procure and safe to administer, which may be so handled as to bring about every degree of stimulation or sedation in the treatment of disease.

Pure cold water, according to the mode and dose of its administration, is pre-eminently sedative or stimulant. No single medicine or combination of medicines can at all compete with it, either in promptitude, power, certainty, or safety of action. It is no mean merit of Hydropathy that, in the combined attributes of power and simplicity, it seems to be a direct gift and revelation of Deity to man, taking its place amongst those natural agents or laws by which the Supreme Being achieves the mightiest results of His wonder-working arm.

The curability of disease depends upon the latent stamina or strength of constitution, relatively to the nature and extent of the functional disturbance or organic alteration, taking it as an indispensable condition that the original causes of the malady cease to operate; for until the primary disturbing causes are removed no curative result can be permanent.

An accurate knowledge of the physiological action of water in its varied applications, with the ability to modify skilfully these applications according to individual peculiarities of constitution and disease—with that intuitive power of observation which is the prerogative of genius, and which learning fails to confer—are the prime requisites necessary to constitute the safe and scientific treatment of disease by water and heat.

The largest and ablest medical practice has proved that free air, plain diet, graduated exercise, early hours, and simple habits are the means, in addition to water internally and externally, which best maintain the body in a state of health—which most exalt the energies of the nervous system, and most aid the natural conservative powers in throwing off chronic disease.

The refinements of high civilization are the most prolific



sources of disease. The excitement and oppression produced by sophisticated meats and drinks, the universal partiality for drug relief, the thousand nameless causes of envy, jealousy, mortification, and disappointment in the easy classes, with the mental tumults, cares, distractions, and bodily harass of the struggling classes, exhaust by little and little the energy of the nervous system, induce a whole host of disorders of function, and diminish the power of organic reaction when stricken down by acute maladies, making multitudes fall victims to disease long before their sun has measured half its heaven.

A life led agreeably to nature—the due sway and exercise of the intellect, the cultivation of pure affections, the control of the imagination, and the discipline of the passions, magnanimity in misfortune and moderation in prosperity, a mind regulated by the precepts and promises of revealed truth, steering clear of the extremes of infidelity, fanaticism, and superstition, more anxious to obey commands than to entertain dogmas, hopes dwelling on the bright scenes of futurity, and fears only deterring from acts that would blast them—in such principles and such conduct are found the *only* elements of content and peace on earth, and the surest means of maintaining health and prolonging life.

The cause of total abstinence from intoxicating drinks, and Hydropathy contain such seeds of moral principle and social regeneration as render them not only the handmaids of science and humanity, but the allies of religion. The pure habits, simple tastes, and natural feelings they develop, are the shadows cast before of coming events—the harbingers of long-expected and long-predicted social and political changes which are to meliorate the destinies of the globe. The aspect of modern times, and the movements of long dormant communities, point to an epoch, not far distant, of regeneration for the earth, and freedom—mental, moral, and corporeal—for her sons.



## PHYSIOLOGICAL ACTION OF WATER.

“It may sound oddly,” says Bolingbroke, “but it is true in many cases to say, that if men had learned less, their way to knowledge would be shorter and easier. It is indeed shorter and easier to proceed from ignorance to knowledge, than from error. They who are in the last must *unlearn* before they can learn to any good purpose; and the first part of this double work is not, in many respects, the least difficult; for which reason it is seldom undertaken.”

Bacon says—“Surely every medicine is an innovation; and he that will not apply new remedies must expect new evils, for time is the great innovator; and if time, of course, alters things to the worse, and wisdom and counsel shall not alter them to the better, what shall be the end?”

Everywhere within reach, and presented by nature in the greatest purity and profusion, Water was probably the first remedy which man opposed to the injuries and ailments to which his physical frame was liable. To wash his wounds in the limpid stream, to allay the pain and to abate the heat of bruises and inflammation by immersion in its cold, would be the dictate of the earliest experience and the first essay in the art of healing—for ages, perhaps, his only resource. The progress of civilisation, doubtless, led to its disuse, because it is in the nature of refinement and luxury to engender repugnance to what is simple and natural; and in proportion as the progress of science and the extension of commerce opened up the riches of the three kingdoms of nature to eke out the resources of medicine and to create artificial wants, simple water fell into discredit. Hence, probably, those who retained the knowledge of its virtues were obliged, by the very ancient *ruse*, to have recourse to the powerful aid of superstition to recommend what, without it, would neither have inspired confidence nor overcome opposition.



It thus becomes an inquiry of the highest practical importance to determine accurately its doses of administration, its modes of action, and the conditions of the system which demand or forbid its use. For a remedy that, if properly employed, is powerful to benefit, must, if mal-administered, be equally powerful to injure. In the treatment of multiform diseases by so simple an agent as water, such fixed principles of practice must be established as can alone guide to a judicious selection of cases, and apportionment of processes. Like those of every other remedy, the virtues which water unquestionably possesses depend on its being used in the proper way, in the proper case, and at the proper time.

Hot and cold are merely relative terms. Individual susceptibility or sensation is the only true physiological criterion of hot or cold. The gradations of the thermometer are false guides. The distinctions of cold, cool, tepid, warm, hot, as applied to baths, afford no accurate data for the calculation of their effects: what is cold for one person is tepid for another, or for the same person under altered circumstances of bodily temperature or temperament: what is hot for one is only tepid for another.

We now inquire into the effects of water at that temperature that produces the absolute sensation of cold, or what is usually understood by shock. The sudden application of this degree of cold to the surface of the body determines an instantaneous change—a vivid impression on the nervous centres—probably the most powerful physical sensation that can be experienced; superficial heat is abstracted; the capillary vessels and minute arteries and veins of the surface are constricted; exhalation is suspended. If the immersion be but momentary, the blood is not driven into the interior organs, and no accumulation or congestion takes place. The constriction of the superficial vessels is shared by those deeper-seated. But if the bath be prolonged for a few minutes, the blood is repelled from the



surface, and accumulates in the larger vessels of the interior, the skin shrinks and becomes pale. The results of these changes effected in the system are a keen sensation of cold, shivering, trembling of the limbs, uneasy weight of chest, difficult, incomplete, and gasping respiration; the pulse is diminished in frequency and force, and the animal temperature is lowered by a few degrees. Up to this point all the organic functions are temporarily depressed; the duration and intensity of this depression are in relation to the severity of the cold and prolongation of the contact.

This first state is succeeded by a reaction. The shock and unpleasant sensations subside by degrees, and give place to others of an agreeable nature—to a general glow of heat which pervades the whole frame; the blood returns to the surface, the skin reddens and dilates, the circulation is more energetic, respiration is easy, the temperature elevated, the exhalation free, increased nervous power is elaborated, every tissue shares the impression, the entire system becomes excited, the whole body is buoyant with recruited energies, and the mind and spirits partake of the general exhilaration. This energetic reaction takes place only in the case of the more vigorous subjects, and when muscular action is used: in the feebler it takes place only after a very transitory contact. In all cases, if immersion be unduly prolonged, the feeling of warmth and vigour more slowly or rapidly decreases, chattering of the teeth, numbness of the extremities, languor, and exhaustion ensue.

The Tepid or Warm Bath is water or vapour of a sufficiently high temperature to produce a comfortable sensation of warmth on the surface. Its range may be from  $86^{\circ}$  to  $96^{\circ}$ ; that of the vapour  $120^{\circ}$ . The best description of the effects of the warm bath is conveyed to the mind by saying that it is a general fomentation or poultice. What a local poultice is to a fretted sore, or to a bruised or broken limb, this is to the entire system. Its effects are relative to the heat of the body placed



in it. When the heat of the body is excessive, it soothes and lowers temperature, without much, if any, subsequent reaction.

The soothing luxury of the warm bath is pre-eminently appreciated by the wearied body or fagged mind. The pulse and respiration are gradually quickened at first, yet by and by the effect is pleasingly sedative. The agreeable warmth diffused over the surface gradually penetrates to the interior; the skin softens and relaxes, its fluids expand; the superficial capillaries are excited to increased action; exhalation and absorption are augmented; the blood is derived—determined to the surface from internal parts; congestions or accumulations are relieved; the circulation is equalised in the central and extreme parts; the frequency and fulness of the pulse are subdued; the action of the heart is calm; nervous irritation is soothed; the whole system is refreshed, relaxed, and expanded; fatigue is removed; fret, care, and trouble are chased away; and the individual feels disposed for, or falls into, a placid sleep.

In proportion as the temperature of the bath is increased above the due point of calm and comfort— $100^{\circ}$  to  $105^{\circ}$ —it becomes an exciting and disturbing agent. The skin becomes red, swollen, and stimulated; the heart beats with violence; the face is turgid; the eyes injected; the respiration is frequent and difficult. The copious flow of perspiration affords some relief; but if the subject be at all disposed to cerebral congestion, he may have an apoplectic fit. On coming out the individual feels faint, there is a violent beating of the carotid arteries, and noise in ears; the pulse remains excited for some hours, and the sweat flows abundantly.

Water applied only to parts of the body, as half-baths, hip-baths, head-baths, hand-baths, foot-baths, &c., produce the same effects on the respective parts of the body as the general baths do on the entire surface—are used with the same objects, and are, besides, specially calculated to exercise a derivative or counter-stimulant action.



Experience proves that bathing in sea water, or sponging with water in which rock salt is dissolved, is much more stimulant than fresh water.

When the surface of the body is warm, even over-heated and freely perspiring, the stimulant effect of the hot bath is doubly invigorating. Perspiration is not only checked with impunity, but gives rise to the more salutary reaction. But when the body is exhausted by continuous labour, by excessive perspirations or evacuations of any kind, then the vital energies are too much below par to bear what thus becomes the sedative action of cold. In these cases it interrupts perspiration, exhausts the languid, nervous energy, arrests the failing circulation, congests the interior viscera, and determines inflammation of the lungs, apoplexy, fever, or death.

The gradual transition from heat to cold, produces scarcely any reaction. The change is calming, soothing, and refreshing to the healthy. If the skin is hot and irritated, the same temperature of water produces the same effect as intense cold in the ordinary state of the skin. Very extreme cold produces the same effect on the living tissues as a high degree of heat, namely, the death and disorganisation of the part.

The effects of the immersion of the body in a moderately heated medium, as the tepid water, vapour, or tepid wet-sheet bath (which latter is a felicitous union of the two former), are an agreeable combination of the sedative and stimulant results detailed. It at once depresses unduly excited action, and excites unduly depressed action. It is essentially a general fomentation or poultice. Its effects are pre-eminently soothing, anodyne, and emollient, according to the previous wants of the economy, or sensations of the individual. It removes all local irritation, pain, and general uneasiness, and recruits exhaustion. The imbibition of the fluid it permits, macerates the animal fibre, relaxes stiff joints and spasmodic contractions, softens, expands, and dilates the superficial tissues, and modifies the



texture of the skin; rigid muscles lose their tension and solidity, yet acquire plumpness. This soothing medium diminishes excessive evacuations, and restores those which are suppressed. It is powerfully derivative. Acting as a direct but gentle stimulus to the skin, it promotes the activity of its capillary vessels and its exhalent and absorbent functions. The universal and intimate penetration by the blood of the solid tissues of the superficial as well as the deep-seated parts it promotes, facilitates and equalises the circulation on the surface and extremities, while it relieves internal congestions and local determinations; thus measuring to every part its own share of the vital current, and apportioning the fulness and force of the circulation in organs to the size of their vessels and the necessities of their function. It fulfils at once, and in every part of the economy, all that can be demanded in ordinary cases. While it abstracts the morbid heat of those who burn, it increases, by accumulation, the heat of those who shiver. Its action on the skin makes it a diaphoretic—a powerful drain of viscid, fetid, and morbid humours, and uncombined or decomposed elements and debris lodging in the system and poisoning the fountains of health. Its action on the kidneys makes it a diuretic; on muscular fibre, an anti-spasmodic; on the nervous system, an anodyne. It diminishes the excessive vascular plethora and secretions of the intestinal canal, and of its associated glands, which produce diarrhœa; and, in opposite cases it rouses the defective nervous power which presides over the peristaltic movement.

The specific heat of the body is increased in febrile and inflammatory affections. In the intensest cases the thermometer points from 3 to 7 degrees higher than the natural standard. Yet the energy with which the heat is reproduced, and the frequency of immersion, affusion, or wet-sheet application, necessary to subdue it, compared with the effect of the same processes upon the most vigorous subject in health,



demonstrates this accumulation. In fever the amount of fuel spent in a short time—the increased consumption of the frame—proves how far the change of matter—of waste—had gone, and how much extra heat had been liberated, but not indicated by the thermometer.

The Douche is the most energetic mode of developing the stimulant action of cold water. Properly taken, it produces the most intense reaction, highly exciting the cutaneous tissues and vessels. In this way it simultaneously exalts both the absorbent and the excreting functions of the superficial capillaries; the languid circulation round an indolent tumour, for example, is stimulated, and the increased activity of the absorbents removes the deposit which their defective energy permitted. On the other hand, the excessive stimulation of the same vessels and tissues, by the frequent and strong reactions brought about by this and other processes of Hydrotherapy, develops into increased activity certain portions, with the most fortunate results in obstinate chronic maladies. The boils and other eruptions which are thus produced (and which can be produced in the healthy by the same process) are the most beneficial of all counter-irritants.

The more fever and general disturbance these critical eruptions introduce, the greater the consequent benefit. The entirely new action thus established in the economy has a highly revulsive effect on distant organs, and operates to arrest and remove the habitual morbid action of other quarters. In this way chronic diseases become converted into acute, and often pass off with the termination of the latter. This confirms the experience of the older physicians, who were, perhaps, more accurate observers than the partizans of other pathological theories.

This revulsive effect is strikingly illustrated in other cases. A patient, for example, in the advanced stage of consumption, with large portions of a lung or both lungs hollowed out with



tubercular excavations, and just about to step into the grave, is seized with what is called brain fever. On its reduction the lung symptoms are found to have subsided, and give no more trouble; cicatrisation is rapid, and a miraculous recovery takes place.

Simple water is generally better than any poultice—as being more easily absorbed, as less apt to be changed in its properties, as less heavy, as less expensive; having only the disadvantage of needing renewal more frequently.

“Water constitutes a most important part of the food of man, as well as of all animals and vegetables. Even of the solid food which we eat, water constitutes not less than four-fifths. It may be said without exaggeration, that nine-tenths of the whole of our food is nothing else than pure water. Such being the case, it is needless to remark that water must constitute a very important article of food, and that, therefore, the proper use of it is requisite for the maintenance of health.

There is another circumstance which may contribute to the value of water when taken into the stomach, and that is the property which it has of diluting those articles which are of too stimulating a nature, and which on that account, when taken by themselves, are apt to injure the tone of the stomach by urging it to over-exertion; for it is a well-known property of living bodies, that all over-exertion, all undue action, is followed by a corresponding languor and debility. Many individuals are accustomed to indulge in too great a quantity of food; and, in order to enable their stomachs to digest it, they mix it with wine or spirits, or some equally stimulating substances. These gradually exhaust the tone of the organ, and produce a state of languor which must at last terminate in disease. Dilution with water corrects the stimulating property of these substances, and renders them comparatively innocent. Hence a course of water-drinking to those who are accustomed to live high and indulge in wine or spirits, must



frequently be attended with the most beneficial effects."—*Dr. Thos. Thompson, Cyclop. of Pract. Med., Art. Mineral Waters.*

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## GENERAL RULES FOR THE SAFE AND SCIENTIFIC EMPLOYMENT OF WATER.

No counsels for the treatment of disease by cold water, any more than by drugs, can be absolute or exclusive ; nor can any canons comprehend every particular case and constitution. Much will depend (if the practice is to be really enlightened and rational) on the pathological knowledge, the powers of observation, and the reflective habits of the practitioner, in determining the doses and the timing of the applications, relatively to the wants and resources of the constitution, and the nature and period of the malady.

The first and fundamental curative principle of the water treatment is TO DIRECT AND MODIFY THE AGENCY OF NATURE—watching and imitating carefully her sanative operations, restraining the action that is excessive, exalting that which is depressed, or recalling into the proper channel normal efforts, perverted or wasted by wrong direction.

In Acute diseases, generally, the processes of nature are over-active, tending to exhaust the vital endowments of the frame, and more or less rapidly to accomplish its dissolution. In many cases, after running a specific course, the disease wears itself out, and ends by resolution ; in other cases, where the balance vibrates between life and death, the conservative powers of the constitution prevail in the struggle of opposing forces, previously accumulating morbid elements force an outlet, or the over-activity of a part ends in a change of action, and the disease terminates by a crisis. A less meddlesome practice in acute diseases is therefore indicated than that



sanctioned by the doctrines of British schools, and of some continental lawgivers in medicine. The province of the practitioner is here almost exclusively, but sedulously, to watch the processes of nature ; to respect and aid, not to divert her efforts ; to excite the action that is too depressed, and to depress the action that is too excited.

In Chronic diseases, generally, the processes of nature are not active enough : the self-reparative power of the organism needs to be stimulated to action, and the impediments that shackle or nullify its efforts removed. Here unassisted nature is inadequate to develop that activity of the organic processes which is necessary to overcome disease and to restore healthy function. Here, therefore, there is greater latitude for the display of the resources, and for the exercise of the genius, of the practitioner.

#### DRUGS AND WATER CURE.

To deny that drugs are occasionally efficacious, would be contrary to fact. This does not, however, impugn the fundamental proposition of the water doctor, viz., that drugs have no innate, specific property to amend faults of function, or to rectify errors of structure. Drugs only cure, inasmuch, and in so far, as they promote an extra activity of one or more of the grand excreting organs—the emunctories or drains of the system—the safety-valves of the living mechanism. The most trustworthy and renowned drugs are those precisely whose action on the excretories is the best ascertained, and the most decisive. The excretories referred to are the skin, bowels, and kidneys.

*Simple water*, used in various ways, provokes and exalts the physiological actions in question more safely, certainly, and lastingly than drug remedies. If this be the case, simple water, variously applied, will be seen to produce curative



results, supposed or said to belong only to the best directed pharmaceutic resources. A very slight acquaintance with the curative effects of drugs, and with the operations of nature, will suffice to show that medicines have no salutary physiological action which water has not.

Herein, we trust, is the satisfactory solution of the great mystery that puzzles equally the learned and the illiterate, viz., the applicability of the water system to all diseases curable by drugs, and to many not curable by drugs. We are told that if we claimed for Hydropathy a pre-eminence of success in a few given diseases, then its merits would at once be recognised. But the idea of its general applicability is an absurdity.

The search after specifics, by mere symptomatic treatment, is as unphilosophical in theory, and as bootless in result, as the search after the *elixir vitæ*. It has only ended in stultifying the healing art and its professors. As examples of the treatment of mere names and symptoms, instead of diseased conditions themselves, we have to mention dropsy, hæmorrhages, fits, spasms, breathlessness (asthma), cough, nausea, indigestion, constipation, purging, cutaneous eruptions, headaches, and aches and pains of all sorts. These are all attempted to be quelled by some specific or other; and every day new specifics are sought, announced, and lauded for these symptoms, as well by the scientific drug practitioner as by the illiterate pretender; while the effect of this limited mole-eye view of the subject is to absorb the attention in mere symptoms, and to neglect to look out on the more comprehensive horizon of primary causes. Thence the failure to grasp and grapple with the pathological conditions of the organs of which these symptoms are but the index—the warning voice of the organism lifted up (to those who understand its accents) to proclaim its derangements, and to invoke the helping hand of science to restore them.



## GENERAL PRINCIPLES OF TREATMENT IN SOME COMMON DISEASES.

Dr Currie deserves well of his profession and of humanity for his philanthropic efforts to make known the virtues of cold water in Fevers. Notwithstanding its present disuse, cold affusions in fevers have the sanction of the best modern teachers. It has always been our "sheet anchor."

The simplest British practice in fevers we find recorded is the most successful—that of Dr. Jordan Lynch, in the worst districts of London (*Lancet*, Dec., 14, 1839). After rather brisk firing in the commencement of the attack—an emetic with a purgative of calomel, and rhubarb, and jalap—he confined the patient to three drachms of common salt to a pint of water in twenty-four hours, with plenty of cold spring water to drink; adding to the mixture, as the symptoms improved, a drachm of muriatic acid, with effervescing soda powders till convalescence was complete, supporting the strength with beef-tea and porter. This is the most rational practice, within the pale of orthodoxy, that we have heard of in this country. The result was commensurate with its sense and simplicity. Of ninety-seven cases, not one died; and the recovery took place in as many days as it required weeks with the usual routine.

Hydropathic processes subdue all the abnormal action of fever, without leaving any new materials of irritation. A greater or lesser number of wrung-sheet applications, or of the cold or tepid affusions, not only abstracts morbid heat, but reduces inordinate vascular action, and quells excessive nervous irritation. Cold lavements aid in the same object, while they effect the necessary evacuations. Cold drinks assuage the thirst, cool the stomach, dilute its crudities, and facilitate their propulsion; attenuate the viscid blood, excite perspiration, and provoke urine. If the brain is the great focus of irritation,



cold lotions constantly renewed, with derivation to the extremities and surface by wet sheet fomentation, by the hip bath, by the shallow bath, and by the foot bath, soon subdue morbid violence. That thus are accomplished all the ends that nature requires for the removal of diseased action, is apparent by the happy result. Let every practitioner who has the interest of humanity and science at heart try the Water-cure processes, endeavouring to develop its principles and practice. The issue will decide him. No arguments will be of avail to stagger his confidence. He will then need to fear no complications in fever. His ministry and his anxiety will both be terminated before it had seriously begun, as under the old system.

We select Small Pox for a single illustrative remark, which is equally applicable to Scarlet Fever. In mild cases the ordinary cooling regimen will suffice to conduct safely through the disease, and to prevent its malignant forms, which are now happily rarely seen, but still occasionally met with. In the latter cases, when the eruption is confluent, danger arises from two opposite sources, either from excessive or defective action. If from the former cause, steady perseverance in the sedative water processes will diminish the violence of the inflammatory symptoms. If from the latter cause—danger from defective action—then the stimulant power of water (as already explained in its proper place) must be had recourse to. Cold affusion, suddenly and rapidly performed, can so exalt the sinking vitality, and rally the energies of the organism, as favourably to decide the issue of the malady.

The source of Convulsions is a primary or consecutive irritation of the brain and nerves, or of the spinal cord. The remote irritation in children is, generally, in the course of the alimentary canal, as difficult detention, worms, &c. In adult females, convulsions are perhaps most frequently symptomatic of uterine irritation. In infantile cases, the cold water



practice is gradually coming into vogue. Dr. Marshall Hall, in his excellent observations on head disease, recommends the cold dash, or pouring cold water on the head, for the reduction of coma. We recommend, in addition, the wet sheet envelopment, as an improvement on the practice. Dr. R. B. Todd has lately used the cold applications to the head and spine with marvellous effect. We hope that bleeding, as counselled for puerperal convulsions, will soon be replaced among accoucheurs by the wet sheet process, with cold effusions to the head, and that purgation by calomel, and jalap, and turpentine will cease.

The Apoplectic tendency (congestion of the brain), and the Apoplectic fit (rupture of a vessel), are met with in two opposite states of the system—either from excess or deficiency of blood—a too pallid, or a too rubicund face being equally their symptoms. Whether in the one state or the other, bleeding is the most ordinary practice, but in either case it is alike bad. It will diminish, indeed, the quantity of blood, and give temporary relief in a threatened attack from its excess. But as a curative measure, it is not only useless, but injurious. In approaching seizures of this kind, the patient has a deadly faintness; the action of the heart is rapid, irregular, intermitting; there is great anxiety, alarm, and excitement. How injurious to bleed a man in this condition! The fault is not a redundancy of blood, but a failure of nervous power. The unequal distribution of the blood, which hence arises, is the great defect to be remedied. The abstraction of blood will eventually aggravate the effects, and will never correct the cause of the disease. To bleed in the shock of the stroke, as is too often done, is injurious; to bleed in the subsequent reaction, hardly less unjustifiable. In the shock, the vital powers require no lowering; and in the advance of the fit, as well as after it, excited action, whether real or factitious, can be reduced by means that will answer the temporary end, without



an exhausting drain of the life-current. Cold affusion, or cold cloths to the head, will strengthen (by constraining) the vascular coats, and will prevent rupture. The wrung-sheet envelopment, hip baths, or the shallow bath, with sufficient friction of the trunk and extremities, will equalise the circulation. Lavements will regulate the bowels. Copious water-drinking, with exercise, pure air, and plain diet, will refresh the blood of the impoverished, and attenuate the blood of the full blooded, and call into activity the excretories. Stimulation by wine, brandy, and drugs, to keep the patient's spirits up, necessitates frequent bleeding to keep the force and fulness of the cerebral circulation down.

The diseases of children have been hitherto, under the old tactics, of alarming fatality. Statistical researches in great towns demonstrates this,—more than one-half of the whole amount of deaths is of children under five years of age. By the processes of Hydropathy, the whole of the once fatal tribe of infantile diseases is now comparatively innocuous, and need cause no further anxiety to practitioners, or alarm to heads of families. The most threatening illnesses, as we have again and again witnessed in our own family and in others, are averted in a single day or night, often in a single hour—illnesses that would have run on to weeks of treatment, and, in all probability, have ended fatally under drug medication.

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## GENERAL REFLECTIONS ON HYDROPATHY.

For a people to be healthy is a great step to their being virtuous. The perversions of thought, the infirmities of temper, the vagaries of the affections, and the fury of the passions, are closely connected with the state of the bodily functions. Crimes are often but the manifestations of a diseased organism ; so are eccentricities.

Serenity of mind, and control of the feelings—an habitual and equable flow of spirits—are incompatible, in the sedentary or the thoughtful, with the gross feeding—food and drink excessive in quantity, and stimulating in quality. On the other hand, sparingness and simplicity of diet infallibly contribute to habitual mental calm and sunshine. Dr. Johnson (the moralist and lexicographer) was constantly wretched and fearful in mind. How far did not this depend on his gormandising propensities? Had he reduced himself to the diet of Cornaro or Cheyne, or combined the arduous bodily labours with the mental activity of Wesley, very probably we should have heard little of his gloom. The frugalest farers have been the longest livers, and have enjoyed the quietest days. Those who exchange a light vegetable diet for a heavy one of animal food, always become as irascible and impetuous in temper as gross and ailing in body. The high diet of the Court of Charles I. was fatal to Old Parr, who had stamina to have attained a much more advanced age. Franklin laid the foundation of his greatness on the meagerest diet, receiving from it alike strength of mind and hardness of body.

The cure of man's physical misery, as of his social degradation, lies in his own hands; for with him it remains to abandon the causes of both.

The primeval curse of labour was a judgment tempered with mercy. The toil is the real pleasure in the pursuit of fame



and wealth. Grasped without that, both are but phantoms. An inactive mind or body, like an untilled garden, grows to weeds. To be slothful is the surest way to expose oneself to the double assault of vice and disease.

Indolence, intemperance, vexation, and anxiety, are the most fertile sources of chronic disorders.

The source of the vices of the poor lies in the want of baths and suitable places of amusement for their leisure hours. The toil-worn body of the artizan in the evening needs rest, and his jaded mind requires stimulus. His habits of dissipation are almost forced on him by the pressure of circumstances—by the want of home comforts and occupations, which he goes to seek abroad. The most effectual way to wean him from these habits, is to refine his tastes by suitable education, and then give him facilities for indulging them. This suitable education implies with us, moral culture as well as mental training.

Man is the author of his own miseries. God made all things good, and intended them to be the sources of happiness to his creatures. So they would be, even in a fallen world, if the laws of the constitution of things were studied and observed. It is only the infringement of these laws that converts the boons of heaven into banes, blessings into curses. The existence of moral evil, corporeal disease, and death, when rightly viewed, squares admirably with the Divine benevolence. All truths—those of revelation and nature—when rightly understood and properly applied, are consistent with themselves, never conflict, never contradict each other. The discrepancy is in our own purblind reason.

The laws regulating the material world, even those of the little world of man's wondrous body, are like those of the moral government of Deity, uncompromising, unchanging, universal. They suffer long, in the case of man's much abused body, and are kind. But the retribution, though late, is certain; though



silent, is not the less signal, and does not leave itself without witness.

Nature, or God in nature, it may be safely affirmed, has kindly provided for the wants of all created beings, and especially so for his noblest offspring. To man, the Deity has been above all liberal. Endowed with superior organisation, as with superior intelligence, he is formed to reap the highest happiness from the mere exercise of his physical, mental, and spiritual powers. But as society is at present constituted, he dearly achieves, and scantily enjoys, the grand results of his enterprise and civilisation. His days are shortened and his existence blighted by the very refinements with which his intelligence has surrounded him. Disease in a thousand shapes assails him at every turn, and dogs his steps through every lane of life. Thus the means furnished to him for the purposes of the purest happiness are converted into instruments of misery, and become avenues to death. But are the dispensations of the Creator, therefore, to be arraigned? Just in proportion as man departs from nature, nature departs from him, and, by a sort of fearful retaliation, withdraws the aid she otherwise renders to all who cherish her unfailing resources.

By restricting ourselves to what nature requires—by eating to live, and not living to eat—by ample exercise of the limbs—by pursuing health in the open fields at some time of the day—by quaffing of the ever-living fountains—by eschewing the enjoyments of indolent repose, of heated rooms, of cosy garments, and stimulating drinks—we shall lose our paleness, nervousness, dyspepsia, hypochondriasis, etc., and come to resemble, in strength and endurance, the hardy natives of our northern islets. We shall cease to dread, on every exposure, the invasion of chills, and colds, and damps, and all the inflammations, fevers, coughs, consumptions, and rheumatisms by which man pays the bitter penalty of nature's violated laws.

It is only when the blood circulates freely and purely—when



every limb and every muscle obtain their due and daily exercise—when the stomach receives no food but what is prompted by appetite and purchased with toil—when content of mind and calm of passion remove all worry of brain and fret of feeling—it is only then that a buoyant tone, vigour, and elasticity are felt to pervade the entire physical frame; that the harmonious play of its wondrous mechanism yields, of itself, inexpressible joy; that man feels mere corporeal existence to be a blessing, and revels in the delicious sensations of health, a feeling in which, though material, the mind largely participates, and by which the thoughts are, as it were, instinctively sublimated.

Man, in wandering from simple habits, misses the true path of pleasure—quits the substance for the shadow. Nature will not yield her rights and be supplanted by art. The slight she receives she returns. In this case, she revenges herself by increasing desire, but withholding gratification. The warfare with her is expensive, fatal—not to her, but to her adversary. He reaps the fruits of his folly in painful diseases, weakened nerves, impaired digestion, mental gloom, and premature decay.

Art and refinement nowhere so much show their antagonism to nature and simplicity, as in the pains taken to vitiate (to poison, shall we say?) the food and drink of man—the device of the creature perverting the “good creatures of God” into meats and drinks that only minister to a morbid palate, if they do not pander to more depraved propensities. These ailments put on nature a load she cannot dispose of, and overtask the functions to expel an intruder, concentrating on the organs so occupied the vital energy that ought to have been shared alike by all. Nature at length becomes unequal to these reiterated efforts. The springs of life, being overstrained, get weakened, the nervous energy is diminished; thence the circulating and muscular systems lose tone; the machinery by little and little gets into irremediable disorder; drugs afford a temporary relief,



but leave behind the seeds of relapse, till a sudden or lingering death closes the unavailing struggle.

The evil here dilated on unfortunately does not end with death. A corrupt tree cannot yield good fruit. The sins of the fathers are visited upon the children. From a diseased parentage springs an unhealthy progeny—a race born to suffer, and doomed in their turn to taint the fathers and mothers of many generations.

Deleterious influences, though not always sensibly operative at the moment, in reality impair health and abridge life in exact proportion to the exposure.

The comfort and the continuance of life depend on unremitting attention to minute matters. Taken singly, these may appear trifling; in the aggregate, they are of prime importance.

If the means by which health is regained be observed as to the spirit of them, there is no reason why the benefit thus gotten may not be perpetuated, until the gradual decay of the functions in a green old age shall, almost unperceived, herald the approach of dissolution.

Long life is not necessarily connected with robustness of constitution. The vitality of an individual, relatively or absolutely, may be weak, but if the waste do not exceed the powers of repair, the machine will work well and long. The powerful steam engine wears out sooner than the delicate watch. By good use of the body, by proper discipline of the mind, and control of the appetites, a feeble constitution may last as long as a strong one; and assuredly it will afford its possessor higher sources of enjoyment (not to say means of usefulness) than a strong body with a weak mind or ill-regulated passions.

Certain invalids always remain invalids, from an original organic deficiency, or innate constitutional feebleness. These, however, compose the smaller class. More are the victims of bad health from their ungenial position in society, or from th



nature of the labours they are subjected to. But by far the majority of those who suffer owe their bad health to controllable causes.

The condition of man, by the eternal law of progress, has been destined continually to improve. His life should become longer, his health firmer, his days happier, with the advancement of society. When the facts show the contrary, the cause is in himself. Man has been unfaithful to himself.

The discoveries of modern science, and the matured arts of life, tend, directly or indirectly, to increase the comfort and to extend the duration of life. Although immense room for reform still remains, upon the whole the improvements, present or prospective, in matters of diet, drink, cleanliness; the superior size, ventilation, drainage, and sanitary arrangements of houses and streets; the better supplies of food, clothing, and fuel for the labouring classes; with the more skilful management of children and training of youth, afford the presage and the promise that human health and longevity will be so superior to those of former ages as to give the chance of at least one-fourth greater average duration of life. Yet many of the "means and appliances" of modern art counterwork this tendency. Luxury will subtract what science will add.

Why should it be deemed visionary to expect the host of fevers, inflammations, consumptions, asthmas, dropsies, baleful humours and taints, as scrofula, cancer, &c., to be exterminated, or nearly so, by the hand of skill—by the progress of scientific improvements?

The aim of every right-thinking physician should be how, to the greatest possible extent, to alleviate the sufferings of his fellow creatures—how most largely to prevent, how most speedily to cure disease.

The good physician should live only for the welfare of his fellow-creatures. The fame he seeks is humble, honest, legitimate—that of relieving suffering and preserving life. He



should strive after truth, not for his own delight and improvement solely, but for the benefit of his species. In serving others, he spends himself, from a sense of duty to God and love to his neighbour. His mind is expanded and ennobled by a knowledge of man, in the largest sense—his form and functions, his structure and constitution, the laws that regulate it, and the different powers that act on it. He is a philosopher as well as a physician. His studies embrace the wide range of nature's works, and of the sciences as embodiments of nature's laws. He views man only in his connections and mutual dependencies with the rest of organised beings—as part and parcel of one grand whole. His acquaintance with disease—its character, course, and variations—enables him to foresee and foretell the issues of life and death. His intercourse with the sick is the visits of a guardian angel. Benevolence and gentleness, with earnestness and energy, should mark his measures. Courage, presence of mind, close attention, unaffected interest, deep sympathy, perfect candour, simple manners, sound mental faculties, and pure moral feelings are his characteristics. He is above nothing that may in any way conduce to the relief or restoration of the sick. While in painful and trying conjunctures he shares in the sorrow of the house of mourning, his compassion for suffering does not impair his judgment or unnerve his arm. As he tempers tenderness with firmness, so his directions do not lose their effect, nor his authority its weight. His practice in emergencies, when decision and promptitude can alone save, is as far removed from timorousness as it is from rashness. By his ministrations, melancholy, despair, irritability, peevishness, unreasonableness, recklessness, dissipation, whimsicalities, eccentricities, and all the other demons of disease, are rebuked and vanish; while hope, confidence, serenity, cheerfulness, enjoyment of life, common sense, the love and practice of virtue, and solaces of religion take their place. His self-devotion in times of peril is far



greater than that of the warrior on the battle-field. The din and tumult of arms, "the pomp and circumstance of war," do not excite his brute courage. With equal daring, and more coolness, he mingles benevolence. He sacrifices himself to save a fellow-creature. When stouter hearts are appalled, and flee from death's carnage, he maintains his ground; taking his stand, unmoved, between the living and the dead, to stay the plague; with unquivering arm, braving its terrors and bridling its virulence; exercising his noiseless duties unnoted, unlauded, unattended, save by the presence of a Redeeming Spirit, which, unseen, guards him, covering his head as he follows the steps of the destroying angel, and preserving him unhurt amidst the deadly miasm of "the pestilence that walketh in darkness, and the destruction that wasteth at noonday." His devotion he deems the mere call of duty. His recompence is not pecuniary; the end of his labours not personal aggrandisement. The claims upon him, as a good citizen, he reckons to be far higher; his readiness to contribute to the general welfare he limits not to considerations in kind. His services are acknowledged, the obligations of patents not discharged, by gold. His whole heart and intellect, his body and soul, are devoted to his profession and the service of mankind.

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## PRECEPTS FOR THE PROMOTION OF HEALTH AND THE ATTAINMENT OF LONGEVITY.

To cure diseases, or to alleviate those that are incurable, is not the sole function of the physician. The task of teaching how to confirm and preserve health, amid the multitudinous influences at work in society to impair or destroy it, is, perhaps, a more important part of his mission, inasmuch as the prevention of evil is better than its removal. To point out the conditions on which the health of individuals and communities depends; to reveal the errors of conduct in infancy, childhood, youth, manhood, and maturity, which destroy the constitutions and blight the prospects of thousands, is an extension of his field of usefulness, which more dignifies the physician, and exalts his art, than the fruitless search for nostrums, or the hap-hazard experimentation with drugs.

To ignorance of the human organism, and to the violation of its laws, may be attributed the ill health and unhappiness of every period of life—the diminution of its enjoyments, and the abbreviation of its term.

The principles of physiology must dictate the precepts of hygiene; and practical experience, in its turn, must confirm the soundness of precepts.

The conditions of health are subject to the same general laws of religion and philosophy, and unite to prove the principles of a Divine administration, alike in nature, providence, and redemption, in regard to health. Obedience to laws or conditions is invariably connected with appropriate benefits; infringement of tenure is punished with forfeiture; and just in the degree and of the kind of the condition violated. This is a law which neither the ingenuity of sophists nor the casuistry of bigots can shake; and alike glorifies the work, and vindicates the ways, of the Creator.



It may be safely affirmed that man entails his own disorders. A violation of the laws of his organism—of the conditions necessary to the due play of all its functions—whether wittingly or unwittingly committed—is visited with the penalty of disease and premature death.

With bodily health, mental and moral health is intimately associated. Mind is dependent for its manifestations on the condition of the material organization. Defective energy or structure of the one leads to faulty evolution of the other; as an unstrung or injured musical instrument fails to elicit its due tones. Irritability of body disposes to irritability of mind, and both influence, unfavourably, the moral feelings. A fit of indigestion will often becloud and make irascible the serenest mind.

The habits and modes of artificial society—the love of luxury—the culture of the intellectual at the expense of the physical powers—the pursuit of wealth—the cares and reverses of trades and professions—the moral excitement of public controversy in politics, religion, and literature—the unbounded play of the passions, love, hatred, jealousy, anger, sorrow, hope, and fear—the excess of meats and drinks of a stimulating nature—the use of drugs—the vitiated air of towns and manufactories—are all so many sources of acute and chronic maladies that abridge and embitter existence, because they involve departures from the conditions of health.

This state of things cannot be done away with, although the evils might be greatly mitigated by the diffusion of proper knowledge, as well as by the obtainment of sound heart principles. The subjugation of our appetites and senses is a moral triumph that will lay the foundation of physical as well as intellectual strength. Courage is requisite to forego accustomed gratifications, and to brave the reproach of singularity; but the benefits will soon repay the pains of self-denial, and a temporary discomfort will be the purchase of a permanent



blessing. To simplify our habits, and limit our wants, will be found the surest way to diminish our cares, and to increase our comforts.

Health and longevity are within the reach of almost every individual—at least of those possessed of average soundness of organism—if he will but study and enforce the means and conditions established by the Divine architect of our frames. That three-fourths, at least, of human beings should die in childhood and early adult life, was never surely an ordinance of the Creator; although the individual losses are often wondered at, and classed by a piety more sincere than enlightened as instances of the mysterious designs of Providence!

The well-being of man comprises his physical, moral, and intellectual condition. To discuss the two latter branches belongs to other professions. We proceed to lay down the general principles and precepts that are to regulate the former. Modifications of these may be necessary, according to individual cases and constitutions. The great requisite for those anxious to regain and perpetuate health, is courage to commence, and perseverance to continue in, a right course. The love of life will supply the one; returning health will stimulate the other.

#### DIET.

The most feasible theory of the phenomena of digestion is fermentation, in the light which Liebig's admirable researches have thrown upon it. The movements of the stomach are a mere mechanical help.

The mucous membrane of the stomach, in certain conditions, possesses the power of producing these changes—of dissolving solid animal matters. The gastric juice owes its solvent power to the acid it contains; combining with the decomposed outward layer of the stomach mucus, it forms a fluid that essentially corrodes, eats away, and liquefies the aliments. A very weak solution of this acid in warm water, with the addition of a



small portion of calf's stomach, forms a mixture like gastric juice—an artificial digestive-fluid, which has the same solvent power over aliments out of the stomach (exposed to its action for a few hours at  $96^{\circ}$  of heat) that the other has over aliments in the stomach. If we were inclined to recommend any medicinal resource to invigorate weak digestive powers, it would be this very simple and efficacious digestive-fluid. If it will dissolve fibrine or coagulated albumen out of the stomach, it must dissolve them in the stomach.

The improper management of diet is the source of many diseases, and the bar to many cures. The errors of diet are more frequent on the score of quantity than quality, and in respect to the circumstances under which it is taken. The instincts of nature in man's present artificial state are perverted guides. Appetites are sophisticated; and the natural relations between the senses and the objects that impress them are destroyed or vitiated.

The object of aliment being to repair the waste of our tissues, and to afford the materials of their recomposition, quantity and quality must have reference to the relative waste of the several periods of life. The amount of food necessary is regulated by the waste from the efforts exacted of the system—the power of the stomach, and the craving or demand it sets up.

The vigour of the digestive functions is in proportion to the vital energies of the individual, the size of its organs, and the degree of labour habitually imposed upon them.

The food that is most conducive to health must be partaken of with moderation, and at regular intervals; leaving after it an agreeable repletion, without sense of fulness, oppression, or fatigue, and the bodily and mental energies equally recruited.

The cardinal rule for weak or dyspeptic subjects to avoid overloading the stomach, is to eat slowly, to masticate thoroughly, and to attend carefully to the first feeling of satiety—the first intimation of repletion. The relish given by the appetite then



ceases; and every mouthful after this accumulates materials more than the stomach can master, and which will oppress and annoy for hours, incapacitate for the due digestion of the next meal, and probably disorder the system of the susceptible for days.

The habit of immoderate eating develops the powers of the stomach at the *expense* of the activity of the brain, the senses, and the muscles.

The general sympathy of the organism finds a centre, so to speak, in the stomach. It supplies the part of an index, for the others to intimate their want of nutritive materials.

Most persons eat more than is requisite or good for health. The stomach and the humours of the body are equally surcharged—the supply far exceeds the waste: unhealthy plethora ensues. The faculties of the mind are blunted, and the seeds of innumerable diseases are sown.

As the appetite is regulated by habit, with stated hours the desire for refreshment will return: the meal-times—their periods and frequency—are, therefore, important. Protracted fasting, as well as too frequent eating, are equally injurious. It avoids an unduly substantial meal at one time of the day more than another, and prevents the oppression produced by a heavy meal when the stomach is weakened after a long fast: as happens with those who starve all day, and take a late or large dinner or supper. To prove how much the vigour of digestion is impaired by too long inactivity of the stomach, a person in good health has only to omit one of his meals: the subsequent repast, even of the usual quantity, will incommode.

The appetite is never natural, nor the digestion perfect, till the contents of the last meal are passed out of the stomach, and the ulterior stage of digestion is accomplished. If this process is imperfect, or unfinished, natural hunger will not return, and the next meal, if indulged in, will over-load. This is the reason why, after a full meal of nutritious viands, or after an excess



that oppresses, the appetite is slower to return—the disinclination or disrelish for the ensuing meal should be respected. If it be not respected, a double error and mischief are committed: namely—first, the interruption of the assimilation of the last meal; and, secondly, the arrest of the functions of the stomach, alike unprepared and indisposed for the labour imposed upon it.

The first part of the process of digestion, namely, its solution and trituration in the stomach—the reduction of the mass to a homogeneous pulp—is facilitated by rest, partial or entire. It is advisable, therefore, to avoid any violent exercise for an hour or two after a meal—especially the chief meal.

As a general rule, people, and especially delicate people, should never eat freely in a state of fatigue, or immediately after hard exercise. The nervous energy that has been diffused over the system, and spent in muscular efforts, must have time to accumulate and concentrate itself upon the stomach in order to proper digestion. Half-an-hour's or an hour's rest should always precede a meal under these circumstances.

The interval between meals—when the stomach has been relieved of its load, and the new chyle is entering the general circulation—is the best time to indulge in, and profit by, active exercise. Muscular energy is then at its maximum, and its free scope accelerates the last stage of digestion, and completes assimilation.

The interval of the meals is the fittest time for the reception into the system of the water necessary to repair the waste of the fluids. The stomach having then, in a great measure, disposed of its load, is prepared to receive cold water, to dilute what remains, to carry off superfluous matters, and to supply new materials for the functions of the kidneys and skin.

The allowance of liquids to meals is a much controverted point. The strong stomach may take them with impunity, especially if the contents of the meal are solid. In the weak,



much fluid will unduly distend the stomach, weaken its coats, and absorb the gastric juice.

*Breakfast.*—To enjoy and digest well this meal, the individual should be abroad early, and spend an hour in active exercise; and should, by drinking cold pure water, have repaired the waste of the fluids lost in perspiration and other excretions in the night-time, corrected the taint of the breath oft perceived in the morning, and washed out his stomach. Let him then breakfast, keeping always in view the prime axiom, “temperance in measure and simplicity in kind.” The fewer luxurious gratifications indulged in the better.

Such a commencement of the business of the day will “set up” any man in moderate health for the rest of it, enabling him, with clearness of head and steadiness of limb, to go through any rounds of public or professional duty, and both to relish and digest his subsequent meals.

*Dinner.*—An hour or two after mid-day is the most natural time for dinner, being a sufficient interval between the morning and the evening meal, to admit of the assimilation of all three without interfering with each other; avoiding the extremes of frequent or too distant meals.

The evening repast of tea will better dilute the remains of dinner, and assist in digesting any remains of food some hours before the time of rest. Retiring to bed with a full stomach is not wholesome. The exhaustion of the vital powers by the pursuits of the day, demands the renovating power of sleep. Supper, in general, is superfluous, unless there has been considerable labour or activity in the evening.

The stomach of man has greater power of accommodating itself to varieties of diet than that of any other animal. It has been a long-agitated question, whether the lord of creation was designed to be a carnivorous or graminivorous animal. This dispute can only be settled by an appeal to the structure of his digestive apparatus, which shows that he is neither



exclusively, but omnivorous in his appetite and capabilities. He can equally dispose of animal or vegetable food in all its diversities and admixtures, or either the one or the other exclusively. A due mixture of both, with a predominance of the latter, is found most conducive to health and strength. Climate, season, habit, age, exercise, individual peculiarities decide the choice. An exclusive diet of fresh animal food by no means affords the same nourishment as an exclusive diet of vegetable food. The testimony of many travellers, and of the explorers of the arctic regions, confirms this fact. The Esquimaux are examples of the one kind of diet, the Hindoos of the other. There is no proportion between their physical powers. The predilection of these respective diets is in virtue of a law which adapts man's constitution to the climate he inhabits. §

Vegetable food is less easily assimilated—transformed into nourishment—than animal food. In poor subjects—poor of flesh, thin of blood, cold of constitution—in persons of weak digestive powers, subject to flatulence, acidity, pain of stomach, and water-brash—in those of pale and flabby fibre—in the inhabitants of damp marshy soils—in those enduring exhausting labours—in the residents of ill-ventilated houses—in all these individuals vegetable food, at least a predominance of it, imposes too much labour on the digestive organs to transform it into nutriment.

The plethoric, the sanguine, and the inflammatory—those whose facility of making blood, super-abundant humours, and high condition keep them on the verge of fever, and dispose them to congestions, apoplexies, and pulmonary hæmorrhage—must abstain from succulent animal food, and be content with plain diet, chiefly grain, fruits, and roots.

A due admixture of the most nutritious animal and vegetable food, with exercise, and simple water for drink, will bring the body into the highest physical condition. This constitutes the art, and produces the results, of training.



Food should never be eaten in a highly concentrated form, that is, containing the nutritious elements unencumbered with what, for want of a better name, we call husk. A certain weight and bulk of the aliments received into the stomach is a necessary condition to good digestion. Nature never produces nutriment in a concentrated state. The grain is combined with the chaff and the straw. The sugar, the acids, the mucilage, and the oil of fruits is united with farinaceous, and fibrous principles—husk. Animals fed for some time on these highly concentrated forms of nourishment become ill and die. Even horses fed on the unnatural and highly-condensed provender of oats and beans are subject to various ailments. Dogs fed exclusively on sugar, olive oil, gum, and butter, with water, though well nourished for a time, all drooped and died under the diet.

The same principles, apply to the diet of man. Food containing the nutritious principle, without sufficient farina, is unwholesome. There must be a due admixture of farina, bread, potatoes, or other less concentrated aliment.

The nutritiveness and digestibility of a substance are not synonymous terms, but denote very different principles. The latter is generally in the inverse proportion to the former. The one is dependent upon its chemical constitution, the other upon its mechanical cohesion. These qualities constitute the test and value of the different articles of diet.

The mechanical cohesion—the texture of alimentary substances, more than their chemical composition, influences their digestibility, and necessitates the art of cooking.

The nutritive principles of animal food are fibrine, gelatine, albumen, and fat.

Fibrine is the most nutritious: it is the muscle of the animal. Hence mutton-chops and beef-steaks afford large nutriment. The blood also, as abounding in fibrine, is highly nutritious.



Gelatine is the next nutritive principle of animal food. It is the essential element of skin, membranous tissues, tendon, and bone, when its earthy part has been removed. Its use is therefore to build up these organic structures. It is the predominating principle in young animals.

Albumen (coagulated) and Fat are highly nutritive principles. Taken alone, they require considerable powers of stomach for their digestion. Articles of food in which albumen predominates, as eggs, oysters, fish, shell-fish, the blood and brain of animals, are easily digested and are restorative—are suitable to persons of feeble digestion, to convalescents, to old men, to the studious and sedentary, to delicate women and children.

The more nutritious meats are more stimulating and heating, and more difficult of digestion than the less nutritious.

Jellies, isinglass, &c., when either alone as a dessert, or as an addition to enrich soups, overload the stomach, and are bad for invalids. Hence young meats, as lamb and veal, which contain much albuminous matter, are glutinous, and harder of digestion than the old animals, mutton or beef.

Digestion varies with the power of the stomach and the habits of the individual. Mutton may perhaps be considered as the type of that texture of fibre requisite for easy digestibility. Beef requires stronger powers of digestion, but is more nutritious. The longer the period that intervenes between the death of the animal and the eating, the more tender and digestible it becomes. This is in virtue of the diminished cohesion of the fibres produced by spontaneous alteration or decomposition—incipient putrefaction. What the food gains in this respect it loses in nutritive power.

The flesh of young animals is less nutritious and more indigestible than that of old. It contains more gelatine and less fibrine. Wild animals are more nutritious than domesticated, from their superior health, air, and exercise. Hence oxen, accustomed to labour and afterwards fattened, afford the



best beef. The flesh of hunted animals—animals accustomed to hardy exercise—is light and digestible. Hence the well-known inferiority of lean and spare flesh, because that state indicates a want of condition in the animal.

Bacon, or healthy pork, is highly nutritious and wholesome, but in civic life is only fit for occasional use. Smoke-dried, salted, or highly-seasoned minced meat, as that stuffed into intestines, require strong powers of stomach. The flesh of the fowls ordinarily used at table is light and digestible. Goose, however, is an exception.

Soups consist of all the nutritious principles of meat, save fibrine, extracted by decoction. Part of the albumen rises to the surface in the shape of froth, and is skimmed off. This kind of food is highly restorative, and exacts little labour of the digestive organs. When taken to excess, or preceding a copious meal of solid materials, it is apt to distend the stomach, and impede digestion. Beef affords the richest soup, then mutton. To convalescents, the soup of white meats, as veal and fowl, is less stimulating. A decoction of beef or mutton, as a beverage, is far more restorative than wine, ale, or tea.

Broths, compounded with vegetables, as peas, barley, rice, potatoes, greens, cabbage, carrots, turnips, &c., are only fit for strong stomachs, and are perhaps only the diet of economy. Too frequently they distend the stomach, and unfit it to digest the more solid aliment.

Fish contains less nourishment than the flesh of beasts or birds; nevertheless it is a highly important article of diet—light, nutritious, and unstimulating—not sufficiently used because of its expense in all inland places. The fresher it is eaten, and the simpler it is cooked, the better. It is a valuable diet for invalids. Its light texture makes it easily acted on by the stomach. It is peculiarly suitable for convalescents from exhausting diseases, when the digestive powers are as yet unable to convert stronger aliment into chyle. Fishes combine



fibrine, gelatine, and albumen, almost in equal quantities. Fish of dark-coloured and firm texture, as the salmon, eel, &c., are oily, heating, savoury, and nutritious, but difficult of digestion. The whiter and more tender fish, in which gelatine and albumen predominate, as the whiting, sole, turbot, haddock, and cod, are easier of digestion, according to the order in which they are named. The most wholesome condiments to fish are vinegar and salt.

Milk is intermediate between animal and vegetable food. It is nature's exclusive diet for young animals till a certain age, because of the high amount of nutriment, and the little labour its assimilation imposes upon the digestive organs.

Milk is the suitable, and ought to be the exclusive, diet of the infant for the first nine months or year of existence. It may advantageously, at all ages, constitute a principal part of the food of man, at least one half of his morning and evening meal. Cream is too rich to be taken into the stomach in considerable quantities, but it confers a richness and delicacy on other subsidiary articles of diet.

Eggs rank next to milk in their high degree of nutritiveness and digestibility, and for the same reasons, and with the same intention. Overboiled eggs are not indigestible.

*Vegetable Foods.*—Farinaceous grains and roots, as wheat, barley, rye, oats, rice, &c., contain the greatest amount of the most nutritious of all vegetable principles, starch, gluten, and sugar, with phosphate of lime, the essential elements of the organised tissues.

Wheaten Bread is pre-eminently "the staff of life," as containing most of the most nutritious principle, gluten. The finest flour—highly dressed wheat—has a tendency to constipate the bowels. Less completely dressed—the husk less highly separated, or containing the whole substance of the grain—household or brown bread, combined with the white or substituted for it, counteracts this effect.



Barley Bread is less nutritious and less digestible than wheaten bread. It is too viscid ; its gluten is too much in its separate state—not sufficiently combined with the other principles—to be easily acted on by the stomach.

Rye Bread is highly nutritious ; but it is apt to oppress the stomach, and to produce acidity and purging. A mixture of wheat and rye flour makes a wholesome bread, the one grain counteracting the obvious effects of the other.

Oaten Bread affords an ample nourishment ; but it is heating apt to create acidity, and requires strong powers of digestion. This constitutes the staple diet of the hardy Highlander, with milk, cheese, and fish. But it is his habits of life, his active exercise, his mountain air, more than his diet, that endows him with constitutional powers, in point of toughness and endurance, far beyond those of his southern compatriot fed on “roast beef and plum pudding.”

Boiled oatmeal, with new milk, may be employed advantageously for the breakfast of healthy and active children.

Bread given in moderate quantities to children who have teeth, and with plenty of exercise between meals, it is perhaps the best food. The mucilaginous sloppy doses of rice, sago, arrow-root, &c., as ordinarily prepared by the bulk of nurses and mothers, are much more indigestible, and not near so nutritious. Ground rice, or the entire grain duly boiled in water, with milk, is to be excepted, and forms the diet *par excellence* of prematurely-weaned children. The diet of infants will be afterwards discussed.

Rice, after wheat, is the next staple article of diet. It is the principal nourishment of entire races of men ; but it cannot be taken exclusively or in large quantities but by strong stomachs. It is little disposed to fermentation.

Arrowroot, Sago, and Tapioca are, in their place, useful articles of food for children and sick persons.

Potatoes, well-cooked and mealy, are wholesome, nutritious, and agreeable to almost every taste.



The esculent roots, as carrots, turnips, parsnips, onions, radishes, lettuce, water-cresses, are all flatulent and watery aliments, but are refreshing during the heat of summer, and are good qualifiers of solid animal food. The former owe their nutritive properties to the sugar they contain; the latter are pungent, acrid, stimulating, and good for condiments, &c., &c. The onion, boiled or in soup, is mucilaginous and nourishing. Water-cresses and lettuce are useful for their aromatic and anodyne properties. Greens, cabbage, cauliflowers, brocoli, spinach, boiled endive or succory, though containing little nutriment, when well-dressed, in warm weather, and combined with other articles of diet, are digestible, cooling, aperient, and adapted for irritable states of the mucous lining of the intestinal canal.

Fruit in its season may be safely indulged in by the strong, according to their discretion, taste, appetite, or thirst. To the valetudinarian, if discreet in the timing and dose of the fruit he takes, it will be alike grateful and restorative. He must, however, be careful not to eat any quantity on a loaded stomach, as is too frequently done, in the shape of dessert after dinner.

Farinaceous fruit, as the melon, is the least digestible; so also are the common stone fruits. The peach and apricot, however, are as light and digestible as they are delicious. Cherries are less digestible. Apples and pears are next in point of digestibility. The small-seeded fruits, as grapes, strawberries, raspberries, gooseberries, cranberries, are the most wholesome. Apples, when baked, afford an excellent nutriment. Dried fruits, from the amount of sugar they contain, are apt to become ascescent.

Condiments and stimulating sauces or seasonings contain no nutritive materials, but are intended to stimulate the jaded powers of the stomach to forced and unnatural efforts. Spices, mustard, pepper, &c., are good in themselves, but of unfrequent



necessity in temperate climates. The produce of the tropics, they are indispensable qualifiers of the vegetable diet that forms the staple food of the inhabitants.

Tobacco, in all forms, is to be classed in the prohibited list with spirits. Whether chewed, snuffed, or smoked, it is equally pernicious: chewed, it destroys the appetite, absorbs and vitiates the secretions of the stomach: snuffed, it blocks up the nostrils and blunts the sensibility of their mucous lining: smoked, it taints the breath, parches the throat, and provokes thirst which the smoker seldom quenches with water. In every way it is a filthy habit, and a useless waste of money; equally an injury to its consumer, and an annoyance to those about him. It begets indolence and indifference, selfishness and slovenliness.

Opium is often used as a substitute for spirits, on account of the agreeable excitement it produces. The dose requires to be continually increased. The habit is even more destructive than that of drinking strong liquors. We have known it annihilate the finest talents, and produce sheer old age and death but a few years beyond thirty.

*Modes of Cooking.*—Cooking has a very intimate connection with health, as well as with comfort. Many hurtful prejudices exist on this subject in society, and it deserves the attention of every one anxious to improve and preserve health—especially of mothers and the heads of families.

Roasting is, perhaps, the best form of cooking, the least dissipating the juices of the meat. Roasted are more nutritious than boiled meats. For an invalid, the internal part is more delicate, juicy, nutritious, and light. Meat should be neither over-done nor under-done. If it be kept long, and tender, and not too raw, the latter, however, is preferable.

Broiling is only a modification of roasting. The hard coating thus rapidly imparted to the meat prevents the evaporation of its juices, and renders it peculiarly nutritious and tender.



Boiling robs the meat of its gelatine: the fibrine, however, is left, but weakened of its nutritive power according to the amount of boiling; but it is rendered softer, more pulpy and easy of digestion: the albumen is solidified. The extracts, therefore, constitute the value of this mode of cooking. These are economical, but not wholesome, aliments: the watery part is oppressive to weak stomachs. Boiling must not be too fast, nor too long.

#### DRINKS.

Drink is as important to the economy as food; and the craving for it is a more imperious impulse. It is necessary, both to repair the waste of the fluids and to liquefy the nutritive matters in the stomach. It is questionable if much of it passes into the duodenum, or bowels, unless when a great overdose is taken; otherwise, its usual route into the circulation is by direct absorption from the coats of the stomach. Nutritious liquids, introduced into this organ, have their aqueous parts thus absorbed—a route very different from that which the chyle takes to reach the circulation. The solid residue is then acted on by the juices and muscular motion of the stomach, and converted into chyme. This seems the indispensable condition of their digestion. Milk—nature's own liquid aliment—is thus acted on. When soups, tea, coffee, chocolate, malt and spirituous liquors are taken, the watery part is immediately absorbed, and the gelatine, albumen, fat, &c., of whatever composed, undergoes the usual action of the stomach.

Water is the best beverage; the purer it is, the more free from extraneous ingredients, the better. Pure animal and vegetable infusions, as beef and chicken-tea, barley-water, toast-water, gruel, &c., are excellent nutritious drinks for invalids.

Errors of drink have been, amongst civilised society, the most prolific source of its physical, as well as its moral evils.



Diseases that slaughter more than ever fell victims to sword, famine, and pestilence combined, acknowledge this origin. This can be made apparent to the simplest understanding. Drinkers directly poison the springs of physical and mental health—the digestive apparatus and the brain; charging the blood with a greater quantity of extraneous matters than can be easily eliminated, and forcing their separation within the economy in the shape of various morbid deposits. The veins and lymphatics of the stomach and intestines absorb a great part. This is received into the general mass of the venous blood of the mesentery—the connecting membrane of the bowels. All this blood has to pass through the liver—the largest gland in the body, and the most frequently and easily disordered. Hence the liver receives the first impression of noxious drinks, and retains it most permanently. Hence the indigestion and bilious attacks after a debauch, and the organic alterations of the stomach and liver consequent to long-continued irritation, from the excessive use of ardent spirits or fermented liquors. From its delicate organisation, the brain is the next organ to receive and retain these morbid impressions. Intoxication, although beastly enough, is a mere transient result. Alcohol is easily detectable in the brain of those killed when drunk. Not only is the nervous connection between the brain and stomach impaired by this means, but its mental and moral perceptions are equally blunted. The kidneys, as the eliminators of morbid or *effète* elements from the blood, are the next organs to feel and resent errors of diet and drink.

Alcoholic drinks, fermented liquors, as well as medicinal stimulants of all kinds, should only be had recourse to on extremely rare occasions, and under circumstances of great exhaustion, when life appears sinking. They can never be taken with impunity in a state of health. The nutritious ingredients in any, of even the best, of the liquors in question are almost an infinitesimal element compared with the noxious



principle they contain. The temporary stimulus of organic activity, and the transient exhilaration of animal feeling they produce, is mistaken for the acquisition of strength and nourishment. This fallacy has propagated a master-evil over many climes, and throughout many generations, entailing the ruin of myriads of the best and brightest, as well as the worst and dullest, of the human species. We charitably hope that "the times of this ignorance God winked at." But, in these days, to counsel alcoholic stimulants to feeble suckling mothers and dyspeptic invalids is inexcusable. They may, indeed, temporarily counteract exhaustion, rouse torpid nervous energy, and flog up languid vascular action—producing a glow in the stomach, or a draught in the bosom; but they will fail to impart available nourishment. This factitious strength is soon succeeded by increased weakness, and a more imperious demand for a repetition of the stimulant. The mischief does not rest here; for, the ordinary dose failing to produce its wonted effect, a deeper and a deeper draught becomes necessary, and at last merges into a habit—often an uncontrollable passion. In other cases, where the administration of wine or spirits is commonly supposed to be justifiable, in persons exhausted by inordinate fatigue, it is better to allow the system to wait and want till an interval of repose gives time for the stomach to resume its activity, to utter the voice, and to take upon itself the supply, of the organic demands.

The greatest and longest continued efforts, both of body and mind, are those made on simple diet and unstimulating drinks.

Even without going the length of palpable intoxication, the habitual indulgence in "strong drink" produces chronic inflammation of the stomach and duodenum, thickening of their mucous lining, and drying up of their secretions; organic changes of the liver, with obstruction of the bile ducts; alteration of the kidneys. The heart, lungs, blood-vessels, brain, and nerves become the seat of various diseases, inducing apoplexy



at the head, and gangrene at the extremities, shaking of the hand, and palsy of the leg; epilepsy, *delirium tremens*, and insanity; raving madness, suicidal despondency, or blank idiotcy. It induces premature decay, and determines a habit of body that renders fatal the simplest accidents of wounds or fractures. It gives to its votary a greater susceptibility to the impressions of ordinary disease, and makes him fall the first victim to epidemic visitations. It entails deformity, disease, and imbecility on posterity. It shatters the powers of the most gifted intellect; it blunts the senses; it perverts the conscience; it renders equally powerless to will or to do. It unfits alike for the struggles or the successes of life—to bear its woe or its weal. It mars all present happiness, and blights all future prospects. It entails at once the loss of character, and the ruin of circumstances. It impels to every crime, and produces recklessness of its commission. It dissolves the ties of relationship, and extinguishes the claims of humanity. It stimulates to murders, robberies, incendiaries, and riots. It fills our prisons, hospitals, asylums, and workhouses. It has even swept from the face of the earth entire tribes of men. It perverts the grain nature has given for “the staff of life” to mortals into a means of weakness and an engine of death.

Such are the tendencies and effects of the indulgence in intoxicating liquors—such the terminus to which it inevitably leads its victims. Is there any guarantee against reaching this terminus by those who once set foot upon the fatal rails that lead to it? An habitual medicine or beverage of the above nature, whose limits of moderation and excess cannot be defined, and where, therefore, transgression must be easy, is best not to be tampered with. The immediate, entire, and final cessation of its use is the only salvation for the weak, and the only security for the strong. To the veriest sot this abandonment is safe, and, if not beyond retrieve, will ensure the speedy return of health, of peace, and of prosperity.



*Tea.*—Not the least of the advantages of tea is the having superseded in society the more noxious potations of fermented liquors, and spirits, and water. Tea, at least black tea of the best quality, does not deserve the hostility it has called forth from some writers. It refreshes the body and exhilarates the spirits, keeping awake the senses, and giving activity to the intellect. Its nutritive power is chiefly or altogether attributable to the milk or cream and sugar with which it is combined. To literary men and students, not taking active exercise, its use could be ill substituted by milk. A marked indisposition for intellectual toil follows the use of the latter. With ample air and exercise, however, milk is much the fitter fluid for man to dilute and wash down his morning and evening meal.

Coffee is more stimulant and more oppressive to the stomach than tea. It is apt to constipate the bowels and produce acidity and flatulence. Coffee should always be fresh roasted, and should be made by infusion. Boiling dissipates its aroma.

Cocoa is lighter than Chocolate, but not so nutritious. They are more substantial articles of diet than tea and coffee.

#### AIR.

Variations in the quality of the air we breathe are both a fertile source of disease and an efficacious means of cure. The atmosphere obeys the general law of the expansion of bodies by heat, and their contraction by cold. Hence the variations of atmospheric pressure. The due pressure of this fluid on the surface, equally with its reception into the lungs, is necessary to health. The heaviest column of air is that which raises the mercury in a barometer to 28 inches at the level of the sea. This affords the most condensed amount of oxygen the air is capable of, and the heaviest pressure on the superficies of the body—conditions favouring a free respiration, a quick recruiting of the arterial blood, rapid circulation, energetic movements, hearty appetite, a vigorous digestion. The diminution of the



weight of the atmosphere on moderately elevated localities is compensated by the greater purity and freer circulation of the air. When the atmospheric pressure is less than normal, as at great heights or in certain circumstances of weather, the respiration becomes embarrassed, the pulse quickened, the general uneasiness is united to great debility. There is less of oxygen in a given quantity of air, and less pressure on the fluids of the surface. This effect is felt, more or less, every day by invalids, when the mercury descends in the barometer. The liquids of the body tend to expand; the veins dilate, and bulge upon the surface; and the least movement excites perspiration: bleeding from the lungs, and apoplexies, are remarked to be more frequent among those predisposed. These persons, in this state of weather, should avoid every obstacle to a free circulation, as tight dress, muscular exercise, and overloading of the stomach.

The effects of a hot and dry atmosphere are muscular weakness, copious perspirations, diminished secretion from the kidneys, frequent thirst, disinclination for animal food, and a relish for vegetables, acid fruits, and cooling drinks; weakened appetite and digestive powers; inaptitude for intellectual as well as bodily exertion; sleepiness during day, and sleeplessness at night. It induces cerebral affections; gastric, bilious, and intestinal diseases. It aggravates hysteria, epilepsy, hypochondriasis, and insanity. It is unsuitable for the lymphatic, the scrofulous, and the rheumatic; but adapted to dry and bilious temperaments.

A hot and humid atmosphere is still more unhealthy and debilitating than the last. Respiration is more difficult. The energy of the nervous and muscular systems is depressed. This state of the air is the precise condition most favourable to the decomposition of animal and vegetable substances, and to the uprising of putrescent emanations. Hence, the prevalence, under these circumstances, of epidemic, intermittent, and



typhoid fevers. It is uncongenial to the lymphatic temperament.

A cold and dry air is pre-eminently healthy. An abundant oxygen is supplied to the lungs; muscular energy is augmented; the appetite is increased; digestion invigorated; perspiration is less; the urine more abundant. Its benefits depend on sufficient exercise being taken to make the organs react energetically. It is, therefore, uncongenial to those who cannot take active exercise, as persons debilitated by age or sickness, those of lymphatic temperament, and new-born infants. The interior congestions, determined by cold inadequately resisted, predispose to inflammations, and hæmorrhages.

A cold and moist atmosphere is very unhealthful. It determines powerful abstraction of heat; repels perspiration; produces rheumatisms, inflammation of the mucous membranes of the lungs. The very strong and bilious are often benefited by this kind of weather.

#### SLEEP.

Sleep is the most powerful restorative of the system. It renews the daily ebb of life, and arrests its rapid flow; recruiting the exhaustion produced by its drains, and toils, and tear and wear. There is no invariable rule for all persons with respect to the amount of time to be spent in sleep. It is regulated by the age, constitution, and habits of the individual. During the entire period of the growth of the body more sleep, as more food, is required to repair the waste of the structures, and to restore their sensibility and irritability, exhausted by the incessant activity of the waking period. Hence, those who use much exertion sleep soundest. In the prime of life waste is not so great, and a less supply is necessary. In old age, when the waste of the vital powers is least of all, there is the smallest necessity for sleep. But the very extremes of life unite in sleeping away most of the time. Too little sleep



relatively to the activity of the body unduly exhausts the vitality of the system, inducing morbid susceptibility of the brain, leanness, nervousness, premature decrepitude, disease, and death. An inordinate time given to sleep, or spent in sloth, equally impairs the energies of mind and body; inducing dulness, sluggishness, unwieldiness, and corpulence. Eight hours for youths and six hours for adults, is about an average term for sleep.

For sleep to be speedy and perfect, all cares, emotions, and thoughts should be laid aside with one's clothes; and every external excitement of the nerves, as by sounds, light, etc., withdrawn as far as possible. Night caps had far better be dispensed with, and people should accustom themselves to sleep with a part of a window open.

Early rising and the habits it inculcates are highly conducive to health and longevity. Necessitating early retirement to rest, it induces regularity of hours and habits—withdraws from many temptations to baneful conviviality and excesses, and facilitates the advantageous employment of the early morning. It is improper to retire to rest for the night on a full meal; two or three hours after supper is the best time; the body rises lighter and more refreshed the next morning.

During the middle of the hot days of summer, an hour's nap after dinner is often a necessary indulgence, especially to those engaged in laborious occupations, and cannot but be conducive to health. A few hours taken from the usual morning rest will be well replaced by an hour's sleep in the afternoon. This was the practice of John Hunter, and is the custom of the inhabitants of the south of Europe.

A horse-hair mattress is in every way preferable to a feather-bed. Over-load or deficiency of bed-clothes is equally to be avoided. During the day they should be taken off and left to air, &c., with the windows of the room thrown up.

Light is an agent indispensable to health. Vegetable, as



well as human beings, deprived of its influence, are blanched. The former also are changed in their taste and other properties. The flesh of the latter is rendered soft, flabby, pasty, and sallow. This is observed in persons who work underground, in prisoners immured in dungeons, in the inhabitants of narrow dark streets and lanes, in the cretins of the deep-shaded Alpine valleys, and in the natives of the polar regions, who are for half the year without the light of the sun. Those, on the other hand, who are constantly exposed to the rays of the sun, or who go entirely naked, as the New Zealanders, the Mexicans, the Peruvians, the North American Indians, have thick, rough, freckled, deep-red tawny skins, florid blood, muscular bodies, perfect forms. These are the united results of constant insolation and exercise. The application of these facts to the physical education of youth must not be lost. Lymphatic, scrofulous children, cannot be too much in the open air. Too much exposure to the sun, however, especially of the head, produces headache, apoplexy, inflammation of the membranes of the brain, insanity, etc.

#### CLOTHING.

The form of dress has much to do with the preservation of health. A confined garment is an evil to be avoided. Tight cravats often produce derangement of the health, which is long and in vain "doctored" without knowledge of the cause: they produce congestion of the brain and apoplexy, besides various ailments ordinarily referred to the heart and digestive organs.

Tight stays are a crying evil of modern society. The compression of the yielding parts of the chest, of the heart, and blood vessels, hinders respiration; preventing the full expansion of the lungs, and the free movements of the diaphragm, abdominal and intercostal muscles. It equally impedes digestion, displacing the liver and bowels, especially the colon. It produces tumours and other diseases of the mammary glands, and sometimes absorption of the bosom. It predisposes to



tubercular depositions, to spitting of blood, consumption, palpitations, ruptures, contortions of the spine, and hæmorrhoids. The exposure of the upper part of the chest aggravates the disposition to chest affections, including colds, coughs, sore throats, bronchitis, etc.

Tight garters induce a varicose state of the veins of the legs and feet. Tight boots and gaiters interrupt the play of the muscles of the feet, and produce absorption of the calf of the leg. Tight shoes distort, by pinching the toes, and incapacitate for walking.

Too warm clothing is to be avoided, on the principle of allowing the internal resources to develop the heat, instead of overloading with dress to retain it. To infants, warm clothing is indispensable, diminishing it by degrees as they advance into activity and strength. In old age and in the feeble it is also requisite, but only by degrees as pressing necessity demands: increased clothing must only keep pace with the increased inability to generate animal heat.

Wet clothes should never be allowed to dry upon a person. The evaporation from the body thus effected determines severe internal congestions, inflammations, colds, and fevers.

Flannel next the skin should not be had recourse to in youth without necessity, in lymphatic subjects, and in cold and humid countries. In almost all cases flannel may be left off with impunity after a very few days of the Water Cure discipline.

Silk is a bad conductor of heat, and, for the very delicate, is probably the best material to wear next the skin, without imposing much additional weight of raiment. Wadded silk, as combining lightness and warmth, and worn as a jacket next the inner garment, may well supersede almost any other kind of cozy clothing, if such must be worn by the feeble and chilly.



## HINTS TO CONVALESCENTS, ETC.

If these Hygiènic principles and precepts are of importance to attend to in health, they become doubly necessary in convalescence, which is neither health nor disease, but an intermediate state. Wasted energies are to be recruited, and the organs are to be prepared to encounter influences from which they have, for a longer or shorter time, been withdrawn—influences of society, friends, visits, noise, light, cold, heat, meats, drinks, bodily labour, and mental toil. The fear of relapse necessitates that here, as in many things else, we advance step by step.

To invalids who cannot bear much walking, riding is, of all exercises, the most beneficial. It brings into play the greatest number of muscles, and yields to the body the strongest concussions. But, if possible, horse exercise should always be alternated with a corresponding amount of walking. In this way it is pre-eminently useful in all nervous, hypochondriacal, and dyspeptic affections. In certain diseases of the heart and lungs, gentle riding is an invaluable resource.

As epidemic influences are found from time to time to prevail, it is well to be provided with the means of defence, and to know their conditions of attack. Everything that materially deranges the health may become the occasion or exciting cause of the prevalent complaint. When the constitution has been deteriorated by any means—especially by bad diet, by excesses, by fatigue, by misery, by depressing passions and diseases—then it is most liable to be impressed with the noxious influences. Hence the necessity of avoiding every debilitating indulgence, and of adopting every means of increasing vigour. “Catching cold,” a fit of passion, a bout of drinking, an overdose of physic, an indigestion, a fright, a wound, anxiety, are named by writers, and familiar to observers, as occasional causes of individual attacks of reigning epidemics—cholera, yellow fever, typhus, plague, dysentery.



## INFANCY AND YOUTH.

OUTLINE OR HISTORY OF A CHILD'S PROGRESS FROM AN EARLY PERIOD, THROUGH THE GENERAL AILMENTS AND DISEASES OF YOUTH, WITH APPROPRIATE REMEDIES AND SUITABLE APPLICATIONS ATTAINABLE IN EVERY HOUSEHOLD.

The mother, when conscious of being the recipient of embodied life, and having in her keeping, and under her influence to make, mould, and embody a living soul, physically, mentally, and so far morally, should be impressed with awe, and at the same time with gratitude to the Divine Author of our being, on account of the honour and responsibility of the privilege, and her duty to present, through her influence, the highest embodiment of humanity that she is capable of, by attending to all the conditions which can affect the coming immortal.

The intelligent classes of society are now so far aware of the influential effects of parental conditions in stamping on the unborn, from the moment of conception and during pregnancy, as well as while under parental influence, the future character. It is very important that mothers should teach their daughters what an important position they fill in marriage in affecting the future history of the human race.

We all feel in ourselves the effects of the various emotions we cherish and the motives which guide our actions. We wish our children to be better in every respect than ourselves; and this can only be attained by self-denial on our part—by restraining all our selfish and harsh feelings, and cherishing only what is elevating and loving towards each other and all around us, in word and deed.

Prospective mothers should maintain a spirit of cheerfulness



and take moderate exercise frequently, live on plain food, avoid all stimulants, wear comfortable clothing, avoid all exciting influences, and endeavour to secure sound sleep and peace of mind.

The special influences requiring to be watched over in certain cases are, first, nervousness in its various forms. This is relieved by frequent washings and bathing of the head. General invigoration is secured by daily cold sponging or bathing the whole body, having regard to the season of the year, etc. Constipation is relieved and prevented by the use of a proportion of rough or coarse food, including whole wheat meal in porridge and bread; also green fruits in the morning or afternoon, and dried fruits, cooked or uncooked, when green fruits are out of season. Constipation and uneasiness in the abdomen are greatly relieved by wearing the wet bandage all round over the loins at night. This may be worn for some months if needful, as it strengthens the loins and abdominal muscles, besides keeping both bowels and kidneys in a healthy condition. Restlessness, uneasiness, and feverishness are all relieved by the cold sitting or hip bath, which may be taken daily over several months if required, for from five to fifteen minutes at a time.

One lady who was impressed that her baby was dead several months before time of delivery, as had been the case once before, told me, after a natural delivery of a healthy baby, that she had taken sitting baths over a period of five months in repetitions amounting to near two hours daily, and was certain of them having been the means of saving both the child's life and her own.

With a narrow pelvis and difficult delivery, or simply anticipated, it is well to live largely on fruits and succulent food, forming cartilage more than bone, for several months previous to delivery. Grain food, especially wheat and oats, is rich in lime or bone making material, and should, therefore, be used



very sparingly. Cases of difficult delivery are greatly assisted by rubbing and bathing the spine and lower part of the back with cold water daily. When there is weakness or want of expulsive power, great assistance is gained in severe labour from a warm sitting bath at 100°, for perhaps ten or fifteen minutes, followed by pouring a ewerful or two of cold water over the back and bowels. This application has been successful after twenty-four hours of suffering.

Following all needful attention to mother and child after delivery, it is exceedingly beneficial to apply the wet bandage (No. 16) all round the loins under the usual swathings, and to renew it twice daily or oftener, for several days, as it alleviates the severity of the after pains, assists in the contraction of the distended and relaxed muscles, and in every way promotes rapid recovery.

Daily tepid or cold bathing or sponging, and the application of bandages, are quite safe in being used for at least three days after delivery, and they may be continued longer or not as agreeable for a month. The whole body is in a state of natural fever for three days, and the bandages greatly assist in throwing it off, while at the same time preventing all danger from chills and prolonged fevers, which so frequently follow the altered conditions of the body.

Flooding and excessive discharges are checked and contracted by the application of cold compresses, of from two to six folds of wet towelling, perhaps six to twelve inches square, kept on the lower part of the belly, still warm, and then renewed again and again till the patient is quite well and able to be out of bed.

Infants require no medicine, nothing but the mother's milk, which supplies all that the system requires to regulate functions and nourish the body.

If possible, let the mother nurse and suckle the child, both on account of the affectional and physical influences so beneficial to both. It is well to wash the breasts with cold water,



both before and after use, afterwards anointing the nipples with butter or cold cream.

The first period of life is entirely animal, sucking or drinking and sleeping filling up the days and nights; but it is well as soon as possible to time the periods, as Nature requires intervals of rest to digest, and colics or fermentation are the results of over frequency in drinking. These colics are relieved by sips or teaspoonfuls of cold water, and abstinence for an hour or two from feeding, also by warmth to the stomach by fomentations, or a warm bag or any other suitable application.

Constipation is relieved by giving a teaspoonful of half milk and half olive oil; also, by a larger proportion of water in the milk, as the richer the milk is, it is the more constipating. If fed by the bottle, a proportion of one-third of water to milk is safe for two months, and giving it stronger as the child advances in vigour. Heat spots or hives, as vulgarly termed, are the outbirth of indigestion, and require for removal less nutrition in quality or quantity. The application of the wet towel bandage always relieves the feverish condition, and draws out the irritation by the eruption, and it may be repeated as long as it is required. If the child is thin and spare, it will require more attention in dietary, and perhaps the addition of some light grain food. Rice is about the best; ground rice is excellent; also the flour or finer part of oatmeal, well boiled. Sago and corn flour with milk are easily digested.

Beef in its various forms is unsuitable for children, and should be refrained from, until about three years of age. Children also pass through the usual ailments of youth much easier, in proportion to the plainness of the food. Temper, and other youthful passions, are more easily controlled in children reared on plain unstimulating food.

Teething, which frequently begins about six months, brings a new class of troubles. Grain food increases more rapid formation of teeth, and saliva flows freely, cooling the mouth.



Sucking and pressing a safe crust is very good for the child to assist in cutting the gums. The direct means to relieve irritation are, first, frequent head bathings (especially in boys), as the strain and suffering in teething tells chiefly on the head and nerves, and when very severe affects the brain, frequently by convulsions. The wet bandage all round under the arms will give relief to both the baby and nurse, and ensure sleep through many a night which, without it, would be one of pain and suffering or restlessness. Watch the condition of the feet always: keep them warm, and the head cool, and the bowels in order with the use of the bandage.

Purging is a frequent symptom of irritation passing off by the bowels, and in moderation will do no injury; but if troublesome or severe, immediately apply six or eight folds of flannel wrung out of warm water, as a fomentation, to stomach and bowels. These appliances soothe the stomach and settle the bowels, without injuring the health in any way. Gentle perspiration, if attained by these means, is excellent in checking excessive action of the bowels, and should be resorted to at all times when needful. A slight injection of cold water also, after one or several loose stools, is generally sufficient to settle over-action and restore tone.

Colds and bronchial affections are frequent in childhood, and best prevented by daily rubbing and bathing of the chest and back; when very sensitive to cold, rub breast and back well, after washing in the evening, with olive oil, and bathe freely in the morning with cold water. Short hip baths in a basin of cold water for five minutes relieves the chest, and also the wearing of a chest bandage. With any severe attack, or a general derangement of the health, whether of feverishness or purgation, resort at once to the trunk pack, and, while under the pack, with a fomentation on the bowels. This relieves and equalises all the organs and symptoms. (*See Bathing Processes.*)



For the varied complaints of childhood, I refer to particular directions under the different heads, impressing the rule of PROMPTITUDE, as the wet bandage, fomentation, a head wash, a warm foot bath, or a half warm bath at 96°, with a blanket round the shoulders for fifteen minutes before bed, are all valuable in relieving first symptoms; and if scarlet fever, measles, or whooping cough, etc., be threatened, they will be greatly assisted in their usual courses by these preparatory measures, or removed entirely, if Nature can attain its purpose otherwise. When school days begin, be watchful to avoid mental strain, and see that a sufficient amount of out-door exercise be taken, so as to develop the body first, in which the mind must dwell, and grow to maturity and age. Many youths of both sexes, when finished with their classes or education and preparatory studies, have found the first principles of natural philosophy in regard to health had been so neglected, that when active life should have only been beginning, it had been so injured that restoration was then impossible, and the spirit had to return to God who gave it, and this life, with all its bright prospects abandoned, before being fully entered upon.

Give the young abundance of romping and out-door exercise, till the body is strong. Walking and running with bare feet in summer in the country and at the coast, would be invaluable to many young persons in establishing health; and fashion, being the chief obstacle to its attainment, should be set aside by the good example of those who possess wisdom, prudence, and power to lead in society rather than follow the multitude. As the whole purposes and processes of life open to the view in following the progress of the young, we must conclude this initiatory chapter; and let those who require more information on special subjects, recall somewhat of their own early history with its trials, dangers, and requirements. Various suggestions and teachings on several important subjects will be found



under different headings in this volume, which can be modified with judgment to meet many varieties of condition.

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## THE PHYSICAL MANAGEMENT OF THE YOUNG.

The neglected or improper physical education of the young is a gigantic evil in modern society. The ill-health of subsequent life is ordinarily traceable to this source. A reference to the future man or woman must always regulate the training of the child.

### INFANCY.

The mother's milk is the food expressly provided by nature for the first nine months or year of infancy. Extreme delicacy of constitution, actual disease, or defect of milk alone justify the transference to others of this otherwise unalienable maternal duty. A young and healthy wet nurse is the best substitute: no other milk should be given in addition to the mother's or nurse's. Spoon-fed children require very great care to rear them, are generally puny and feeble, and but a small proportion of them survive.

The practice of cramming infants who suckle with thick gruel, biscuit powder, and other aliments of the sort is highly baneful. The colic and crying these indigestible messes produce are often mistaken for the calls of hunger. The dose is repeated, and the measure of the evil is filled up. The foundation of dyspepsia for life is sometimes thus laid. Most, if not all, infantile diseases originate in errors of diet. The cure is not the exhibition of "soothing syrups," but the withdrawal of the irritation. Vitiating secretions will correct themselves by rest alone. To administer purgatives to infants, neither science nor humanity will now permit. If anywhere,



nature is here competent to her own work, and she should be left to her own resources.

A healthy infant should be weaned at nine months, but this should be done gradually : abrupt weaning is neither humane, politic, nor wholesome. After this the best food is the milk of a cow, with rice, sago, arrowroot, good home-made wheaten bread, very stale. If wheaten bread be used, it should be soaked for half a day in cold water, then boiled for half an hour in water, and not simmered, which would render it sour. If rice be used, the grain must first be well washed with warm water, to remove a substance which coats it. The rice is then to be boiled for half an hour in water with a little salt added. The water is then to be poured off, and the saucepan, with the lid on, left at the edge of the fire for half an hour longer. This does through and breaks up completely each grain of rice. The milk should be added merely heated. Milk should never be boiled. The boiling deprives it of one of its nutritive principles, albumen, which rises to the surface as a thick film. Very little sugar should be added to the food of infants, and then only at the moment of taking it. An excellent breakfast for an early age is made of stale bread crumbled down, with an egg boiled for one or two minutes mixed through it, and cold milk drank with it.

The new-born infant having but a feeble power of resisting cold, requires for the first two or three months of life to be warmly clad, and protected against atmospheric vicissitudes. But it must be accustomed, by degrees, to the air, till it can endure its alterations ; and the amount of clothing must be gradually diminished. After two months, caps should be laid aside, and should never be again resumed by night or day, unless when taking an airing.

The form of dress as applied to infants requires the attentive study of every parent. The infant should possess at every period of its life a free and unrestrained movement of its



limbs; no tight bandages or lacings; no compression of its throat by cap strings, nor of its head by buckram bonnets, or of its shoulders and chest by tight-fitting shirts.

The clothing of children is much too complicated; and dressing is much too painful and tedious a process. The looser and simpler children's garments are made, and the more easily they can be put on and off, the better. Fastening with tapes, loops, and buttons should entirely supersede the dangerous expedient of pins.

New-born infants sleep almost constantly; and the more the better. They should lie in a cot by themselves after being suckled, and there should be no curtains about the bed. The clothing should be merely sufficient to keep them warm. They should not be muffled with flannel shawls, nor the face covered with handkerchiefs while sleeping.

Infants should be washed all over, night or morning. From a month old, cold water will be used for this purpose with immense advantage, at least if the child be healthy. We do not advance in these precepts untried theories. The habit of cold ablution, night or morning, and daily exposure to the open air, will harden them against many little ailments, and make the process of dentition, always painful, at least safe. All soiled articles should be instantly removed, the skin cleansed with soap and water, and kept dry.

After the first month children should be much in the open air, if the weather permits.

The earlier, after the first two months, and the more frequently for a short time together, an infant is laid upon its back on a bed or sofa, and allowed to sprawl and exercise its limbs, the stronger and more healthful it will become.

Children should never be rocked in a cradle, as it sends them to sleep at the expense of congesting the brain. It is only an excuse for a lazy nurse, or a make-shift for a busy one.

Hoisting is equally pernicious to young infants: (1) it is



liable to the risk of accidents ; (2) it produces vertigo ; (3) it too forcibly compresses the chest in the act of grasping.

The infant is to be permitted to go on all fours as soon as he is inclined. This exercise will develop the muscles of almost the entire body ; but he must not be placed on foot too soon. Premature attempts to walk should rather be repressed than encouraged. The bones of children of this age are too much in the state of cartilage (gristle), and too deficient in lime, to bear the weight of the body. They yield and bend : bandy legs are the result. Under proper management, however, the distortion will correct itself as the child increases in strength and stature.

Children should never be lifted up by the arm, as many nurses do. The mode of carrying in the arm is also of great consequence, so as not to deform the thigh-bone, which is the frequent recurrence with careless nurses.

The force of habit is as great with respect to the bodily functions as to the moral powers. The periodical necessity for food, sleep, alvine evacuation, etc., amounts to a law of the organism. Fixed hours for food, rest, motions, etc., are important habits to be established.

Fretfulness and irritability are generally symptoms of ill-health. Avoid the occasions of passion ; divert the child otherwise when ill-temper threatens, and they will die of their own inactivity, or vanish with the invigoration of the system ; while if kept alive by repetitions, they will be roused into excessive development. The early enforcement and steady prosecution of strict mental and moral discipline is the foundation of all future excellence of character.

These principles of management apply also to the guidance of the subsequent periods of childhood and youth.



## CHILDHOOD.

Diet must be proportioned to the strength and stature, the amount of exercise, and the vigour of the digestive powers. Excess of nourishment is far less baneful than defect. Insufficient diet, or a faulty digestion, lays the foundation of scrofula, phlegmatic temperament, and the tubercular diathesis. Too much animal food, nor even excessive meals, no wise parent will give. In this way the stomach and bowels are overloaded, the elements of fever and inflammation are generated, and the foundation laid, if he escapes their attack, for a career of gluttony. In a child of sound constitution and robust health, with active habits, sprightly disposition, and buoyant spirits, the natural dictates of appetite may be consulted, and a mixed diet of animal and vegetable food given, always with a great preponderance of the latter. If symptoms of repletion or plethora ensue—if there be febrile irritation, furred tongue, irregular bowels—then let the supplies be cut off, and animal food for a time withdrawn. In tender and weakly children less active exercise can be taken; and the diet that nourished the former would overload the latter. The food must, therefore, be proportioned to the constitution, habits, exercise, etc., of the little patient. As the frame acquires strength, the quality of the food may be enriched. Hydropathic measures will invigorate the constitution, so as to enable him to digest a sufficient nutriment, and shield him alike from dietetic errors or accidental diseases.

Children should be constantly in the open air in fine weather, and their gambols freely encouraged, with sufficient intervals of rest. Long and fatiguing walks are objectionable.

When the distinctive dress of the sexes begins to be worn, let mothers avoid laced jackets or corsets for their girls, as sources of muscular weakness, and causes of spinal deformity. Stays are only a substitute for muscular action. To confer the



requisite carriage a continuance of muscular effort is necessary, which the strongest adult could not long sustain. The relaxation of muscles must alternate with their contraction. Inactive muscles waste and become powerless; they cannot perform their function of support to the spinal column. The consequence is, the spine yields and bends to either side. Curvature is the result. The varied exercise and alternate repose of the muscles is the only rational way to the general invigoration, and the only safe mode of imparting a graceful carriage.

The habit of morning cold bathing or ablutions must be continued, as the surest promoters and conservators of health.

#### YOUTH.

What is the source of the feeble constitution and delicate health of modern females? Most assuredly, neglected physical education! This is a matter of paramount importance, and should be clearly understood to be effectually corrected. It is at the critical epoch in question that the effects of a beneficial or a baneful system of physical training are evinced. Boys and girls now no longer resemble each other in their bodily health and strength. This delicacy of the female constitution is not inherent but acquired. If males were subjected to the same influences as females, the same physical injury would follow. Fashion, a false mode of education, and faulty objects of accomplishment, impose upon the feebler sex restraints no longer compatible with the free gambols to which the stronger owes its robustness of health. It is from the time that a perverted taste makes it indecorous for girls to indulge in the exercises of boys that the deterioration of the female constitution commences.

The mental education is as faulty as the physical. The faculties of the mind are equally repressed and enfeebled with the deterioration of the body. Frivolous pursuits, having little reference to the great destinies of woman, and acquired



too often only to be forgotten or abandoned, absorb the best years of life, shut out the place of solid acquisition, and heap up materials of enduring ill-health. This costly sacrifice at the shrine of fashion is made before the body has received its proper mould, or the organs their due consolidation; its excuse—ignorance of the consequences!

Sound views of the animal economy, as well as of the mental constitution, are necessary to correct the errors of public seminaries and of private families.

The physical and mental powers are intimately connected, and essentially depend on each other. If the body is unduly wasted by labour, nervous energy is withdrawn from the intellect—the mind languishes; if the nervous energy is unduly expended by prolonged mental exertion, it is withdrawn from the body—the body languishes: in either case the equilibrium of health is destroyed—disease results. Defective exercise, or disorder of the functions of a part, induces inactivity, waste, and feebleness of its structure. The brain is subject to this law; hence the necessity for a simultaneous and systematic exercise of all its powers that are worthy of culture, and the uniform quiescence of those that ought to be repressed. The common courses of education are calculated to exercise but a very few of the powers of the mind.

Disorders of the digestive functions are the root of all other bodily ailments—perhaps of a great majority of mental maladies. An imperfect or vitiated chyle will afford an unwholesome nutrition. Abnormal or arrested secretions and excretions will be the result. The nervous system is next implicated in the chain of morbid action: the mainspring of the machine will thus get relaxed or unwound, and the effect will, in its turn, become a cause. All the functions will participate. The supply of nervous stimulus to all will be diminished or vitiated.

If one organ is unduly exercised it absorbs a disproportionate amount of the nervous energy, and deprives the others of their



own share: thus their functions are weakened. Intense application of mind, for example, concentrates the nervous energy on the brain, at the expense of the trunk and extremities—proving how unfavourable diminished nervous influence is to the general health. Irregular, deficient, or inordinate exercise of the mental or bodily powers destroys the equilibrium that should be maintained between them, and induces weakness, suffering, disease.

Bodily energy is requisite for the proper culture of the *mental* faculties of youth. Education is not advanced according to the time devoted to it, nor to the earnestness of the application. Forced efforts at learning both injure the health and fail of their end. Varied mental and bodily effort—the alternation of labour and relaxation—pursuits calculated to develop the various faculties, and commensurate in importance with the destiny they prepare for—will alike conduce to vigour of body and energy of mind. The brain shares the benefit of improved health. The active exercise of the intellect and of the moral feelings becomes, in its turn, a necessary condition to the due performance of the functions of the nervous system.

The education of the intellectual and moral powers must go hand in hand. But as the perceptive faculties are developed before the reflective, the moral sentiments and affections must be first cultivated. If these be neglected, it will be in vain afterwards to address the *morale* through the intellect. The mere conviction of the judgment will never mend the heart. Here we are encroaching on the province of other teachers; and, keeping to the objects of our work, we must forego any detail as to the plan of intellectual education best fitted to develop all the powers of mind according to the seasons of their maturity and the career the individual is to be fitted for.



## DESCRIPTION OF BATHING PROCESSES.

The cold plunge bath is invaluable as a means of invigorating and maintaining health. But respect must be paid to many conditions, in regard to the seasons, the temperature of the atmosphere, the water and our body. Bodily warmth (comfort) is essential to the benefit and enjoyment of a cold bath. Warmth before and after any bath, whether taken in the bath room, the sea, or the river, with ability by exercise to gain a full glow, are the great tests of suitability.

Many persons injure their health with a morning bath in cold weather by sitting down to breakfast immediately after dressing, without any exercise between the bath and the meal. Such a succession of opposing influences are certain to result in injury, both to the head and heart. Bathing in cold weather requires from 10 to 30 minutes of vigorous exercise after it to insure good circulation to the extremities. Without this, when food is taken into the stomach, an immediate demand is made on the circulation to secrete gastric juice from the blood to the extent of one or two pints. This process, if begun before the feet have regained warmth, keeps them cold for hours. Walking soon after breakfast only increases the evil, as it divides vital action between the muscular circulation and the digestion; and if active head work is also begun soon, evil results are sure to follow. But attention to each process in due order would result in great benefit; for a short cold bath in the morning, including the head, is the most efficient of all influences in maintaining health and strength.

Partial cold bathing may be practised when a full bath is unsuitable. The effects on the hands and feet are good tests of the suitability of the bath. If these warm well, and continue so during the day, all is well. Weariness and languor are also evidences of over-strain on our re-active powers.



A safe bath for cold weather consists in bathing and rubbing the head, breast, and throat, after the under and lower garments are on. Bathing the feet also is good, if warmth follows. Walking or other moderate exercise following bathing will soon enable the person to profit by it, and enjoy the bath more and more with increasing health and strength.

Sea Bathing and Swimming Baths are invigorating to those who are strong enough to secure re-action as before stated. The after effects must ever be our test. Other tests are comfort and warmth, especially of the feet and hands, also good appetite and sound sleep following.

#### TEPID, WARM, AND HOT BATHS.

Tepid baths vary in heat from  $70^{\circ}$  to  $90^{\circ}$ . They are very refreshing after fatigue, and may be taken in general with safety.

Warm baths, say from  $90^{\circ}$  to  $100^{\circ}$ , are luxurious and soothing, and may be taken from fifteen to forty-five minutes. The temperature should be somewhat cooled for a few minutes before coming out of the bath, or the bath be followed by a cold plunge or shower, unless of course the object of it has been chiefly for warmth and refreshment just before going to bed.

Hot baths may be taken at from  $100^{\circ}$  to  $106^{\circ}$ ; but are suitable only in exceptional cases, and should be taken under advice. Frequent hot bathing is very relaxing, and has often been injurious to children when given with the intention of making the bath *powerful*. The head and nervous system generally suffer most.

#### VAPOUR BATHS AND OTHER SWEATING PROCESSES.

Perspiration is a natural function of the skin, by means of which any excess of heat or moisture (water) are easily thrown off when under any strain, without injury to the con-



stitution. It seems intended that relief or cure should be sought for through the outlets of the skin in many cases of disease instead of by the stomach and bowels. Hydropathy has proved that diseases are relieved or cured by increasing the emanating action of the skin; indeed, the skin has a double action, as it receives both heat and moisture through absorption as well as exhaling any excess, the minute tissue of nerves, being acutely sensitive, intimating conditions and requirements under the perpetual variations of temperature—in summer and winter, day and night activity, and rest, etc., etc. Sweating relieves congestion of all the internal organs by increasing the flow of blood in the skin; this reduces the pressure on the internal organs, and the perspiration at the same time lessens the quantity of blood by the evaporation of the water only, and not by abstracting the red blood as is done in leeching and bleeding by the lancet.

Sweating is of recognised value in dropsical complaints, and it may be repeated and continued in a modified form with occasional tepid baths and washings, say, once or twice daily until the disease is overcome or the weak organs regain strength. Persons predisposed to diarrhœa, dropsy, or diabetes, are benefited by periodic sweatings.

Sweating in bed may be attained by fomenting the patient with eight folds of hot wrung flannel from ten to eighteen inches square, laid over the stomach and bowels, and covered with dry flannel, which should be bound firmly over the hot flannel. As binder, say, a half blanket or a small shawl all round under the arms.

Sweating may be assisted by filling from two to six common bottles with hot water, drawing over each a dry woollen stocking, and placing them near the feet and to the sides of the body. Hot wrung flannels may be applied to the feet also, and around the limbs when required. With these applications, and the blankets well tucked in and sufficient covering above, per-



spiration is soon attained; after which the packing may be so far relaxed for comfort, and gentle perspiration kept up for from one to several hours, or even days, with occasional tepid spongings and soapings if needful.

Perspirations are a specific in many ailments, and with moderate or free draughts of cold, or even warm water, assist greatly in purifying the blood and all the fluids and secretions of the body.

When there is strength and ability to sit, a simpler and speedier plan may be had by placing a spirit-lamp under a wood-seated chair, over which a half blanket is spread, fastened to the back, covering the seat and reaching to the floor. A warm foot-bath is placed in front of the chair, out of which several folds of flannel may be half wrung and placed on the seat before the person sits down—undressed, or with a light cotton sheet or garment wrapped round. A pair of blankets is then placed over the body from the front, enclosing the foot-bath and chair, and pinned at the back of the shoulders and round the neck; another pair placed over the back and pinned in front covers the whole from the neck to the floor, leaving the head free, only covered with a wet towel. Another sheet above the blankets retains the heat better still. Perspiration generally begins to flow in about ten minutes, and should be continued for from fifteen to thirty minutes, carefully watching the feelings, &c., as regards comfort and strength.

The heat to induce perspiration with this arrangement may be from the spirit-lamp burning underneath the chair, or from an iron pot placed under the chair, into which are put two or three half bricks heated in the fire. These are placed in the pot one at a time and a jug of hot water gently poured over them. Change them, perhaps in five minutes, to increase the heat. Two bricks may suffice, but a third should be in reserve. The bricks and water are easily introduced by slightly lifting the blanket, and using the tongs for the brick.



The third and most controllable process to ensure promptitude and lessen labour is, to use a small cooking stove under the chair, connected with any gas bracket by an india-rubber tube of about two yards in length. I have used scroll brass tubes, perforated with numerous small holes similar to jets, and raised about two inches above the floor or carpet by three slender feet, for the same purpose. These tubes have a small crook at the other end, and are made to fit into any gas branch after the jet is taken out. I have probably administered some hundreds of thousands of baths by this process in the course of thirty years without misadventure; and have furnished the apparatus, with directions for use, to persons requiring assistance, who lived in the country, where Turkish or other baths were not available.

Perfect control is attained by the gas apparatus in modifying the heat to a nicety. When the person is quite warm, or perspiring freely, the heat can be reduced by lowering the pressure by the gas cock to the comfortable point.

In perspiring by any of these means, it is desirable to maintain a good supply of pure air in the apartment, and this can be done by means of the window or door. It is also desirable to give moderate draughts of cold water when agreeable. If faintness is experienced, the back of the neck and spine may be sponged with cold water, the heat reduced, the coverings loosened, and fresh air supplied freely. After sweating by any process it is needful to have the body freely washed. The robust may take a cold plunge bath, as the American Indians were in the habit of doing before the white man visited him. They made a fire on the top of stones in a hut with the door shut, and then threw water on them till the hut was filled with steam. After enduring this atmosphere as long as possible they plunged into the river.

The following extract from an American paper of September, 1876, shows that the Indians still use the sweating process for



many complaints, proving its adaptation to the diseases resulting from their mode of life, in being exposed to cold and wet, with insufficient clothing and shelter. "While coming down the Rosebud through the deserted Sioux villages, I noticed the remains of a great many sweat or medicine tepees or lodges, which shows that the Sioux must have had a great many wounded in the Rosebud and Little Horn battles. Their treatment for sickness or wounds consists almost entirely in the sweating process, very much like our modern Turkish baths. The sweating treatment is performed by placing the patient, no matter what the disease may be, under a small wicker-work frame, covered almost air-tight with skins. Hot stones taken from a fire near at hand are then passed in to the patient, who places them in a small hole in the ground in the centre of the sweat-house or tepee. A pail of water is then passed in and poured upon the almost red-hot stones. From this an almost suffocating hot steam arises, which soon produces a profuse perspiration. The patient is then taken out and plunged in the cold running stream near at hand, or in winter rolled in snow, the patient all the time being in a nude condition. This treatment is bad in small-pox or fevers. It may be termed heroic."

The Romans and Turks also have used sweating as a means of curing disease and maintaining health for hundreds of years; and the Russians of to-day take them frequently, and roll in the snow afterwards.

To those who are strong, I suggest that one of the best processes is to walk till perspiring freely, and then take a short cold or tepid wash or plunge bath, as most suitable, rubbing till well dry, and maintaining comfortable warmth afterward.

A gentle sweat in the evening, by any means or process, followed by a tepid bath or wash, when followed by a good night's rest, is highly beneficial in relieving the system from any slight ailment or incipient disease.



The invalid may have a simple tepid wash while sitting on the chair, or be merely rubbed with a damp cloth under the bedclothes, and afterwards maintained at a comfortable or moist warmth. But if any chillness is felt afterwards, a hot bottle or hot fomentation should be applied at once; or a warm foot-bath may be given in bed, the knees being well drawn up, the feet placed in a pail of hot water, and the bedclothes covering all.

The Russian or steam bath is superior in many respects to the Turkish bath. But as an apartment quite filled with steam is required, we have to be content with the modified steaming obtained by the other processes.

The various processes may be stated thus:—

1st, Sweating by walking or exercise, followed by a short shower or plunge bath or tepid wash.

2nd, Turkish bath, as fully described.

3rd, Seated on a wood-bottomed chair, with blankets around the person, and the feet in hot water, as fully described; suitable for domestic use.

4th, Lying in bed having six or eight folds of hot wrung flannel, from ten to fifteen inches square, laid over the stomach and bowels, and, if needful, wrapped round the feet, also answers the purpose very well, with or without the addition of two, four, or even six common bottles, filled with hot water, each drawn into a woollen stocking, and placed near the feet and at the sides of the individual.

#### WET SHEET APPLIANCES.

Wet sheet packing embodies the benefits of all Hydropathic processes, and may be varied from a handkerchief wrung out of tepid water and wrapped round a baby a week old, with dry flannel above, to a full-sized rough sheet half wrung out of cold water and wrapped round a strong man tossing in a burning fever.



The scientific law which we illustrate by the pack is the transference of heat—morbid and internal heat,—indeed, of heat in any case and from any surface—to a moist substance laid upon that surface; but when wet cloths are laid on the skin and well covered with woollens, the abstraction of internal heat is much modified and continues till the cloths become as hot as the body. Perspiration may also ensue although it is seldom desirable to continue the pack so long. Generally it is better, when the sheet is hot, either to wash the person or, if there is continuous fever, to apply a fresh sheet; every fresh application as it warms seems to promote absorption through the skin of pure water in exchange for morbid emanations, which are absorbed by, or exhaled into, the sheet and atmosphere.

Dr. Balbirnie well expresses the place and power of the pack as follows:—"The wet sheet is Priessnitz's greatest discovery, and far outstrips all other applications or remedies in the healing art. This is destined to be, by and by, the universal domestic remedy used by mothers and nurses in the outbreak of all illnesses, and will supersede, in nine cases in ten, both the employment of medicine and the attendance of the physician. Its practice, in every emergency, is a source of confidence. Henceforth the name of Priessnitz will be a household word, and a grateful posterity will embalm his memory. Few are the complaints in young or old in which this remedy will not be hailed as one of the best boons ever given by Heaven to suffering mortals. This language is strong, and may be called enthusiastic. But we appeal to those who have tested the powers of the wet sheet fomentation whether our meed of praise is commensurate with its merits. In weariness and watching—in fatigue and cold—in restlessness and anguish—in acute diseases and in chronic ailments—in fevers and inflammations—in shivered nerves and fretted brain—in worn-out stomachs and palsied bowels—in irritated skin and broken



bones—in quelling morbid heat and soothing morbid sensibility—in the quiet routine of home and the bustle of travel abroad—in infancy and in age—in the weak and in the strong—in cottages and palaces—in courts and in camps—in hospitals and in prisons—in all climates and seasons—in all the multiform ills that flesh is heir to—the wet sheet or bandage will be the first remedial resource of the sick, and the last earthly refuge of the dying.

“Grand general principle and rule—*whenever the skin is dry and burning, and the pulse high, the wet sheet is the best and safest remedy.* In all cases, of course, great care and judgment are required for the proper management of this, as of any other remedy. *It is improper in cases of exhaustion, when the pulse beats feebly, and the skin is cold.* Hot fomentations to the stomach-pit are more appropriate in these cases, with the warm foot bath, if the patient's feet can be put into it without much fatigue.

“The first grand effect of the wet sheet packing in chronic disease is, the restoration of the healthy action of the bowels, the relief of congested mucous membranes, facility of expectoration, etc.”

The simple and safe rule to observe in using a whole or half sheet, or towel or towels, as the case may be, is to apply it whenever the skin is hot or dry and the pulse high, first observing if the feet are warm, and if not, to warm them by a foot bath or other suitable means, then apply the sheet or bandage.

With a feeble or low pulse the pack must not be used, but some other process, such as a warm foot bath with fomentations to elevate and vivify the vital functions. If, however, a chill or rigour has been experienced, a re-action often takes place and feverish symptoms follow as indications of returning strength to the vital powers. Fever is often the effort of nature to free the system from some dangerous influence or



material through the skin. It is thus that feverishness ending in perspiration so frequently terminates any unusual strain, whether mental or physical, such as walking or running.

The skin is the compensating or substitutionary organ through which nature relieves all the internal organs. Hence the importance of keeping it in perfect order as regards cleanliness and warmth.

#### DIRECTIONS FOR THE WHOLE AND PARTIAL PACKS.

If the person is in bed, the cover may be taken off and a single blanket spread on the top of the remaining bed-clothes, and on these the wet sheet is smoothly and quickly spread after being wrung out of water cold or tepid as the state of the patient may demand. The person may then slip out from under the blankets and lie down on the sheet, which is now quickly folded all over him. It is desirable to fold the one side under the arms and between the legs, and the other side over all, so as to cover the whole surface if possible; but some persons cannot bear to have the arms confined.

After the sheet the blankets are next carefully folded over, and tucked in and under on each side, using as many blankets or coverings above as are required to secure warmth.

If the full glow of warmth is difficult to attain, extra heat in some form may be applied to the feet, as by wrapping several folds of flannel wrung out of hot water around them, or a bottle filled with hot water may be placed near the feet for the same purpose; and several bottles, each inside of a dry stocking, may be placed alongside under the blankets.

Warm wrung flannels, six or eight fold, about twelve inches square, laid over the stomach, are excellent additions to the pack, and aid in sending warmth through the whole body.

When any important function or organ is diseased or defective, it is beneficial to apply from two to six folds of cold wet towelling—six, eight, or ten inches square—to the back



over the weak organ, as behind the chest and stomach, over the bowels or uterus, kidneys or liver.

General warmth is the condition to be desired and attained, and must be the rule in regard to time, as while half an hour may often be sufficient in some cases, from two to three hours is desirable and also enjoyable in others.

Washing or Bathing in some form is always requisite after a pack, as the skin has thrown out considerable matter, more or less impure, which must be washed off before the body cools.

When the patient has strength or in full vigour, the plunge bath is most suitable after a pack, but the invalid may have only a tepid wash or sponging under the bed-clothes after unpacking, taking care, however, to *keep the feet warm*.

Exercise is desirable after bathing when the strength warrants its enjoyment; but in all cases comfortable warmth is essential after every bathing process.

The half sheet or trunk pack consists in enveloping only the trunk with a small sheet or two towels—laying one under the back, and another over the front of the person.

This process is easily managed, the person having merely to sit up in bed when a half blanket or shawl is laid from half way down the bed up to the pillow, and on it the sheet or towels for packing, as before described, is spread.

In many cases it is desirable to pack the feet and more or less of the limbs also in another towel, and to secure heat and reaction by the addition of warm and wrung fomenta to the bowels and feet as described for the full pack.

#### THE WET TOWEL BANDAGE.

The wet towel bandage is one of the most valuable of all domestic remedies, being available under any circumstances, and covering a great variety of symptoms.

Restless children, whether hot from some incipient fever or other serious illness, or from the feverishness of a common cold,



or teething or indigestion, are always benefitted, and it may be completely cured, by one or more applications of the wet bandage. Take a common bedroom towel (the softer and older the better) sufficient in length to meet round the body; roll up the length of this in the hand, and wet and wring half its width out of cold or tepid water; then unroll it and fold the damp half against the dry half, and put it all round with the damp side to the body. Place it close up under the arms if for chest ailments, and lower, over the stomach and bowels, for affections of these organs; but when round any part of the body, it has great power in relieving all the organs, and in lowering a high pulse from ten to twenty beats in from fifteen to thirty moments' time.

In many cases where there is no feverishness, one or two folds of dry flannel may be placed above the towel so as to ensure a comfortable warmth. This is especially needful in cold, chilly, or feeble cases, and in those past the vigour of life. These bandages are beneficial in almost all cases requiring confinement in bed, and they may be re-applied till the illness is removed although it should last for weeks. The bandage should be renewed as it becomes dry or hot, or every three to twelve hours.

Daily tepid sponging or washing is necessary where such bandages are continued, and the bandage itself should be frequently washed also, as the skin throws out freely the internal and skin impurities which are then absorbed by the bandage.

#### HOT AND COLD COMPRESSES.

Compresses may be described as similar to poultices in intention, but superior to them in many respects when there is deep-seated congestion or internal disease, such as tumours or abscesses. Poultices assist better for a time where warmth and moisture merely are required, but they do not absorb morbid materials so readily as wet cloths. Thus, also, foment-



ations of from four to eight folds of warm or hot wrung flannels frequently renewed are far more effectual than poultices in relieving pain and softening hard swellings. (*See Fomentations.*)

Cold or tepid compresses are very effectual in giving strength to weak parts of the body, such as the back or chest, when there is excess of heat; and they should be renewed if they become soon hot, the cold giving tone and vigour to the part.

Cooling compresses are similar, but must be changed as they become hot, or more frequently.

Soft worn towelling is the best material, and a good size is from six to twelve inches square and from two to six or eight fold, with dry cloth or flannel above or outside.

Swellings and threatened tumours are frequently dissipated or absorbed by these applications in a few days or weeks; but it is frequently or almost always needful to use some general bath or wet sheet pack or sweating also, as an equivalent to the old process of beginning treatment by a purge before attempting the cure of the particular disease, otherwise we may draw too much of the morbid material of the body to the part under treatment.

Fomentations are compresses with the addition of heat, when that all-important element or condition of life and health is deficient. These should not be hotter than is agreeable to the feelings, and should never be applied to the chest hotter than blood heat.

To prepare a fomentation, take six to ten folds of soft flannel, eight to twelve or eighteen inches square, and form it into a roll, into both ends of which pour water previously mixed in a jug till as warm as the hand can bear—say to 120°. Then wring it well and quickly, and, unrolling it, lay it on the part required, and cover with several folds of dry flannel. If it is bound on with a dry band round the body, say over the stomach or liver, it remains much longer warm. These fomentations may be kept on for many hours, or renewed in from



thirty to sixty minutes as required. They are of inestimable value in many forms of disease and in relieving pain.

A half blanket may be used in the same manner, one or two folds being hastily wrung and folded on a dry blanket or shawl, and the patient, particularly if a feeble child, may be wrapped up in it comfortably tight, for one to three or four hours, with wonderful benefit.

#### SITTING OR HIP BATHS.

Hydropathy makes use of partial and modified baths for many purposes where general bathing would be quite unsuitable. Hip or sitting baths have a powerful influence, and accomplish many desirable results in the healing art, and unmistakable proof of their power is easily demonstrated both by science and experience. I have seen incipient fever completely sucked out or abstracted from the system, by the application of a cold hip bath, in the course of an hour; as also brain fever and delirium tremens, and many nervous diseases affecting the head and accompanied with high pulsation, are quickly reduced by the same process. These remarks refer to cold hip baths, which affect the system chiefly by what is termed *re-action*. On first impressions we might anticipate a repelling effect from the application of from one to four gallons of cold water, but with simple precautions, quite easily understood, and all embodied in the simple rule,—first securing general warmth, especially of the feet—and you can then abstract morbid heat from the head or chest with great freedom and perfect safety, to almost any extent. These baths stimulate both the kidneys and bowels to increased action, and through these channels or organs the system is relieved from plethora and congestion elsewhere. It is important to have a suitable vessel or bath for this purpose, as unless the body exposed above the water, is covered by a blanket or rug, a chill or lumbago may be the result.



In general cases a smart walk is beneficial, if not imperative, unless the bath is followed by vigorous rubbing, which is, however, excellent in any case. When in the bath, rubbing with the hand dipped in the water is useful in increasing circulation of the part acted upon.

As a general rule, the water should be as deep as to cover the bend of the thighs, and the sitting should be continued till the water is no longer felt to be cold—from ten to thirty minutes being the usual period.

Modified cold sitting baths, with the chill taken off, are very useful for children when threatened with head affections and croup. These may be given on the nurse's knee, using a large bowl or basin with a little cold water in it, or by simply dipping the hand in cold water and rubbing or bathing the hips and foot of the spine with it for from five to fifteen minutes.

Tepid sitting baths, at from  $70^{\circ}$  to  $90^{\circ}$ , are soothing and refreshing after fatigue, or in the evening, for ten to fifteen minutes.

Warm sitting baths, from  $95^{\circ}$  to  $105^{\circ}$ , are useful in restoring or giving general warmth in exhausted states, or to produce perspiration, heat so applied permeating the whole body. It is needful after warm bathing in general to finish with some cold effusion, or by rubbing the skin with a cold wet towel.

A warm sitting bath, with a cold compress to the breast, or with continuous cold rubbing and bathing, both of back and breast, is excellent for the relief of an attack of asthma, or bronchitis, or croup.

Another process is wonderfully effectual in relieving bronchitis and croup or these in conjunction. A basinful of boiling water is placed on a chair near the nurse with child on knee, a sheet is then spread over all, so that the steam may be breathed, while the general circulation is drawn strongly to the hips by the cold application to them at the same time by rubbing and bathing with the hand.



## HEAD AILMENTS, BATHS, ETC.

Headaches may result from injuries, such as a fall or a blow on some part, more or less severe.

The most dangerous class of head ailments are those which are interior or deep-seated, in which case there is frequently very little sensation. As the congestion or disease comes nearer the outside, the pain is more severe.

Diseases of the outside or scalp, and neuralgic attacks, are more intensely painful. Deep-seated diseases are seldom accompanied with much pain when the injury or disease is in the interior or substance of the brain, as congestion or pressure destroys sensation. The waste material of the brain, such as is produced by action in every organ, finds an outlet by suitable secretions. The nostrils, eyes, and ears perform this duty for the brain. These organs abstract more or less of superfluous matters; and frequently after severe head disease, such as hydrocephalus, there is a considerable discharge from the head into the throat similar to that arising from a severe cold but without the congestive cough, and it passes off in a few days.

Connected with this symptom, we may mention that one of the most dangerous effects of prolonged whooping-cough is the forcing of blood to the brain, as the frequency and prolonged strain of coughing distends the minute vessels in the head, and, in connection with exhaustion and weak heart action, frequently ending in dangerous congestion, which may cause effusion or hydrocephalus. The remedy for the danger will be more fully described elsewhere; but I have always pressed on mothers the necessity of sponging the heads of children after every severe cough as a prevention of further danger.



NECESSITY OF KEEPING THE HEAD AND HAIR SUFFICIENTLY CLEAN, BY PERIODIC WASHINGS, BY ALL CLASSES, FROM YOUTH TO OLD AGE.

The head is strengthened by frequent washing and bathing agreeable to the requirements arising from mental strain, etc.

Boys require more head-bathing than girls, and should have the head bathed daily with cold water from infancy, as they are more liable to head ailments.

Girls should have the head washed at least once every week; indeed, all women should follow this rule throughout life, with the precaution of washing the head in the evening in a comfortable atmosphere with water having the chill taken off—or, say, from  $80^{\circ}$  to  $90^{\circ}$ —and after drying it so far with a towel, binding the damp hair firmly with a dry silk or woollen binder for all night or till *quite* dry. There is no danger of catching cold when so performed; and many ailments are prevented by keeping the head thoroughly clean and strengthened by frequent cool or cold bathings and soap washing. There is frequently nothing more required for the removal of headache and dry scurf and loss of hair than the frequent application of water followed by some simple non-irritant pomade, such as olive or spermaceti oil, which may be used soon after the washing, as when the hair is drying the pomade or oil is quickly absorbed, nourishing the hair.

Bathing the whole head frequently in cold or cool water is perhaps the most important bathing process for the maintenance of health, as, with the occasional use of soap, daily bathing or washing keeps the head strong and vigorous for enduring the full amount of mental labour. From personal experience of thirty years, in addition to observation on many persons who have been under my care who have practised head-bathing daily till advanced age—sixty, seventy, and eighty years—while following severe mental pursuits, I have become,



year by year, more earnest in impressing both professional and business gentlemen with the importance and value of *daily head-bathing*.

In cold weather, and after the meridian of life, the temperature of the water for head-bathing may be increased to 70° or 80°.

After, or while under, any mental strain, prolonged washing and bathing of the head is exceedingly refreshing, particularly in the evening, when continuous pouring for from ten to thirty minutes with a cup or jug, gently, is almost certain to induce sleep in old or young. The temperature may be milkwarm, or from 70° to 90°.

The head may be well rubbed with oil or any simple pomade after partial drying. (See the process for bathing female heads above for further description.)

Gentle shampooing and manipulation of the head with the fingers while washing gives much relief.

Prolonged combing and brushing also relieves headache.

For a lying head bath, place a flat milk or other shallow basin on the floor or rug, and raise the shoulders sufficiently with a pillow or bolster under the back so that the head droops slightly into the basin. Place one or two shallow saucers in the basin to raise the head if needful for comfort, then pour gently over the head with water, cold or tempered to suit the feelings, from 60° to 80°, but the cooler the better for the abstraction of heat. When the basin is nearly filled the pouring may be continued by dipping a cup into the water of the basin and continuing the pour from five to thirty minutes with intermissions. During the intermissions dip a towel folded into four in the water, and lay it over the whole head smoothly from the nose over the eyes and brow, and with the ends in the water; this is very grateful, and adds much to the efficiency of the bath.



The same effect can be attained in some measure by removing the pillows in bed and placing below the head a deep soup plate containing six, eight, or more folds of thoroughly wet cold towelling, cooled as they become warm. I have continued this process for three days and nights in extreme cases, when the patient was quite unable to have the head moved without much pain.

Wet cotton nightcaps and wet towel bandages, folded shawl fashion, are also very good in cases of headache with heat in the head or eruptions; but these must always be kept close to the head by a thin silk or woollen cover or binder, as loose damp cloths frequently cause a cold or a chilly feeling. Bind sufficiently tight to be comfortable.

Face bathing is beneficial to the eyes and nostrils, and may be taken by laying all the face above the mouth in water with the chill off for from one to several minutes. The basin may stand on a table, and breathing is easily carried on by the mouth.

#### DOUCHE BATH.

The Douche bath is a most powerful stimulant. Standing under a good stream of cold water falling from some considerable height, or from pressure. The douche rouses dormant energies, and when there is a fund of vitality it draws it forth. The circulation is greatly strengthened by the douche, which acts on and constricts the venous or surface circulation to a considerable depth, and, by nervous stimulation, excites the heart to increased action, so that it propels the blood with renewed force through the extremest capillaries. This bath requires latent strength to warrant its use, and must not be taken when there is any internal congestion or liability to hemorrhage. The first rule is to be warm before using it, to have the head wet, and to keep moving constantly while under it, and to follow it by rubbing and exercise.



## LOCAL DOUCHE BATH OR SPOUTING.

This bath consists in spouting water on any weak part or organ, such as a susceptible throat, or relaxed or distended liver, etc.

We affix a small india-rubber tube,  $\frac{1}{4}$  or  $\frac{1}{2}$  of an inch in diameter, to the nozzle of a water crane, and while the body is well covered and kept warm, with or without undressing, the water is turned on with more or less pressure, and spouted on the part affected for from one to ten minutes, with more or less of intermissions, and, perhaps, vigorous rubbing also. The tube may be two or three feet in length for convenience.

Intermittent spouting, by a common injection tube, so far answers the same purpose ; but a considerable force or pressure increases the power of the beneficial and reactive effects.

The pail douche consists in dashing water over some part or the whole of the body.

Pouring, of any given number of canfuls, is a modification of the same, and may be intermitted with vigorous rubbing.

Horizontal rain baths are in common use, and, to all but nervous persons, are very salutary, and much preferable to the descending shower bath. They are excellent as a quick morning bath.

Ascending rain or spray bath is excellent in stimulating the bowels, bladder, uterus, and spine, and may be taken frequently with advantage, from one to three minutes, with intermissions. It must be followed by exercise. It consists in sitting over an open seat with a large perforated rose spout below the water pail, which acts with considerable force on the hips, etc.

## SPINAL BATHS AND RUBBING FOR WEAKNESS, ETC.

The lying shallow bath has only from one to two inches of water at 60°. The person lies on his back with his head



raised, or with it also in the water when required. The legs are outside of the bath; and a pair of blankets is laid over both the person and the bath. It may be taken from five to fifteen minutes, and followed by brisk rubbing. It is useful for spinal weakness.

Cold spinal compresses are nervous tonics, and should be taken when the person is comfortably warm in bed. Lay from two to six folds of cold wet towelling, well wrung, from three to four inches wide, with several folds of dry flannel outside from the neck to the foot of the spine. This is wonderfully soothing and may be kept on an hour, or till fully warm, and repeated if needful.

Warm wrung flannels or fomentations may be applied to the stomach and bowels at the same time, assisting digestion, etc.

Partial spinal cold compresses are of immense use when applied to the back in relieving any interior organ. Thus two or four fold, ten inches or so square, between the shoulders, is fully more effective in relieving the chest than the same when applied in front. With excess of heat, however, both may be used, or they may be applied alternately and changed as they heat.

The same process relieves pain or inflammation in the stomach when applied to the spine behind the stomach, and more so with the fomentation in front at the same time, as proposed above.

The same applications are suitable when applied to the kidneys.

The cold spinal compress gives immediate relief in connection with fomentations to the front when applied to lower part of the spine, in cases where there is pain or difficulty, or with deficiency of the monthly changes. These may be repeated two or three times the same day, or for two or three days if needful, and should be followed by more or less cold sponging on rising.

Cold compresses of from two to six fold applied to the spine for



an hour in the morning before rising are very efficient in giving strength to a weak back, or in removing spinal weakness.

Pouring one or two ewerfulls of cold water also over the foot of the spine daily on rising greatly increases the strengthening influence of these spinal compresses; also vigorous hand rubbing with olive oil after drying the skin.

#### HAND AND FOOT BATHS.

Foot bathing and washings have been in continuous use in the East for ages, both for refreshment and as a mark of respect to a guest on arrival.

Washing the hands, although seemingly a trifling matter, has a wonderful power in refreshing the whole body and particularly the head, and also in relieving some coughs.

The readiness with which a hand bath is procured enhances its value and places it *first* in the series of head relievers. It may be repeated frequently and continued for several minutes. The water should be cold when the symptoms to be relieved are accompanied by heat. Keep rubbing the hands vigorously.

Warm hand baths are excellent for the pains of rheumatism, gout, or whitlow. After about ten minutes' immersion, say, in a basin or ewer, the hands should be slightly dried and vigorously rubbed with oil or some simple ointment, and covered with flannel or old gloves to keep them warm.

Foot baths, warm or tepid, after fatigue are most refreshing, and restorative of strength particularly in the evening, and with feeble circulation are at all times suitable.

Invalids unable to walk may be refreshed by these simple warm baths even in bed, and two or three times daily. The foot baths are easily given in bed: the knees being drawn up and the feet placed in a foot-pail in the bed; these cover with a towel or small sheet and finally the blankets, and continue for from fifteen minutes to half an hour or longer, comfort and refreshment being the best guide in regard to duration.



Cold foot bathing is strengthening, and may be repeated frequently with continuous benefit. Wading in a burn or river for hours is the youthful foot bath which strengthens the constitution.

Running about barefoot in summer is somewhat of a foot bath and gives strength to the limbs, relieving also the head and chest. A French duchess wrote a tract a few years ago, addressed to the upper classes, advocating the adoption of this habit as a general practice, on the ground of its improving the health and constitution, as it certainly does.

The thick skin of the foot is meant to be worn and renewed, and this habit would lessen the amount of head and chest diseases.

An old lady once told me that she got cured of a severe cold when she was a girl by having to tramp the clothes all day with the feet in a tub of water—an old mode of washing clothes. She expected it would kill her; but when night came, to her surprise the cold was quite away.

Muscular activity of any kind adds greatly to the efficacy of these baths. Thus, stamping and wading foot baths continued till the feet glow are invaluable for the cure of colds, of cold feet, or weak ankles, and also in checking a tendency to bleeding from the nose.

Observe as an essential rule, that unless warmth follow these baths they are hurtful.

Leg baths are but stronger applications of the same nature, and are chiefly used for sores and ulcers in the legs or ankles, or weakness.

Varicose veins are greatly benefited by a leg bath with exercise as by wading, and also by cold compresses when at rest or in bed renewed when warm.

An Irish gentleman, fond of snipe-shooting, was informed that his chest complaint would kill him soon, and that his condition required the utmost care, on which he resolved to spend



the short life left him in his favourite pursuit. But he astonished his doctor at the end of the season, who found that, although he had been wading up to the middle frequently in bogs for hours together, his health had greatly improved, and he recovered entirely.

#### THE HALF BATH.

The hydropathic half bath is of a similar nature, but stronger, and may be tempered to the season and constitution, but should be always cool, and never at anyrate above 80°. The patient sits with the limbs outstretched in shallow water, having the shoulders wrapt in a blanket if his upper clothes are not on, while the attendant keeps rubbing the limbs and hips for five, ten, or twenty minutes.

#### THE DRIPPING SHEET.

Dripping sheets are well adapted for after treatment, following the pack or other sweating process; and also for a morning bath where an attendant is available. These may be tempered to suit the season. The person should stand in an empty bath or with the feet in a little warm water, and a dripping or half-wrung sheet, previously made ready for use, is thrown quickly over the shoulders and folded round the front. The attendant should now actively rub behind and over the limbs, while the patient does the same in front. If the sheet warms quickly, the lower part may be lifted up to the shoulders, and the rubbing continued for several minutes. If agreeable a jugfull of cold water may be poured over the back on the sheet as the back warms quickest; and finally dropping the wet sheet a dry one is thrown over the patient, and he is rubbed with it till thoroughly dry and comfortable.

Half-wrung and damp sheet rubbing are modifications of the dripping sheet, and may be used in a carpeted room by laying a sheet or towel on the carpet, and by wringing the sheet sufficiently to prevent its dripping.



## COMPOUND BATHS FOR SPECIAL PURPOSES.

Warm plunge, sitting, or foot baths, given at 100°, when the person is cold or feeble, before the full or half pack, as preparatory.

The pail douche, repeated, with intervals of damp sheet rubbing, from one to five or ten minutes.

Prolonged wet hand rubbing, with tepid water, after the pack, till quite warm and perfectly comfortable.

Full or half sheet packing with from two to six folds of cold wet towelling, three inches wide, along whole or to any part of the spine connected with the weak organ, and generally with hot wrung flannel, eight folds, about 12 × 12 inches, over the stomach and bowels under the pack.

Hot flannels to feet, also in pack, and two to four folds cold towel round head.

## THE PLUNGE OR FULL BATH.

Plunge bath, from 90° to 96°, maintained at the same temperature for from one to three hours, and repeated once or twice daily as required. Suitable for dry skin diseases, and should be varied by having one or two pailfuls of cold water poured or dashed over the whole body occasionally and when leaving the bath.

Vigorous rubbing with olive or some other aromatic oil after these baths is excellent in effect, as the skin is then very absorbent.

## COOL AND COLD AIR BATHS.

Many ailments would be relieved by the exposure of more or less of the body to the cool or cold air occasionally.

Restlessness, from want of sleep, is greatly overcome by walking about the bedroom for a few minutes lightly clad. Benjamin Franklin prescribed this remedy long ago. We



make ourselves susceptible to cold by over-clothing and insufficient exercise. Taking a lesson from the inhabitants of northern climes, we might prevent many ailments by taking more exercise with less clothing.

Franklin by experiment proved that we perspire or emanate more freely when nude or lightly clad than when oppressed with an extra supply of clothing.

Partial exposure to the cool atmosphere, after bathing in the sea or the bath, with motion and occasional rubbing, is very beneficial and strengthening to the skin, indeed to every organ and the health generally.

#### GENERAL DIRECTIONS AND CONDITIONS IN REFERENCE TO TURKISH BATHS, ETC.

The unsuitable conditions are, when there is fulness of blood to the head indicated by a florid complexion, giddiness, bleeding from the nostrils, etc.

In general, also, when the pulse is high, or much above the standard of  $70^{\circ}$  in males and  $80^{\circ}$  in females, as extremes of heat quicken the pulse; and unless the skin perspires easily, a strain is felt on the head and heart. In such cases extreme heats and Turkish baths are unsuitable.

A warm or tepid wash or bath previous is excellent in assisting to soften and open the skin for perspiration.

As a rule, the best time for the Turkish bath is between breakfast and dinner, or dinner and tea, and not earlier than two hours after food.

Prolonged moderate heat— $130^{\circ}$  to  $140^{\circ}$ —is better than extreme heat— $150^{\circ}$  to  $180^{\circ}$ . The time, from fifteen to sixty minutes after perspiration begins.

Comfort is the dictator, and the rule is to remain in the bath only while comfortable.



Violent pulsation, throbbing of the head, and oppressed breathing, indicate a strain, and necessity for relief in a cooler atmosphere.

These feelings, if only slight, may be relieved by free perspiration, sometimes felt before the pores begin to open.

Quietness is a requisite in the hot room, as talking or any excitement increases the strain on the head.

The conditions of the body before the bath as to being hot or cold, require longer or shorter periods in it, as perspiration is the result desired; and it is desirable that all the body, including the feet and limbs, should warm well and perspire also, although with cold extremities it is only after several baths that the circulation is strengthened so as to sweat the feet freely.

The conditions of youth and age materially affect the duration needful for thorough warmth and perspiration.

Strength of heart action and circulation result in perspiring quickly; while feeble pulsation, a result of age, etc., requires a longer period to attain the same end.

The HEAD should be well washed or bathed with tepid water before entering the bath room; *not* cold, as cold prevents perspiration of the head, which is desirable also.

Drinking moderately after perspiration has begun is beneficial to all the organs, by loosening obstructions and morbid secretions preparatory to expulsion.

All hot apartments and baths which quicken the circulation must have an abundant supply of pure fresh air.



After being a sufficient time in the hot room the person in vigorous health may bathe in any form most agreeable—by plunge or shower, etc.—watching only not to overdo it by exhausting the reactive power.

The invalid or persons with weak reaction should only have slow tepid bathing with vigorous rubbing or shampooing, after the hot room, as both assist greatly in loosening all deep-seated obstructions and in sending fresh supplies of blood to the extremities.

Continued rubbing, to the extent of five minutes, with tepid water before drying the body is good in mild weather and in a comfortable atmosphere, when walking is unsuitable.

Rest should be taken after the body has been dried till all danger of continued perspiration is gone, as quick dressing and sweating often again result in colds, weakness, rheumatism, etc.

Allowing the skin free exposure to an agreeable atmosphere for some time has an excellent effect. Dressing also as lightly as possible, and maintaining the natural warmth by exercise, conduce greatly to the beneficial effects of all baths.

But the invalid may receive much benefit by merely having gentle tepid bathing and rubbing; then resting, and even sleeping, in bed, strengthened by a bowl of beef tea or soup or cup of cocoa, as warmth, food, and rest are the essentials of restoration and health.

The attainment and maintenance of warmth in the feet is one of the great objects and tests of the suitability of all baths.

Also improved digestion and sound sleep, resulting in health and vigour or strength.

The good effects of Turkish baths and other sweating pro-



cesses, when suitable, generally increase by repetition, along with comfortable sensations resulting in increase of flesh and strength and warmth.

Persons who are cold and feeble, with weak digestive powers, are much benefited by vigorous general or local rubbing with warm olive oil before the warmth of the bath has passed away, as the skin rejects such substances, unless when warm or gently cooling.

Give careful attention to SENSATION and COMFORT when taking any bath, and also observe the after or secondary effects as tests of their suitability.

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## AUXILIARIES TO WATER CURE.

PRELIMINARY INQUIRIES EMBRACING IMPORTANT CONDITIONS  
NEEDFUL TO BE KNOWN BEFORE FORMING AN OPINION OR  
GIVING ADVICE REGARDING TREATMENT, ETC.

Age; Sex; If married, and how long; What family; How engaged, indoors or outdoors; Stout or slender; Active or indolent; Whether weak in head, nervous system, chest, blood circulation, heart, etc., or digestive and other abdominal organs; Appetite sharp or feeble; Condition of bowels; Condition of skin in regard to perspiration, etc.; Action of kidneys and periodic changes; Feet, cold, hot, or perspirable; Sleep, if sound, light, or disturbed; Habits, in regard to diet, bathing, and exercise; Situation and character of residence; Nervous or bilious constitution, temperament; If subject to or has had any serious disease, and when and what treatment in regard to medicine, blisters, etc.; Character of pulse, state of tongue, etc.; Indulgence in tobacco, tea, stimulants, etc.



OBJECTS TO BE KEPT IN VIEW IN DISCOVERING AND TREATING  
DISEASE.

- 1st, Its Causes—Hereditary, constitutional, or
- 2nd, Conditional, as from professional or business habits, etc.
- 3rd, Dietary—Eating, drinking, or smoking.
- 4th, Over action of brain, chest, stomach, muscles or nerves;  
indolence of body or physical organs.

## PREVENTION, ALLEVIATION, ERADICATION, OR THOROUGH CURE.

By change of diet or of whatever habits or constitutional tendency through which we may be peculiarly liable to disease.

## OLIVE OIL RUBBING.

Olive oil and other substances are available for nourishing the body by absorption, in cases of defective nutrition by the digestive organs.

In healthy bodies there is always a layer or covering of fat under the true skin, and deposits also between various layers of the muscles. This material is a sort of reserve fund or capital laid up in store for cold weather and times of accidental or voluntary fasting or privation, and acts also as a clothing preventing the escape of heat. But in feeble constitutions, and during illness, with defective power in the digestive and blood purifying organs, the vital power is unable to maintain this reserve, and consumes both it and the other tissues in providing heat sufficient for the maintenance of life. Thus, in cases where there is weak nutritive power, even in connection with feverishness, such as intermittent and other fevers and conditions of simple weakness, rubbing with oil is of great benefit.

The skin in many cases makes up for defective action of the stomach, and readily absorbs a considerable amount of nourishment by the pores; and, while throwing off used material, is able, at the same time, to absorb both food and drink when in need, and receives it in a condition fitted for absorption.



Bandages wet with salt water completely allay thirst. Persons at sea, when deprived of fresh water, have frequently been preserved in life by such means.

Inhaling the atmosphere of a woollen mill where oil is freely used and volatilised by heat, has long been found beneficial to weak chested young persons. During the prevalence of the plague in Egypt, it was observed that few or none of the oil dealers were attacked by the disease.

Healthy skins in activity exhale freely, leaving or forming a sort of halo around the individual; but when exhausted or feeble, we draw in and absorb from the atmosphere around whatever of a volatile nature it has in it. The lungs also inhale and absorb, but they have also a power of expelling impurities and noxious influences unless when exhausted, during which condition we are specially subject to infection.

As a rule, we exhale more freely in the morning and meridian of the day and of life, and in the decline of the day and life we require more assistance, and supplies of warmth, nutriment, and rest.

Oil rubbing is more suitable also when given in the evening, and in general should be preceded by a tepid wash, or it may be a warm bath, say, at 96° for ten minutes; but this is not essential, and the first is proposed so as to wash away all impurities and open the pores of the skin, particularly if there has been perspiration.

The oil should be fresh and kept in a cool, dark depository, as heat and light soon spoil it. The oil for use should be put into a cup—perhaps a tablespoonful or more; warm this by floating in a bowl of hot water or at the fireside till comfortably warm. The person who is to rub may put half a teaspoonful in the palm of their hand and rub, say, the back first, rubbing till the oil is absorbed; keep the body warm, and if the patient can assist by rubbing the breast and arms so much the better by keeping in motion.



The whole body and limbs may be taken bit by bit, and no oil should be left on the skin, as what is not absorbed will only soil the clothes or blankets. Active, healthy hand-rubbing enables the skin to absorb largely; and oil and fatty substances absorbed by this process seem to be made use of direct, without the process of digesting or straining the liver, as oil taken internally does.

I have frequently prescribed the use of fresh sweet butter for the same purpose, and it suits very well, but leaves a slight residuum and smell afterwards. In one consumptive case, on asking the mother regarding its influence and the quantity she used, she told me it was readily absorbed, and she required at least a quarter of a pound, and said she thought she could rub in half a pound daily.

Fine palm oil is also excellent, but we do not get it pure so readily; but neat's-foot oil, and even pure lard, suit very well when other substances are not attainable. When the skin absorbs the oil freely, it may be used daily with continuous benefit.

Occasional tepid washings should be taken to increase the absorbent power of the skin. It is very important to keep in remembrance that, although one function may assist when another is defective, there can be no permanent benefit attained till all the functions are restored to proper activity. This is especially true in regard to the breathing or lung action, as all we eat and drink requires to have the vital principle infused into it by the action of pure air inhaled into the lungs, tempered if needful by moderate heat.

Persons of spare habits are more benefited by the process of oil rubbing than those who are of a bilious or lymphatic constitution.

For weak chests and in bronchial affections great benefit is experienced by washing the chest and back daily before bed, and then rubbing well with oil, following this with cold bathing



in the morning. Weak and rheumatic joints are also benefited by the same process.

Tender heads, liable to cold and subject to sweatings, should be anointed or rubbed with oil or simple pomade after tepid washing.

Rubbing the feet well with fat or oil before bed, after washing them, is an excellent help to nourish and strengthen them; and it was believed that the superiority of the German soldiers to the French in enduring many hardships, with wet feet and clothes, cold and fatigue in severe marches, etc., was owing to the observance of a rule, that every soldier had to keep a piece of tallow in his knapsack to rub his feet with at night, or when tender or sore.

The application of water dissolves and abstracts somewhat of substance, although it may be waste or impure material. But oil and similar substances in rubbings, like food, *gives* that which warms and nourishes, somewhat like extra clothing.

#### MUSTARD APPLICATIONS.

Mustard has been long in use as a domestic irritant and stimulant, but on the principle that irritation is ultimately injurious, the less it is resorted to the better.

Stimulants and irritants may be compared to the use of the whip to the wearied enfeebled horse, when unfit for labour: the whip may stimulate to increased exertion without giving it the slightest real power or strength to perform it with. Still their use is justifiable in extreme cases. With a basis of vitality to draw upon, when there is severe pain or danger from some sudden attack, mustard may be applied, as it has a quicker influence than water, and will give relief sooner in cases of slight inflammation. And wet cloths may be applied after the mustard, as they restore the tender surface and promote the thorough cure by transference of the internal disease to the surface.



## ON THE USE OF ACETIC ACID OR VINEGAR.

This also has been of much use in curing many cases of disease of late years, and shows how diversified are causes and conditions, as well as the means of cure.

Acids in their effects are the reverse of oil. They dissolve and waste the scurf skin, in addition to acting as a gentle irritant and stimulant to the sensitive superficial nerves.

Acid, like water, but with greater power, is a solvent, and in both cases impure or diseased material is more readily affected by it than healthy tissue, or material imbued with life. Thus it is that in many cases the acid has no effect unless there be some diseased substance to be acted upon.

In using acid, it is favourable to its action that the skin be first washed with tepid water and soap. Then rub for a few minutes with a small piece of cloth or sponge, fastened to a short stick, dipped in the acid. When its strength is exhausted, in process of which the volatile fumes which affect the eyes in evaporating prove that some material has been dissolved, the part may be washed again, and thus repeated for the third time.

In suitable cases, as in chronic bronchitis or asthma, or other deep-seated disease, the skin becomes sore, or a rash appears in a few days or weeks, during the continuance of which it is best to suspend the process, although it may be renewed when the skin heals up, and repeated until entirely cured.

The seat of the nerves connected with the diseased organ, so far as ascertained, should also be rubbed as well as the seat of the disease. When applied for sore throat or bronchial affections, the back of the neck and between the shoulders should be washed and rubbed as well as the throat. So also the back opposite the stomach and liver in diseases affecting these organs.



## TURPENTINE AND OIL.

All the nerves of the trunk are greatly stimulated in sluggish constitutions by having the whole of the back freely bathed with warm water, and then rubbed vigorously with a mixture of warm oil, having about 25 per cent. of turpentine added to it; an addition of some aromatic oil is also agreeable.

This mixture rubbed daily on the back may benefit chest, stomach, liver, or uterus and kidneys, and other complaints of long standing, without any injury to the constitution.

## TREATMENT FOR UNDUE PERSPIRATION.

Excessive perspiration arising from feebleness and sensitive skin is much reduced, relieved, or prevented, and the skin strengthened by tepid sponging of the body—first with water or simply rubbing it with a dry towel and then sponging all over with, say, a half cupful of vinegar and as much water, with a teaspoonful of salt in it, at an agreeable heat.

Daily bathing or sponging with salt water, or salt in water—say a tablespoonful to a pint of water (tepid if more agreeable)—is very good for tender constitutions.

Salt is more beneficial to the skin than to the stomach or kidneys, both of which it irritates and inflames, and frequently ulcerates; it should be used sparingly in food.

## RUBBING, SHAMPOOING, AND MANIPULATION.

With the will and earnest desire to relieve pain, cure disease, and assist each other in this transitory theatre of intermingled joys and sorrows, pleasures and pain, we find that in all ages action with the hands and rubbing has held a high position. The hand is the agent and organ of power through which man performs all his actions. "The right hand of the mighty Lord" is always expressive of *power*.

The source and nature of this power has been overlooked, as



it proceeds from our spirit and the motive from which we act; and MAN has immense power for good or evil, the use of which we are accountable for to the Bestower of all good and perfect gifts.

Persons with strong wills have been powerful in influencing others, as we daily see in society, and these most frequently attain positions where opportunity for exercising it exists. Will-influence—physical, mental, and moral—is a recognised power in society.

Man, and woman also, can use this power through various channels: moral, by example and teaching; mental, by judgment and teaching; physical, by the conveyance of nerve or vital influence by the hand, along with mere physical strength, drawing out and dispelling pain and obstruction and sluggish action of the whole or some part of the body.

Powerful men in former times had a healing influence which was occasionally made use of in curing disease.

But leaving the mesmeric idea or power to be an open question, we can still do much good from simple, energetic, warm-hearted, vigorous rubbing by one or a pair of healthy hands.

Five or ten minutes' gentle rubbing, with occasional sponging or washing of the forehead and back of the head and neck, is generally sufficient to remove headaches and neuralgia also, and assists in procuring sleep. Always take note, however, that the feet are comfortably warm.

Gentle combing, brushing, sponging, and rubbing of the head and hair are very soothing to restless and irritable children.

Rubbing the back vigorously with a little oil on the hand gives strength to a weak back.

Rubbing the liver over and under the ribs of the right side is wonderfully effective in gorged, obstructed, and enlarged liver and bilious complaints.

Obstructions of the bowels are also relieved by fomenting, rubbing, and kneading.



Feeble circulation in the limbs and other parts of the body, as when dropsical, is greatly benefited by rubbing.

Friction or surface rubbing with a light rapid action, alternately with washing or sponging, has a different effect—warming the surface and relieving internal irritation, as in chest complaints.

#### ABSTINENCE OR HUNGER CURE.

As so many ailments evidently proceed from indigestion, or inability to manufacture healthy materials for the daily and hourly requirements of the body, many physicians have been led to prescribe abstinence more or less prolonged as a cure. The prescription is in many cases highly suitable, and evidently fastings in former times were most judicious, as one of the abuses of the past ages was gluttony and feasting; but as both extremes are injurious, we will examine into the best methods of attaining the object of relieving and strengthening the stomach by moderate abstinence and non-irritating food.

God has given us appetites and instincts which are far too little attended to as guides in our daily life.

We work when we are fatigued. We drive away sleep by the excitements of society, music, etc. We drink when not thirsty, and eat when we are not hungry.

After any over-indulgence in food or drink, the appetite is absent or feeble the following morning, and THAT is the time for fasting.

Wait till the appetite of hunger comes back, and there will be little injury resulting from a slight excess the previous day; but food taken without the ability to digest it, invariably does injury, and the repetition leads to disease, sickness, biliousness, and acidity—it may be fever.

Sedentary and indoor habits have the same results as excess in food, as without a proportion of outdoor exercise the motions and breathing which use or waste the material are compara-



tively inactive and create no demand, and the appetite is feeble in proportion. We require daily and continuous exercise of observation and judgment, along with self-denial, to elevate us above mere animal life, which gratifies the appetites and senses alone.

A beautiful illustration of the power of the hunger cure is given by Dr. Edward Johnston:—"A lady of rank came to him seeking to be cured of a foetid discharge from the nostrils, which was so offensive that she had almost resolved on entering a nunnery, as the smell was so repelling to those around her, and she had tried every remedy proposed by the most skilful physicians. Dr. Johnston subjected her to the usual purifying influences of the wet sheet packs and dry blanket sweating processes, etc., for some weeks, but, to his surprise, without any cessation of the discharge; when, feeling vexed at the obstinacy of the disease, the conviction came vividly to him that she was a suitable subject for the hunger cure, seeing that she was stout and had good digestive organs and took her food well. He immediately put her on a limited allowance of food, reducing it gradually to about the half of her former quantity, while at the same time he continued giving her packs and other reducing baths, under which influences he had the satisfaction of restoring her to her position in society completely cured in the course of a few weeks."

As a rule, in the absence of desire for food, and with dry tongue and lips and no special requirement for food, it is quite safe to miss the first meal in routine and only drink water and maintain warmth.

Attend to sensations or appetite in reference to your requirements and relish for food, and avoid the company of others while eating; and, if suitable, walk and drink, omitting the entire meal, say breakfast, and again supper, as a rule, when a healthy appetite and digestion will soon return with a true relish for food.



## MECHANISM OF THE ORGANS IN RELATION TO USE.

Let us now look at the mechanism of the human body in regard to function and machinery, and the effect of the several organs upon each other in maintaining the activities of the whole in relation to health, power, and usefulness.

The chief requirements of animal life are, first, Warmth—98°—as when under that temperature the various processes of circulation and breathing, etc., soon fail; second, Nutrition; third, Breathing, or Air, Clothing, Housing, and Stimulation to action with some object in view, resulting in active exercise or labour.

Life is understood to begin in and proceed from the brain; but the first active process of life is breathing—we may say the last also; therefore all restoration of health must embody deep breathing as the spring or motive power which sets all the other organs in motion.

Breathing, by elevating the diaphragm in respiring, allows the blood to flow freely from the large return vessels into the lungs; then, when they are thoroughly filled, impulse is given to inspire when the ribs are elevated, and the diaphragm falls or is pressed down on the stomach and bowels, to both of which it imparts motion by pressure, as also to the spleen and liver,—stimulating all of them to action in performing their appropriate functions.

We find that alcohol and aromatic substances taken into the stomach are speedily transfused into the lungs through this alternate pressure and suction, which also assists in sending digested food into the first bowel, often called the second stomach.

Pressure must also assist in secreting or abstracting gastric juice from the blood-vessels into the stomach, enabling the heart also, during full inspiration, to send the blood with more force through the body to the utmost extremity.



## HEART ACTION AND STIMULANTS.

It is probable that the immediate revival which we see from introducing food or drink into the stomach, after privation or exhaustion, results from transferring the finer or volatile substances through the coats of the stomach and the diaphragm into the lungs, and through them into the blood and circulation, with immediate effect. We find the stomach both secreting fluid and absorbing, and many organs and tissues reciprocate in assisting each other under difficulties. I think that stimulants act chiefly through these tissues by absorption into the lungs and blood, along with the air we breathe, and through the blood—first on the heart, quickening its motions,—then through the direct circulation, affecting the brain very speedily, stimulating both heart and brain by a peculiar irritation to increased activity, resulting in a corresponding exhaustion and depression in proportion to the amount and continuance.

## STANCHING OF BLEEDING.

Bleeding from a slight wound is sometimes difficult to stanch, such as bleeding from the nostrils or after tooth-pulling, or from some internal blood-vessel. A singular case many years ago taught me a lesson which I wished I had known sooner, as a friend of my youth died from the same cause.

A young lady had a tooth pulled followed by slight continuous bleeding; hoping for cessation in sleep she went to bed, but the bleeding still continued. I was sent for the third day to some considerable distance, and found her so weak that her head could not be lifted from the pillow. No food had been taken. After anxious consideration, I remembered the stimulus created by introducing food into the stomach, by increasing the circulation to it in secreting gastric juice. I got her with difficulty to swallow a few spoonfuls of rice, when the



oozing of blood ceased in a few minutes and returned no more. She is still living. This was nearly twenty years ago.

#### GYMNASTICS.

Gymnastics may be embodied under the head of beneficial exercise, which must always be attended to when restoration to health and its due maintenance is desired.

Walking with some object in view embraces almost all muscular action; and climbing the hill, or some ascent requiring deep breathing, is very good when otherwise suitable.

Cricket, croquet, battledore and shuttlecock, skipping-rope and the hoop, are all better than the fantastic movements sometimes taught, as in posturing and other singular motions intended to strengthen particular weak muscles.

General motion with special interest is gained by the use of the Indian club exercise, in which any number may join to dance music, and it is greatly superior to many other indoor exercise.

Indian clubs are in shape somewhat like common quart bottles, and may be from twelve to twenty-four inches long and from two and a-half to four inches thick, made of any sort of wood, and suitable in weight to the age and strength of the individual. One is taken in each hand, holding it lightly so that it droops or hangs perpendicular, rather than held straight out, which strains the wrist too much. Swaying the body gently from side to side alternately with one of these in each hand, swinging each over the head round the back, is very enjoyable, with the window open in an airy room. The motion may be reversed, from the back round to the front, for a few minutes, with intervals of rest for breathing, as the motion calls every muscle of the body into play—particularly the chest and abdominal muscles, which are the most important to be strengthened in connection with the arms. While walking strengthens the limbs chiefly, the muscles of the arms, chest,



and abdomen have comparatively little use in our artificial city life, and in this respect the working-classes have advantages to compensate so far for the life of toil so many of them suffer from.

But great discrimination must be had in regard to physical exercise, as many individuals have but little executive talents or power themselves, but large mental and designing faculties through which to suggest and plan out labour to the advantage of others.

Still the absorbing influence of head or brain work is much relieved by a moderate amount of manual labour. Food, rest, and sound sleep, are all delightful after physical activity or exercise. The following extract from Archbishop Whately's memoirs illustrates the principle:—"The first occasion on which I ever saw Dr. Whately (observes a correspondent) was under curious circumstances. I accompanied my friend Dr. Field to visit professionally some members of the Archbishop's household at Redesdale, Stillorgan. The ground was covered by two feet of snow, and the thermometer was down almost to zero. Knowing the Archbishop's character for humanity, I expressed much surprise at seeing an old labouring man in his shirt sleeves felling a tree 'after hours,' in the demesne, with a heavy shower of sleet drifting pitilessly on his wrinkled face. 'That labourer,' replied Dr. Field, 'whom you think the victim of prelatial despotism, is no other than the Archbishop curing himself of a headache. When his Grace has been reading and writing more than ordinary, and finds any pain or confusion about the cerebral organisation, he puts both to flight by rushing out with an axe, and slashing away at some ponderous trunk. As soon as he finds himself in a profuse perspiration he gets into bed, wraps himself in Limerick blankets, falls into a sound slumber, and gets up buoyant.'"



## STIMULANTS—USE AND ABUSE.

The question is frequently proposed as to the use or necessity of stimulants in cases of weakness, especially of the digestive organs. The enquiry is important to society at this time, as the medical profession have given far too much encouragement to the habit of using stimulants, by countenancing their use, too often begun in times of sickness. A large class of susceptible temperaments thus acquire a taste or liking for their habitual use in illness, and always find plenty of reasons for its continuance, when they are evidently injurious.

Were alcoholic stimulants needful for health we would find them somewhere in nature. But there is no alcohol found until the process of decomposition is begun. Fermentation, the first process in the destruction of organic matter, particularly of those rich in sugar, as grains are, gives out alcohol—seemingly the spirit or life of the plant—in dying. Man has caught this spirit by a chemical process, and made use of it to his hurt.

Alcohol is extremely volatile and evanescent, leaving no substance or residuum. This quality answers the question of use in a great measure. It has *no* substance. It *only* stimulates first the heart, then exhausts, then evaporates. While there is nerve in the living animal it will act upon it. Its volatile qualities on the breathing organs and heart excites the nerves and quickens the circulation by increased evaporation from the lungs and throat; and this action on the sensory nerves reveals the chief secret and seat of enjoyment from drinking and respiring after it.

But as all stimulants ultimately exhaust and weaken, there is no lasting or solid benefit derived from their use. But in proportion to their power there will be exhaustion, as life is drawn out of the body through the nerves; and they only give strength by destroying the living or vital power, of which we possess only a limited amount as capital, or talents, to be profitably



used and accounted for. Emergencies may justify their use, but to depend on their influence to attain any permanent or continuous advantage is a fallacy.

In many cases I have felt warranted in telling individuals that we might ourselves safely estimate the amount or capital of life we possessed, and the probability that it would be consumed or sacrificed prematurely, by indulging in the moderate habitual use of some stimulant, or other life-wasting indulgence or pursuit, within so many years before our "appointed time." In addition to the individual benefit gained by abstinence from liquor, a stronger motive may be added when we consider the effects of the habit we thus countenance on society. The sacrifice made by so many of all that man has or might possess by indulging in stimulants is incalculable. More is spent on liquor than our national taxation amounts to. I observe to-day the amount of barley consumed in the manufacture of beer alone in 1875 was upwards of 58,000,000 bushels. Add to this the amount of food material and money spent on spirits and wines, and the effects on health, happiness, and life to society, and we may well resolve not to touch the accursed thing which does so much injury to our race, even although the benefits to be derived from its use, and the sacrifices made by us in denying ourselves, were ten times greater than they are.

Let spirits be kept by the apothecary in his suspicious bottles labelled "poison," and dealt out in drops and drachms with caution on emergencies, and then disease of body and mind and disasters by sea and land, from storm and fire, would be diminished by one half, bankruptcy and crime would be considerably reduced, and prisons, police, and poor-rates would not be such a burden upon society as they at present are. Let those who have the power to do good and do it not, remember that *that is sin*.

At the Ladies' National Temperance Convention held in



London not long ago, a letter from Sir Henry Thompson, the eminent doctor, to Lady Jane Ellice was read. In it he stated that he was quite satisfied that fermented liquor of any kind was unnecessary as an article of diet. For the few who might require an habitual alcoholic stimulant it could only be considered as a medicine, and should therefore for them be so regarded. Wine and spirits were apt to be taken when not in the least degree necessary, often when absolutely injurious, For people who may enjoy tolerable health, yet nevertheless find digestion slow or imperfect, or the circulation languid—popular forms of excuse for taking wine—it seemed to him more frequently a dangerous snare than a tolerable remedy. Alcohol put in its proper place was among the so-called luxuries of life, not among its necessities. Don't take your daily wine (says Sir Henry) under any pretext of its doing you good. Take it frankly as a luxury, one which must be paid for—mostly by some loss of health, or of mental power, or of calmness of temper, or of judgment.

#### NURSING.

Nursing is one of the most important branches of education in which woman should be trained, as birth and death—the two great transitions or introductions we all must pass through into new conditions or states of existence—equally require the assistance of the loving heart, perceptive observation, and skilful hand of woman to help the helpless when ushered into life, and soothe the pillow of the weary, aching head of the dying. Pain and sickness are more than half subdued when affection with good nursing from the mother, wife, sister, or daughter attend upon us; and none of the incidents of life are more beneficial to man than when in suffering and sorrow the spirit is being chastened and the heart affections purified in feeling our own helplessness and seeing the self-sacrificing kindness and



attentions of the tender, skilful nurse while waiting on us and attending to our necessities.

The qualifications for good nursing are sympathy, with watchful observation, combined with a knowledge of the essentials of the requirements of humanity both in health and sickness. These consist in the maintenance or supply of proper warmth when deficient, and also in reducing its excess when feverish; then the supply of suitable food, having regard to quality, quantity, and proper times of giving it to the patient.

Thorough attention to cleanliness of person, clothing, and bedclothes, with prompt removal and deposition of all excretions.

Also particular attention to the atmosphere, as pure air is of the first importance in maintaining, and doubly so in the restoration of health when feeble from disease or when recovering from sickness.

The summary of essentials are pure air, due warmth, proper food and drink, perfect cleanliness, prompt removal of every impurity, quietude along with cheerfulness, and inspiring the patient with hope of benefiting from the illness and improving by its influence, whether in this state of probation or the future.

A general knowledge of the indications and symptoms manifest in ill-health is also requisite to understand the language of nature embodied in sensations of pleasure or pain, and that *Comfort* summarises all that is desirable in life.

Also a knowledge of the various simple means of restoring and maintaining warmth to the feet, cooling the head, and relieving headache, etc.

Also the means of relieving a cough, and how to assist or regulate the bowels; and, indeed, how, by some simple means, to relieve and help all the various important functions of life.

For this purpose it is desirable that a knowledge of the first principles of anatomy and physiology be learned from lectures



and books, in addition to some experience, along with a qualified nurse at the bedside.

Nursing, like mercy, is twice blessed, as both giver and receiver are benefited.

Woman is equally blessed in discovering that she possesses many qualities superior to those of man on whom she habitually leans for support; and we are made happier in learning how God has given to each appropriate qualities rendering each and all equally indispensable to the other.

Family relationship is one of the greatest blessings conferred on mankind—based on God's own relationship to us as the universal Father. How foolish it is to depreciate the other sex, as man and woman are only and equally what we make each to be to the other. Affection and love in mother, sister, wife, and daughter, can only be received in the measure in which we give or return them.

The outcome of our subject is, that we can only experience the full benefit of affection in times of suffering by manifesting it to those who stand in need of it at all times. Reciprocation is the law of life. We reap as we sow. We receive as we give.

The Chinese, with many civil and social defects, have been preserved as a nation much longer than any other on the earth from the great respect paid to parents and attention to the family duties. The Rev. Mr. Williamson, who visited a large part of China in 1872 and 1874, saw the lineal descendants of Mencius, one of the sages of two thousand years ago, living in the same district, in similar houses, and with similar dresses and habits and features as the father of the family, whose bas-relievo was prominent on several parts of the adjoining temples. Mr. Williamson saw grandfather, father, and son (thoroughly attested as such), of the seventy-third or seventy-fourth generation.

Let the Western nations profit by this example.

Good nursing and rearing gives robust health and endurance.



Children are God's heritage and man's best legacy when blest with health and good physical, mental, and moral training, so as to perpetuate the race by obedience to all the laws of God, and to parents as his representatives.

The following rules are applicable to almost all cases of illness which require confinement to bed:—

First ascertain the state of the feet, and with deficient heat give warm foot bath in bed. This is easily done by drawing the knees up and putting the feet in a foot pail placed in bed, covering all with a sheet and the bed-clothes.

This may be given two or three times daily, as it imparts a moist glow throughout the whole body, and assists the skin, bowels, kidneys, and, indeed, all the secretions in action.

Next, the head requires special attention, as all the nerves have their termination or seat in the brain.

Washing the head frequently is also of great importance, and it is easily managed by leaning over the bed, having a basin on a level. Support the head on the hand, and wash and lave it freely for five to ten minutes, using tepid water 80° to 90° with soap. (*See description of bath.*)

This may be repeated as required from once in the week to two or three times daily, and is exceedingly beneficial and refreshing throughout almost any illness.

Next, having reference to the state of the pulse, we may affirm that all cases of disease or ill-health are greatly benefited by a *daily* tepid washing or sponging.

When the person can get out of bed, it is best managed by a tepid wash in a sitting or other bath, or by rubbing with a half wrung sheet thrown over the shoulders; but if unfit to rise, a tepid wash can be given in bed by washing breast, back, arms, and limbs, one at a time or bit by bit, keeping the rest of the body well covered, or simply by rubbing under the blankets with a piece of flannel dipped in a little tepid water and



soap. The effect of daily sponging or washing is wonderful in assisting nature to throw off disease.

A warm foot bath or jar may be given to the feet if cool or cold after sponging or washing.

These spongings are doubly needful when the patient is feverish or perspires.

Next, with a dry hot skin or high pulse, which is a condition of many illnesses, the constant use of the wet towel bandage is invaluable, as it draws out the disease or impurities of the body and allays the excess of heat, preventing the drying up of the fluids of the body. It may be worn from close under the arms, or over the bowels as agreeable, from six to eighteen inches wide, and renewed as it becomes dry or too hot, say, from one to three, six, or twelve hours. Studying comfort as the safe rule to follow, also meal times and unbroken sleep and warmth, etc.—tepid water suits equally well.

Adjusting the pillow to suit the head is very important to an invalid.

Also having the bed placed so as to have the light coming from behind, as it strains the eyes when opposite.

Place fresh drinking water if possible within reach, so as to be accessible without asking for it.

The conditions of the aged, or persons in the decline of life, require special attention on the same general principles, having *comfort* in view as a guide to all their wants.

Heat is the first essential of vitality and health, and defect in heat-producing power or function is frequently the first indication of nature failing. In the decline of life we frequently see the weakest organ or function giving way first, and affecting others which may be sound. Every individual is hereditarily weak either in head and nerves or the chest, embracing both lungs and heart, or the digestive organs—stomach and liver.

All restorative measures should have special attention or



reference to the weakest part of the mechanism or organ chiefly affected.

As a summary of general rules for guidance to the aged and feeble, watch to keep the feet warm by some one or other of the means noted under this head as most suitable.

Then for persons of nervous temperament and active brains, great relief and revival and strength can be given by head washings more or less frequent, and with water agreeable to the sensations, but always under blood heat—98°: 90° to 94° is very agreeable, or about milk warm. These washings to be followed, after drying with the towel, by rubbing and gentle shampooing; and also the use of warm olive oil or other simple nutritious pomade is very strengthening and nourishing to the exhausted brain. Bind the damp hair till it dries, as when loose it is apt to produce a chill.

Oil rubbing may also be proposed for weakness in both the chest and stomach. Supplying warmth to the weak member, with washings and gentle rubbings to loosen stiffness and adhesive secretions, followed by rubbing in of some nourishing unguent, which is readily absorbed and becomes nutriment to the weak organs.

Warm bathing in full baths or partial baths, such as sitting or foot baths, are all valuable in supplying the great wants of the system—warmth and moisture.

Then warm clothing is also required, nourishing and easily digested food, the mind kept calm and at rest so that the affections may be in freedom to ascend in anticipating peace and rest, while the whole soul is preparing for its final abode, where sickness and sorrow are unknown. Reading suitable books aloud is much enjoyed by many invalids.



## TREATMENT OF CASES.

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After having learned somewhat of the principles and laws of health and disease, as subjects deeply interesting to every individual, personally and relatively, we now come to illustrate their practical application to the treatment of the various ailments, particularly such as require attention at home.

As elsewhere remarked, severe, acute, and critical attacks of illness require *prompt* attention and treatment, on the principle that a slight fire is easily extinguished, whereas, if allowed to gather strength, it may endanger the whole tenement. This class embodies colds, feverishness, head ailments, throat affections, croup, severe purging, and eruptive diseases, such as scarlet fever, measles, etc.

Chronic diseases, or ailments of long standing, require continuous and *gentle* treatment till cured.

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### HEAD AILMENTS.

#### HEADACHE CAUSED BY A BILIOUS OR DISORDERED STOMACH.

Abstinence from food for some time, more or less prolonged, or a reduction of the quantity taken, will remove the CAUSE of these headaches, and expedite all other remedies.

Drinking moderately and repeatedly of cold water, while taking exercise, is also excellent in hastening the cure or in



bringing relief. Washing the head frequently and freely with water with the chill taken off gives also much relief. If in bed, the wet towel bandage is invaluable, as also fomentations to the stomach. Drinking hot water frequently gives temporary relief, but it tends to weaken the stomach, and favours a return of the ailment.

Headache, accompanied with heat and flushing, in connection with cold feet, requires, first, a hot foot bath, at  $100^{\circ}$  to  $104^{\circ}$ , for ten to twenty minutes, followed by tepid washing of the head. This may be sufficient to effect a cure, but headaches, like many other aches, are indicative of some special cause, which should be attended to in seeking for a perfect cure. All strains, mental or physical, affect the head or heart.

Bathing the hands or feet, or both, in cold water for five or ten minutes, frequently gives relief from headache.

Tepid washing of the head frequently relieves and removes from the eyes, ears, and nostrils any slight obstruction, by cooling and favouring secretion of the mucus. (*See Head Bathing.*)

#### INJURIES TO THE HEAD FROM FALLS OR BRUISES.

A slight injury, as when a child falls on the floor, should be immediately treated with tepid bathing; and, to prevent discoloration, a cold compress of a few folds of wet linen may be bound on with a handkerchief.

More severe injuries should be treated in a somewhat similar manner, until complete relief is attained. The injury done to the head by severe blows is frequently not manifest or sufficiently known until some months have elapsed. But frequent head-washings, by increasing the discharges from the nostrils, ears, and eyes, in addition to the cutaneous action of



## HYDROPATHY :

the scalp, favours the expulsion of all waste, injured, or dead substance by the proper channels, thus relieving the interior, and avoiding any danger from after effects.

### DRY ERUPTIONS AND SCALY CONDITIONS OF THE HEAD.

Use tepid head washes first, then shampoo and rub with olive oil in the evening, daily, or two or three times in the week. Use also frequent cold sitting baths at mid-day or in the afternoon, for from fifteen to thirty minutes, followed by a good walk. Warm sitting baths before bed are also good, if required for warmth.

### INFLAMED EYES, EARS, AND NOSTRILS.

These are soon relieved by the face bath, and also by washing and rubbing the back of the head and neck frequently with cold water. The acid cure is often efficacious in such cases.

### MOIST ERUPTIONS OF THE HEAD

Must be treated by frequent tepid head bathing, without soap (unless, perhaps, occasionally to remove unpleasantness and smell), and cold wet bandages.

Children frequently suffer from this affection when teething. A wet linen cap or bandage should on such occasions be kept on the head constantly, with a dry merino or thin woollen cover or cap above, to prevent cold and to keep the child from scratching it. Cold sitting baths are essential to the cure of this kind of ailment. They increase the circulation towards the hips and loins, and withdraw it from the head by the bowels and kidneys. Those liable to over-action of the brain, whether they be children at school or men engaged in the battle of life, should, in every case, draw upon the powerful influence of cold sitting or hip baths, which should be followed



by walking or other active exercise. Such persons should also take daily head baths. Both these kinds of baths combined are useful in maintaining the equilibrium of circulation and the full duration and enjoyment of life.

#### HYDROCEPHALUS OR WATER ON THE BRAIN.

Any indication of this dangerous disease should be attended to early, before it assumes the more dangerous symptoms. Teething, whooping cough, frights, and all startling influences tend to congestion, and then to effusion of water somewhere on the brain, if long continued.

Mothers should be keenly observant of such symptoms in their children as frequent starting or crying when asleep, lying with the eyes half open when asleep, twitching of the hands or feet, or undue heat of the head, together with cold feet. These symptoms indicate the conditions tending to effusion and pressure on the brain, affecting the senses first, and then in turn all the functions of life, ending with the heart.

In such circumstances frequent washing, pouring, and brushing of the head with a soft wet brush should be resorted to, as also gentle shampooing or manipulation with the fingers frequently, for a few days, with water almost or quite cold.

These means are generally sufficient, in the earlier stages, to remove the fulness and excess of heat which always precedes the congestion and effusion. A small wet towel may be also kept on the head between the bathings as long as there is excess of heat.

Rubbing and bathing the spine with cold water is always a valuable addition to head treatment. So are warm hip baths, for they favour the secretion of urine. Especially are these baths beneficial when a jugful of cold water is poured over the lower part of the back after the person has sat in the warm water for from ten to fifteen minutes.



The limbs might also be occasionally bathed in the warm water, but the feet must be kept warm continuously.

If feverish, which is likely to be the case, keep on the simple towel bandage round the body constantly. Frequent pouring of tepid water over the head for fifteen to thirty minutes, say with a cup or small jug, is invaluable in the severest forms of the disease, and, along with occasional pouring over the spine, has led to recovery, in many cases after all hope had been abandoned. The water may be warm, say  $90^{\circ}$  at first, and gradually cooled. The child should be supported, comfortably lying on its back with the basin below.

Perseverance must be displayed in severe cases. Constant and repeated gentle cold pouring, or simply dropping water over the head for some hours, has led to recovery in several cases.

Food in such cases, if it can be taken, must be such as a little beef tea and some weak stimulant, till consciousness is regained; although, with a tendency to head affections, the plain farinaceous foods, with milk, are much safer as a rule. Animal diet is always exciting, and children in general should have little or none till they are three years old, and have teeth to chew it.

#### EPILEPSY AND FITS, OR CONVULSIONS.

These diseases are frequently obscure in regard to the primary cause. Although partial and temporary, congestion of the brain, resulting in convulsions, may proceed from excitement or temper as the first beginning, and the same cause and condition or habit is liable to return or repeat itself, as a habit requiring prevention.

Frequent head washing, with careful attention to habits and diet in every respect, are the great points to be attended to in daily child life. Also the spinal cold compresses, applied daily,



will give relief, and especially if the spine is connected with the cause. Cold sitting baths are also invaluable in relieving the head and stimulating the bowels and kidneys to abstract injurious influences or material from the whole system. Daily cold head bathing and cold spinal compresses, with plain diet and attention to the regulation of the bowels, are almost certain to effect a cure.

#### APOPLEXY.

This complaint may be better referred to in connection with its premonitory symptoms and warnings. *Prevention* rather than cure. Persons who are little of stature and stout, with bilious and energetic natures, are more liable to attacks of this nature.

Such individuals should carefully avoid over-indulgence and gratification of the appetite in eating and drinking, also stimulants of all kinds. Strong passions of every sort must be kept in control and subjection. Both joy and sorrow in excess often induce fatal attacks. Narcotics of all kinds, particularly tobacco, are very injurious.

These suggestions may be taken as having reference to dangers to be avoided; and *self-denial* will gain a due reward in HEALTH. The aim should be to strengthen the brain against congestion and effusion, which are the results of pressure and injuries, suspending sensation, with loss of power in some one or all of the organs and functions. These are best warded off and prevented by the daily washing and bathing of the head with cold water. Such baths strengthen the minute blood vessels and nerves of the head, and, in connection with plain diet and active physical habits, are the great safeguards of individuals with such tendencies.

As a compensation for the constitutional tendencies and dangers of the temperament, such individuals generally possess



a larger share of the vital and motive power, fitting them for steady persevering endurance and longevity.

*Numbness in feet and hands*, and liability to the sensation termed sleeping of the limbs, etc., should draw attention, as indicative of incipient pressure on the brain, and relief be sought for in active bathing of the head and spine, along with free action of the bowels, *temperance in eating and drinking*, and avoidance of all excitement. The wet sheet pack and sweatings by the vapour bath will soon give relief from such symptoms.

#### PARALYSIS.

Paralysis frequently affects one organ or part of the body, and is the result of cold or some slight injury, such as a blow on some controlling nerve.

In such cases it is important to ascertain the seat of the injury, and endeavour to restore or cure it first as the cause of the paralysis, which is here only an effect or consequence of some local injury.

If the injury is the result of cold, then supply general heat by vapour bath or other means, as free perspiration is the first object to be attained. Then the injured part may have water compresses kept to it, in accordance with the necessities of the case, till restoration is effected. Gentle rubbing of the part, especially if it is connected with the spine, is very effectual in restoring power.

Injury to a nerve frequently affects its root where it issues from the spine, and pain is felt there when pressure is applied by passing the finger along the spine till the painful spot reveals the seat of the obstruction. Repeated washings of the part, along with gentle rubbing on and around it, fre-



quently relieves the pain, reduces the thickening or growth, and restores power and function to the limb or organ affected.

These means, with the assistance of more or less of vapour baths or sweatings, give general relief, and remove local obstructions in any organ or function depending on defective nerve action.

#### PARALYSIS OF THE LIMBS, ETC.

Partial paralysis affecting one or both limbs, or the half of the body, requires careful observation to discover the cause if possible, so as to form an opinion regarding the cure.

Age is the first consideration, as paralysis is frequently only one of the many symptoms of exhausted nature.

Still much can be done when the case is taken early, as in many cases the limb dries up and withers, chiefly from want of *use*. A common cause is plugging of some blood vessel, due often to overstraining. It is often caused by a wasting of the energies and powers of the body unduly by excess, or of any absorbing pursuit, *in youth or manhood*. General treatment, as above, is also applicable to such cases.

#### PARALYSIS ARISING FROM INJURY TO THE SPINE.

Continued exposure of the back or spine to heat may be a cause of this ailment. I have seen two cases of it where the individuals had sat for years at the desk, with their backs opposite a fire. Other two cases resulted from over-attention to making-up business books in the evenings, another from over-heating, followed by chilling, in the harvest field; and many cases could be referred to as the result of long-continued mental strain.

With symptoms of numbness or want of feeling in hands or feet, or full power of the limbs in walking, immediate attention is required to detect the cause or habit detrimental to health.



*Smoking* is very deleterious to nervous individuals with such symptoms, or with deficient vitality.

#### PARALYSIS—GENERAL CAUSES.

1. Interference with the circulation in some of the great nerve centres.
2. Over-action of brain and nervous system.
3. Exposure of head or spine to heat.
4. Prolonged attention to business and desk work.
5. Competition in schools.
6. Injury to some nerve, from any cause.
7. Cold, from exposure in travelling or sitting in draughts.
8. Congested Liver.
9. Smoking and indulgence in the use of narcotics, such as tea and opium.
10. Use of alcoholic liquors.
11. Sexual abuses.
12. Wakefulness and want of sleep.
13. Sunstroke from insufficient protection of the head.

The general elements of cure consist in frequent or daily head bathing, gentle sweatings, moderate exercise of the brain (it may require *entire* rest for a period), cooling compresses to both the head and spine, with gentle bathing and rubbing of both ; also maintenance of warmth in the feet, and carefulness in diet and drinks, avoiding both stimulants and narcotics.

#### ACUTE DISEASES OF BRAIN AND NERVOUS SYSTEM.

*Delirium Tremens*.—This disease requires frequent warm baths or bathing, along with continuous tepid or cold head bathing and wet bandages, both to the head and round the body, until sound sleep is attained, after which recovery is rapid. Frequent doses of about a dessert spoonful of olive oil, administered in a tablespoonful of milk, supply soothing nourishment to the wasted tissues, while allaying the irritation of



the stomach and nerves, thus lessening or removing also all craving for more stimulants, and thereby effecting a more rapid recovery. Coffee, and even moderate sips of cold water, also relieve the craving for stimulants, but oil is the most effective.

Vegetarian diet, for a period of some months, assists greatly in effecting a thorough cure of intemperance.

These baths, along with frequent bathing of the head, etc., soon induce sleep, which is the grand restorative. THOROUGH and immediate suspension of the use of all stimulants is imperative, as the smallest quantity only prolongs the suffering, by awakening the appetite for more.

*Hysterics* generally proceed from some interruption of function, or excitement in certain nervous constitutions, which *causes* should be specially attended to. But to give relief when attacked, warm foot baths, along with tepid or cold head bathing and cold spinal compresses, are best. These should be repeated till effectual in inducing sleep, and may be assisted by the use of the towel bandage all round the body every night till perfectly cured.

Daily cold sitting, plunge, or shower baths, with frequent head bathing, perhaps daily also, if needful, should entirely remove the tendency to these attacks, in addition to strengthening the general system. Out-door exercise should also be taken, as excess of heat and all exciting influences predispose to such nervous attacks. Plain diet and activity in the open air counteract the liability to a recurrence of the ailment.

#### COLD IN THE HEAD.

Persons peculiarly liable to sneezing and cold in the head are generally deficient in good blood, or have too much water in the veins, so that they are easily chilled.



Solid food, in preference to slops, is good as a preventive, using as little fluid as possible.

Indigestion or too much exposure to cold, as is the case with shopkeepers, may be the cause of this complaint.

Active exercise to maintain warmth, even to the extent of inducing perspiration, is good; and for overcoming the tendency to cold in the head, a few sweats, followed by washing, is generally sufficient. Turkish and vapour baths are suitable for the purpose, and a tepid washing of the head, followed by slight cold bathing and a walk in the morning, generally meets all the requirements. Living chiefly on solid food, requiring chewing, while diminishing the quantity of fluids taken, in any form, with gentle sweatings occasionally, greatly assist in preventing the attacks of cold in any form. Some pomade applied to the head, and rubbing the nose and inside of nostrils in the morning with oil or pomade, is also very good as a preventive.

#### SOFTENING OF THE BRAIN

Is produced by the same causes as paralysis, and indicates its approach by the same symptoms, and requires similar treatment for prevention and cure.

Keep the head cool by daily bathing; also keep the feet warm by frequent bathing in cold water and taking active exercise. Keep the bowels and kidneys active by plain moderate diet, and, if required, by wet bandages, such as a towel all round the body at night, at the same time avoiding all prolonged or severe mental strain.

#### GENERAL SUGGESTIONS FOR HEAD SYMPTOMS.

Watch the tendencies of your constitution in regard to over-taxing the brain, and attend to such warnings as a hot head, headache, cold feet, sleeplessness, giddiness, indigestion, constipation, and continued excitement; smoking, drinking,



and excess in the indulgence of any passion or appetite affect the nervous system or the brain.

Judgment and perception in man makes him the responsible being which he is; and through his freedom of choice he is fitted for the enjoyment of much happiness; but by neglect of these laws is liable to much suffering and sorrow. "Obey and live." "The soul that sinneth it shall die."

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## CHEST AND THROAT DISEASES.

This class of diseases forms such a large proportion of the whole which afflict society in this country that special attention should be given to the general causes of colds, in connection with simple means of prevention and cure, without resorting to drugs and blisters, as these soon weaken the constitution, which it is our great object to strengthen at all points, so as to resist or ward off colds and all chest diseases.

In one sentence we may state that bodily activity, in connection with deep breathing and free inspiration in the open air, must be the chief means or influence through which we must strengthen the organism in all its parts.

### MEANS OF STRENGTHENING THE THROAT AND CHEST.

Wash, bathe, and rub the chest daily with cold water; breathe slowly and deeply, and so expand the lungs more and more day by day; also exercise the arms and all the muscles of the body by the use of the Indian clubs, or some other gentle gymnastic appliance, or some useful labour. Have the back well rubbed also, by an assistant, in the morning. Walking up a gentle ascent slowly promotes deep breathing.



Up to an advanced period of life, say even to sixty years, I have found the lungs capable of considerable expansion and increased power in breathing capacity and vocal ability, by the aid of such agreeable auxiliaries as deep breathing in speaking, reading, walking, and even gentle running, etc.

With feeble reaction, the bathing processes may be begun in the evening with a tepid sponging, followed by vigorous rubbing with olive oil; and in the morning, a slighter sponging with cold water, and, if possible, a short walk in the fresh air till quite warm, before taking breakfast.

#### SORE AND ULCERATED THROATS.

Susceptibility to cold and tenderness of the throat frequently indicate delicacy of the chest, which is to be overcome by attention to the general rules on chest ailments.

Slight ailments are easily removed by the application to the throat of several folds of cold wet towelling, with dry flannel above, for a few nights, and bathing the throat and chest every morning with cold water.

Gargling the throat frequently, and also keeping cold water in the mouth till it gets to be warm, relieves the throat greatly, and entails very little trouble or need of assistance. This application contracts enlarged tonsils, and prevents the necessity of resorting to the barbarous remedy of cutting them. Use only cool and cold food and drinks, as heat relaxes and weakens both the stomach and throat, and also the chest.

CHRONIC sore throats frequently require daily spouting to the neck and throat, for five or ten minutes, with intermissions, by means of a small tube attached to the water crane. Cold spouting is wonderfully strengthening to delicate throats.



Continued squirting with a common enema may do in many cases.

Cold sitting baths, forenoon or afternoon, for from ten to thirty minutes, followed by a good walk, relieve the throat and chest.

#### COMMON COLDS.

Deep warm foot bathing before going to bed, for ten to twenty minutes, to produce warmth of body, followed by chest and back washing, and, if needful, by a throat or chest bandage of two to four folds of soft warm towelling, from six to nine inches square; it should be kept smoothly to the throat and chest, with dry flannel above, all night, and, if needful, renewed in the morning; or, instead, wash and then rub the chest with oil. This relieves a cold in the first stage. If it be severe, a continuance of the same process, with perhaps the trunk pack for a few mornings, will give relief. Breakfast in bed the following morning, for warmth and rest are favourable to cure.

#### BRONCHITIS,

Which is another form of the same affection, going deeper into the tubes leading into the lungs, requires the same treatment, with the addition of a four-fold cold compress over the chest. Sometimes the inflamed tube is nearer the back than the breast, requiring the compress to that part also.

#### CHRONIC BRONCHITIS,

That is, continued or repeated bronchial attack, is aggravated by a thickening and contracting of the tubes, rendering breathing laborious. This condition is much affected by indigestion, or, as a result, the digestion when impeded by difficult breathing; and a bilious attack frequently follows, aggravating the oppressed breathing. In such circumstances a plain spare diet,



or even abstinence for twelve hours, is very beneficial until the attack is overcome.

Warm sitting baths are very soothing in connection with the above ; but rubbing, packing, compresses to both the back and breast, with rest, will soon give relief. After recovery, resort to the means proposed for strengthening the chest.

#### PNEUMONIA, OR INFLAMMATION OF THE CHEST.

This complaint is ushered in with sharp pain and great tightness in the chest, and is similar to congestion of the lungs. In this case, *first* secure general warmth if needful, although there is very soon excess of heat, with distressed and laboured breathing.

If there has been perspiration, first slightly sponge and rub the breast and back, and then dry them. Detect, if possible, by the ear or stethoscope, where the chief congestion exists, and lay two to four folds of wrung-out cold towelling, of from six to twelve inches square, on the part. It will be beneficial to have one compress to the back and another to the chest, as relieving one part relieves the whole ; and the wet cloths may be renewed as they get hot or warm, say at intervals of from ten or fifteen minutes to half-an-hour, changing them alternately as they become hot ; warming more slowly, they may remain on longer, say from one to three hours, till complete relief is experienced.

Two cold compresses, each of two or fourfold linen, half round the chest so as to meet, from the neck to the bottom of the ribs and stomach, will embrace all the lungs when there is great heat, and they are easily renewed without disturbing the patient much. Relief will be evident when sleep is attained, as the incessant coughing and oppressed breathing entirely banish sleep.

Attention to symptoms of relapse must be continued for several days, as the fever and congestion are liable to return



several times, but less severe, and must be kept in check by the compresses until both the breathing and pulsation are well. Sponge the trunk occasionally, giving warm foot baths if needful, and farinaceous diet by spoonfuls. Softening of the cough, with free discharge of mucus, will soon complete the cure. Rubbing the breast and all the chest with warm oil is good as a preventive against a recurrence of an attack.

#### PLEURISY—CONSTRICTED BREATHING.

Pleurisy is an inflammation of the outer covering of the lungs and lining of the ribs, and is frequently complicated with bronchial and lung inflammation. Treatment similar to that for pneumonia so far meets the case. But as pleurisy shows itself in acute pain in breathing, causing an inability to take a full inspiration into the lungs, it is beneficial first to give a warm sitting or foot bath to restore *full* WARMTH, as a chill and shiver or rigour generally precede the attack. Then apply warm fomentations to the side, repeating fresh applications every quarter or half hour till relief is attained. Perspiring gently for several hours gives great relief; and when inspirations can be taken without the sharp pain, the tepid or cold compresses may be applied and changed as in pneumonia, for one or several days as required.

Oil-rubbing of the chest and back is good after recovery in these cases; also cod liver or olive oil taken internally.

The chief danger in pleurisy consists in the effusion of lymph or a glutinous fluid, as a blister or bag is formed between the lungs and the ribs, so pressing on the lung that it is frequently compressed to half its natural size and cannot again be inflated, losing its elasticity. Warm applications, immediately, of eight folds of flannel thoroughly wrung out of hot water (see *Fomentations*) relieve the tension, and the sponging and cold compresses afterwards draw out the inflammation and stop the secretion of the lymph or fluid. From the heat or drying up of the fluid



under the common process of blistering or blood-letting, the gummy fluid frequently glues or causes the free surfaces of the pleura, or lining of the ribs, to adhere to the lungs with permanent injury to health, from defective breathing capacity.

When interrupted or tightened breathing is experienced after an attack, it will be well to wash the part daily and afterwards to rub with oil. Breathe also frequently, slowly and as deeply as possible, to loosen the adhesion, which may often be done by these means: loosening and expanding the chest day by day to its full capacity.

#### WHOOPING COUGH.

Whooping cough generally begins with symptoms similar to those of a common cold, and may be similarly treated at first. I have frequently found what seemed likely to turn out to be whooping cough (when it was in the neighbourhood) disappear by a few trunk packs, chest compresses, and chest and back washing and rubbing.

This complaint, like many others of childhood, should result in a purifying and strengthening of the whole body, and specially the organs affected, which are the lungs and bronchial tubes. The violent coughing distends the bronchial tubes and lungs, and what is required in these complaints, including scarlet fever and measles, is rather to assist and guide the process and purpose NATURE is endeavouring to accomplish, than by any violent remedy to attempt to interrupt or cure them when fully formed.

When the peculiar character of the disease is ascertained by the sound and continuous cough repeating, and requiring renewed inspirations to complete the spasmodic action, give a daily trunk pack for a few days, and with it two to four folds of cold wet towelling, six to eight inches square, between the shoulders and alternately on the breast, followed by a slight



wash in any form suitable. Rubbing daily with oil, also, is very good in all the stages, as it seems to be absorbed and to soften and alter the nature of the tough, tenacious expectoration, thus shortening the first stage of the disease, besides lessening the danger to both chest and head by continuous overstrain from prolonged coughing.

Wearing a wet chest compress of spongio or four folds of soft towelling, with dry flannel above as a bib, constantly, and renewing it from two to six times daily; washing and rubbing the breast with water and then oil frequently when changing it, will greatly alleviate the cough.

Two important observations must be kept in view during the whole course of the disease: Keep the feet warm and comfortable, resorting to warm foot baths, if needful, several times in the day; next, Bathe the head at least once daily with cold water (boys especially); and after every severe kink or cough, which flushes the face and head, bathe or sponge the head again. Immediate relief from the temporary congestion caused by the coughing is thus secured, in addition to a toning and strengthening of the nervous system generally.

When the cough is severe, a warm sitting or hip bath is soothing and refreshing; and after the turn of the disease, or even when continuing too long, a cold hip bath with rubbing of the spine, while sitting in the basin, from five to ten minutes, is excellent as a derivative, and assists nature to overcome the mere *habit* of coughing.

Teaspoonfuls of milk, with a little olive oil poured into the centre of it, may be given frequently, as it softens the cough; and although it may be vomited, still it is effectual in relieving the chest, assists in nourishing the body, and acts as a mild aperient.



Plain food, chiefly farinaceous, is safer during the violent stage of the disease. The means prescribed above lessen the severity and danger of the strain in addition to shortening its duration, which should not be longer than three weeks, instead of generally six weeks, and in the cold seasons even six months.

#### ASTHMA.

Asthma is a common complaint proceeding from hereditary tendencies, although frequently it is the result of inhaling dust and irritating substances and gases; whatever tends to oppress the chest and affect the breathing pre-disposes to asthma.

Hay ripening and the plant odours of spring and autumn also produce attacks of asthma in some persons.

A full stomach after a hearty meal frequently brings on an attack in hot weather.

Stone-masons and metal-grinders are very injuriously affected by inhaling fine particles, which can hardly be expelled after being inhaled. Metal particles irritate and inflame the lungs; stone dust gravitates to the bottom of the lungs, and gradually fills the cells, diminishing the capacity, besides weighing them down. Masons and stone-carvers are likely to sacrifice many years of their life. Workers in lime also, and many other workmen, should be protected, as far as possible, in the exercise of their vocations, many of which are trivial in value if measured in relation to injured health and shortened life to the operators.

Respirators, probably, of fine cotton or wool may be beneficial, and should be constantly worn by all persons liable to inhalation of dust of any sort, as in wool and flour mills.

Great care must be taken by individuals exposed to those influences, and means taken to strengthen the chest by frequent



deep inspirations of pure cold air and daily bathing and rubbing of the breast.

An impending attack may be warded off by taking a vapour bath or trunk pack, so as to loosen the mucus and increase its secretion, removing the *material* oppressing the chest.

Warmth and moisture generally, and *specially* to the chest, soften the mucus.

Warm sitting baths are thus beneficial.

Inhaling steam by breathing over a basinful of hot water, while keeping a sheet over the head and basin, is very effective in giving relief. After breathing thus for from five to fifteen minutes, the breast may be freely plashed or bathed with cold water, and well rubbed dry, or with oil, after the inhalation. Oil taken internally assists in softening and loosening the mucus and expectorations.

Rubbing between the shoulders alternately with a wet cloth and then with the dry hand for five or ten minutes, and a little oil or pomade afterwards is also very effective in giving relief during an attack.

Heart action and the breathing processes are sympathetic, and what affects one tells on the other. Each are equally important.

Thus *continuous* laborious breathing soon affects the heart, and calls for attention to our habits and whatever cause oppresses the chest, whether it be bronchial or asthmatic.

Flatulence as a result of indigestion is one great cause both of heart disease and asthma, by pressure on the chest.

Washing and shampooing the head with tepid water at 80° for several minutes often give great relief through the nerves.

Use also warm foot baths and warm trunk packs with cold cloths along the spine, and fomentations on stomach, which



will also relieve and may ultimately cure. The wet towel bandage might be worn round the stomach regularly every night for a month, or day and night with dry flannel above, if needful, for warmth.

#### CROUP.

The common precursor of croup is hoarseness for a day or two, indicating cold, or more properly inflammation, in the upper part of the windpipe; and at this stage the plan proposed, simply rubbing the throat with cold water, might be effectual; although, in addition to that, it will be well to observe the state of the feet carefully, as they are almost certain to be cold. They *must* be kept warm, and the throat cool, by repeated bathings, and two or three ply of wet cloth covered by dry flannel kept on constant till quite relieved and well. Warm foot baths are the readiest means of warming the feet in an emergency, and they may be frequently repeated while the necessity exists; although, in general, and when the child is able to run about, washing them in cold water is more enduring in its effects in keeping them warm.

These means answer very well when taken early; but more frequently the disease is not observed till the second stage sets in, which is indicated by the peculiar barking cough, as if the sound came through a metallic tube. This indicates a dry, hot state of the windpipe, and very soon after this the breathing becomes difficult, from the effusion of a thick mucus, endued with a degree of vitality, growing across the windpipe. Our great effort is to prevent the formation of this, and remove what may have been already formed. To attain these objects, we, in addition to the throat applications, put a wet towel bandage, from six to twelve inches wide, all round under the arms, with two ply dry above, which may be either cotton or flannel. The effect of this is to excite action over the trunk of the body, and so relieve diseased action in the throat; besides



that, it relieves fever consequent on rapid and difficult breathing. If the attack is slight, there may be after a night's treatment a remission of all the symptoms by the morning; but it will be much safer to continue it for two or three nights, and if the cough retains the peculiar sound, keep the patient in bed all day, so as to facilitate the treatment with safety, and keep the feet warm. Renew the bandage as it dries or becomes too hot, which may be in from three to five hours, in proportion to the amount of fever.

If the symptoms, however, are severe, the patient must be packed in the wet sheet or towel, suitable to the size, and keep three or four folds extra, about four or six inches square, to the throat, which may be renewed two or three times before taking out of the sheet, if the patient is comfortable. After the sheet, bathe with tepid water, and renew the bandages to the throat and round under the arms as before, till perfectly relieved. While any danger exists give only the plainest food, and very sparingly; but use water freely both inwardly and outwardly, watching to *keep the feet warm*.

It is desirable to attain perspiration in the packing, as with it there is a remission of all the symptoms; and after tepid bathing maintain comfortable warmth, with the bandages on for a day or two, till the tendency to return is past.

Give half teaspoonfuls of olive oil two or three times daily, as this loosens the mucus and assists expectoration or vomiting.

#### CONSUMPTIVE TENDENCIES.

Consumption and consumptive tendencies are frequently first seen as symptoms of decline at the period of life when bodily vigour should be ripe for a life of activity, instead of which, blight and decay exhale life from the feeble body. We hope and trust, from such comparatively brief careers, they are purified early by suffering and weaned from earth to enter into the pure and the eternal.



Instead, therefore, of treating consumption in general as a specific disease, we should rather treat the various symptoms and weak points of the constitution, so as to endeavour to remove all injurious influences and strengthen weak organs and functions, assisting nature to throw off impure emanations and secretions, and to strengthen the breathing and digestive organs through the natural agencies of PURE air, out-door activities, proper food, warmth, and moderate bathing, etc., etc.

Another class of individuals are subject to consumption, who, with good constitutions, have been exposed to those injurious and weakening influences which exist in many forms and many places in civilised life—from the comfortable but ill-ventilated parlour and ball or lecture room to the dens of poverty and wretchedness in lanes and closes; in milliners' and tailors' sewing-rooms, forecastles of vessels, factories, and counting-houses; or as masons, stone carvers, and workers in those trades which minister only to the luxuries of the rich as well as the poor, and are purchased at the sacrifice of shortened life to thousands of our fellow-creatures.

Let any person familiar with the operations of our world-supplying workshops reflect on the processes injurious to health, through which so many of our necessities and luxuries in daily use pass, and think how much it is the duty of every one to simplify labour and spare our fellow-creatures, so far as we can, from needless suffering and premature death. Such causes as—

Exposure to cold.

Prolonged fasting.

Severe storms, such as sailors frequently experience.

Extremes of heat and cold.

Impure air in homes and workshops and factories.

Neglect of cleanliness.

Improper food and the use of narcotics, such as tobacco and strong tea, which do far more harm than society suspects.



Intoxicating liquors.

Sensuous and strong excitement in many forms.

All these influences tend to weaken and exhaust the vital power, and dispose to consumptive and other diseases arising from feeble constitution.

If we governed ourselves by the exercise of the knowledge we already possess, we can hardly over-estimate the amount of health, happiness, and longevity we might attain.

This knowledge and practice must also be exercised towards our fellow-creatures or our neighbour before we can experience the *full* measure of it in ourselves, as it is an impossibility to enjoy true happiness while we know that there is anyone suffering whom *we* have the *power* to relieve.

The various propositions and remedies under Chest Strengtheners and Treatment may be referred to for suitable rules and applications for the varied conditions and symptoms noted above.

#### BLOOD-SPITTING OR HEMORRHAGE.

Hemorrhage may be caused by two very different conditions.

Delicacy of throat and lungs allow blood to exude readily under any strain, and this may result even in connection with a spare habit of body and deficiency of blood in the system.

Another condition and cause is when nature seeks for relief under a sense of fulness, and when some natural function is interrupted or deranged, and some blood-vessel in the chest gives way under any unusual strain or excitement.

Bleeding from the throat or head requires attention, to discover the causes of undue flow of blood to these organs so as to counteract them and increase the circulation to the feet and



loins by means of sitting or hip and foot baths, which are better adapted for this purpose cold, and followed by exercise or hand-rubbing, &c.

When these attacks are frequent, it is needful to be abstemious in regard to rich and blood-making food, including roast and juicy meats, and soups, spices, and stimulants.

PLAIN spare diet of MILK, GRAIN, and FRUITS, and the avoidance of *hot* meats and drinks for a considerable period, are absolutely essential both for prevention and cure.

Vegetarian diet for a period of several months is imperative when a recurrence of the hemorrhage is frequent or periodic.

The rule of life should be, to keep the body *warm* and comfortable, and the INTERIOR of *lungs* and *stomach* *cool* by fresh air and cool food and drinks, in all such cases.

The active measures to stop bleeding are, first, cold or cool hip baths if the person is quite warm and comfortable. These should be slight or shallow at first till the reactive power increases, and they may be made use of more and more freely to the desired extent of drawing down all excess of blood or strain from the chest and head, till the tendency is overcome.]

If the quantity should be considerable so as to cause alarm, then a warm sitting bath at 98° should be given for fifteen to thirty minutes, and while sitting in it keep four folds of cold wet towelling, say six to twelve inches square, over the part of the chest or head from which the blood comes. This is easily discovered by the feelings of the patient and by examination.

Change these cooling compresses as they get warm, if in bed, for hours and even days if needful. The first applications may be renewed in from ten to thirty minutes; but as the parts become cooled in the interior, they may not require changing for several hours, or till warm.



Swallowing ice in small pieces assists in stanching bleeding by contracting the weak vessels and cooling both chest and stomach.

Bathing the hands frequently, or continuously with cold water, or keeping them wrapped in a wet towel, also assists greatly.

Thorough rest is also favourable along with perfect quietude.

Bleeding from the nose or gums is speedily checked by cold bathing of the whole head. When the lying or stooping position is unsuitable, as when the flow is excessive, the head may be kept cool by constant sponging or wrapping of cold wet towels round it for an hour or two if needful, while sitting erect, and repeated again and again on return of any excess of heat.

While thus attending to keep the head cool, keep the feet warm by foot baths or other suitable means.

#### BLOOD-POISONING FROM MEDICINE, WOUNDS, POISONOUS BITES, RABID DOG, OR SUSPECTED AS SUCH.

PURGING through the skin is the safest and speediest outlet through which to expel poison from the blood or system generally, which is soon all affected through the universal circulation.

The blood is frequently self-poisoned by retention of some one or other of the impure secretions of the body; and when any of the important outlets, such as skin, bowels, and kidneys are defective in action, suitable means to secure their relief must also be attended to, in addition to removal of the poison from the blood and tissues by sweatings or wet sheet packs.

When a recent infusion of poisonous virus has been received through a venomous bite or wound, by inhalation of infectious gases, or the drinking of impure fluids, including even the poison of cholera, plague, or fever, the first disturbance is



generally felt in the head and spine, though we may be ignorant of the particular cause.

The head should be immediately bathed freely and repeatedly dipped in cold water; and as soon as possible measures should be taken to secure a free perspiration followed by a wash. This may be repeated again and again, daily or oftener, until all the symptoms are relieved and danger removed.

Poisoning from scorpion and tarantula bites have been cured in this manner for centuries in Italy, by means of a forced dance (while supported between two persons) to a lively tune named "Tarantula," till perspiring freely.

#### HYDROPHOBIA.

Hydrophobia, resulting from the bite of dogs and other animals in a rabid state, is too well known, from its frequent occurrence, to render any description of its nature necessary.

In prescribing means to cure it in the early stages, which we think quite possible, it is well to give some precautions as to the best means for prevention, so as to lessen the danger to society from the immense number of useless dogs, which are kept only for fancy or as pets. Very few dogs running freely about become mad; but any creature tied up or confined, as many dogs are in warm weather, become highly susceptible of madness, especially under great heat and when deprived of free supplies of water.

Luxurious pet dogs are most in danger of an attack of this disease from the unnatural life many of them lead—rich food, little exercise, deprived of liberty at certain seasons, and having no proper freedom outdoors. High life, or living with indolence, inevitably results in diseased or poisonous secretions in man or beast, and plain food and active exercise is the only certain remedy or prevention of such diseases.



Frequent washing of pet dogs and giving them freedom outside are precautions so far; but it would be better to have fewer of them; and those who now cherish them may transfer their sympathies and affections with advantage to the large class of their fellow-creatures who are destitute of home, friends, and food.

When danger is suspected from the bite of an excited animal, it will be a simple and safe precaution to wash the head freely in cold water for some days, and also to take a few sweatings, and keep several folds of cold wet linen to the wound. These, with similar rules given in connection with blood-poisoning, may be followed safely; and even if the alarming indications of the disease have appeared, these sweatings should be repeated again and again till perfect relief is obtained.

Many wonderful cures of this disease have taken place through the agency of the vapour bath, when every other hope of cure was gone.

The following from the *Salut Public* of Lyons, giving the personal experience of a doctor, well expresses the symptoms and treatment with results:—

“Dr. Buisson claims to have discovered a remedy for this terrible disease (hydrophobia). He allowed himself to be vaccinated with saliva from a woman who died of the disease. ‘Believing that the malady would not declare itself until the fortieth day, and having numerous patients to visit, I put off from day to day the application of my remedy,—that is to say, vapour baths. The ninth day, being in my cabinet, I felt all at once a pain in my throat, and still greater pain in my eyes. My body seemed so light that I felt as if I could jump to a prodigious height, or if thrown out of the win-



dow I could sustain myself in the air. My hair was so sensitive that I appeared to be able to count each separately without looking at it. Saliva kept continually forming in the mouth. Any movement of air caused great pain to me, and I was obliged to avoid the sight of brilliant objects. I had a continual desire to run and bite—not human beings, but animals, and all that was near me. I drank with difficulty, and I remarked that the sight of water distressed me more than the pain in my throat. I believe that by shutting the eyes anyone suffering from hydrophobia can always drink. The fits came on every five minutes, and I then felt the pain start from the index finger and run up the nerves to the shoulder. In this state, thinking that my course was preventive, not curative, I took a vapour bath, not with the intention of cure, but of suffocating myself. When the bath was at the heat of 52 centigrade (150° Fahrenheit) all the symptoms disappeared as if by magic, and since then I have never felt anything more of them. I have attended more than eighty persons bitten by mad animals, and I have not lost a single one.' When a person is bitten by a mad dog, he must, for seven successive days, take a vapour bath—'a la Russe,' as it is called of 57° to 63°. This is the preventive remedy. A vapour bath may be quickly made by putting three or four red-hot bricks in a bucket or tub of water, and let the patient sit over it on a cane-bottomed or willow chair, enveloped in a large blanket, for fifteen to twenty minutes. When the disease is declared it only requires one vapour bath, rapidly increasing to thirty-seven centigrade, then slowly to fifty-three; and the patient must strictly confine himself to his chamber until the cure is complete."

#### NARCOTIC POISONING.

The effects of opium, laudanum, tobacco, and other narcotic poisons are best counteracted by dashing cold water over the person, and especially over the head and face, also by rousing,



shaking, and preventing sleep, and by drinking of cold water, to induce, if possible, vomiting.

If these means fail, I would resort to sweating by means of the vapour bath, followed by the cold dashing again. If the poison is thoroughly into the circulation, sweating is the best means to extract it from the blood and brain without exhaustion of vital power.

#### IRRITANT POISONING.

When any irritant poison has been received into the stomach, such as arsenic, we should immediately resort to free draughts of milk and oil, either of which nullifies the irritation and promotes vomiting.

#### BLOOD POISONS—FORMED OR THREATENED CANCER.

CANCER results generally from a vitiated condition of the blood, although injury from bruises or pressure, or retention of some one or other of the usual secretions, may be the immediate cause of its development.

I have had the satisfaction of preventing the growth of cancer several times when the symptoms were marked, such as dark swellings, excoriated spots that would not heal, and shooting pains of a peculiar character, &c. By changing of the diet to one chiefly of fruits and grain with milk, and the free use of natural acids, such as oranges, lemons, &c., and invigorating treatment for general health.

Along with these pure blood-making foods, I propose frequent sweatings, say, once or twice in the week for some months, and to keep from two to six folds of wet cloths on the part affected, changing it two, three, and four times daily, and washing both the part and the cloths frequently.



## HEART DISEASES AND DERANGEMENTS.

Many uneasy feelings in the region of the heart and chest draw attention to their signification and give rise to anxious surmises ; while, with some knowledge of the heart's functions, and the influences affecting its proper mechanical power of propelling the blood from the chest to the remotest extremity, in addition to sucking it back with equal power to be purified and vitalised, we might find that congesting the stomach with too much food was generally the immediate cause of oppressed breathing, as the stomach lies immediately under the heart and lungs, and pressure from too much food, or flatulence as a result of indigestion, is the cause of three-fourths of the uneasy feelings in the heart, with palpitations, etc. These feelings, which are quite under our own control, are given to us as indications of our wrong-doing, which, if persisted in, will ultimately terminate in diseased or altered action of the heart and premature suspension of its essential labour in maintaining life.

The chief causes of heart disease are:—

1st, Indigestion, and flatulence as a result.

2nd, Rheumatism and gout.

3rd, Continued and repeated physical or mental strain.

4th, Increase of bulk and deposits of fat around the heart and elsewhere.

Heart diseases are now far more numerous, or more noticed as a particular form of disease, than formerly.

My observation of many cases, over a period of thirty years, lead me to the conclusion, that most cases of injury and disease of the heart are the results and effects of some oppression, strain, or injury, through some outward or internal influence *bearing* on the heart's healthy action, and that disease, irregularity, and finally suspension of action, are merely the effects. Rheumatic and gouty secretions in the blood seem to affect the



heart ultimately; and heart disease is frequently a result of imperfect cures, or the continuation of this class of complaints.

Flatulence, the fruit of indigestion, is a fertile cause of the derangement, as food when not digested ferments and generates gases, which, by distending the stomach, press up on the region of the heart and lungs, that lie directly above, and by frequent interruption to the heart's free motion in contraction and expansion, in which lies the perfection and power of the heart's mechanism, the power is weakened and both the arterial and venous circulations suffer. Indeed, all the secretions and excretions depend on the vigorous action of heart and lungs. So that it is all-important to discover and correct any habit or influence within our control which interferes with full, deep inspiration of the lungs and free action of the heart.

I have so frequently traced imperfect action of the heart, indicated by weakness, irregularity, and palpitation, to indigestion, that I am satisfied the majority of cases of supposed heart disease proceed from indigestion, and depend on our dieting and other habits, which are greatly within our own control (see *Stomach and Digestive Functions*).

#### THE PHYSICAL AND MUSCULAR CAUSES OF HEART AFFECTIONS.

Individuals of slender frames and soft muscles must be careful to avoid severe strains and shocks, as any violent motion, such as the rapid climbing of stairs, throws a strain on the heart, as any person may observe for himself. Overstrain from rapid evolutions in the navy at one time, such as furling and unfurling the sails before the smoke from a discharge of the guns had passed away, caused many cases of rupture of the valves of the heart; also lengthened efforts, as in the case of soldiers on the march, under extreme heat and similar strains. I have met with one case caused by strain in launching a jolly-boat; another by overstrain in rowing; another from violent exertion in drill.



Diving is very apt to injure the heart, as both lungs and heart are congested temporarily. These cases serve for illustration. Cricket and football matches are still more trying to weak hearts, and have been the cause of many deaths in constitutions which, with moderate care and attention, might have lasted to a good old age.

Youth is hopeful and buoyant and thinks not of weakness or exhaustion; but guardians must observe and warn those under their care who are tender in any point, especially in the chest and heart, to beware of extreme and prolonged or violent exertion.

Rowing, racing, drill, athletic games, leaping, etc., etc., must be avoided when palpitation, exhaustion, or faintness follow.

#### PHYSICAL INJURIES AND WEAKNESS OF HEART.

When suffering from overstrain or disease of the heart, resulting in rupture or mere feebleness of action, it is needful to give it prolonged *rest* and subject it to as little strain as possible, avoiding all influences which quicken pulsation, as when injured its power is barely sufficient to propel the blood throughout the innumerable arteries and veins, without which none of the essential functions of life can be performed. Quiet action is thus needful to allow *time*, under suitable conditions, to repair the injury before subjecting it again to the needful strain which almost all the activities and labour of life necessitates.

*Every* muscular motion affects the *heart*, both by compression of the veins sending blood to the heart, and arterial propulsion from the heart to the muscles in motion-supplying power. .

With these conditions and the frequent or continuous use of cooling compresses over the heart and cooling diet, sound sleep, and other accessories of a quiet life, nature exhibits wonderful recuperative energies, especially in the periods of youth and manhood.



I have had several successful cases of thorough cure under these influences, proving their efficacy in repairing injuries.

Nervousness and mental strain are oftentimes the cause of heart derangement and disease, affecting the head or nervous system first, and through it the heart ultimately.

Keeping the head cool by frequent bathings of the head, hands, and feet, gives great relief, as also physical labour and other activities which occupy and abstract the mind from mental worries.

Cold sitting baths are valuable in relieving both head and heart, and may be taken frequently and prolonged from fifteen to thirty minutes followed by a walk. Wearing the wet bandage of the bib form, hung from the neck over the breast, constantly for weeks or months, and washing and rubbing the breast with a rough towel daily, will be attended with good results.

#### FATTY DISEASES OF THE HEART.

Obesity general, and especially around the heart, is very distressing and dangerous, and must be kept in check, and the tendency to oppressive stoutness prevented, by using food with little of the elements of fat in it. No milk or sugar, very little grain, no soups; use fruit and vegetables freely, take occasional sweatings, and bathe daily with cold water, taking as much exercise as possible in the open air.

#### FIRST PRINCIPLES IN RELATION TO FOOD AND DIGESTION.

Labour, motion, and activity, waste or consume material which food is meant to restore.

Want of appetite and indigestion naturally point to exercise or labour in the open air, if possible, as an essential condition of enjoyment and relish for food. When indigested food remains in the stomach, irritation of the coating or lining is the



result, then an acrid acid is secreted with increase of heat, which inflames and injures the stomach, weakening its healthy elasticity in expanding and contracting to suit the bulk of food we indulge in. This relaxed condition renders it susceptible to distention by the gases formed by acid and heat, resulting in flatulence and pressure on the heart and chest, which lie immediately above the stomach.

Other results follow, such as constipation, enlargement of and heat in the liver, which has extra purifying work to do in proportion to imperfect digestion.

Temporary derangements of the stomach are readily recovered from by a period of rest and partial abstinence.

Bathing, in various forms, assists in giving relief, as washing and bathing waste so much substance and relieve internal pressure or fulness. Purgation by pills or medicine of many kinds will also give temporary relief, but at the expense of the delicate internal nerves on which the medicine acts to effect purgation, and sooner or later these all lose their power, and nature or the constitution gives way and premature decay takes place.

We cannot too earnestly repeat, that we must obey the laws of nature—*i.e.* of God—written on our bodies as a condition of health. Law is inflexible, and the soul that sinneth *it* shall die. *Obey* and live. Health ensures physical happiness; disease produces suffering.

#### WEAK DIGESTION, OR DYSPEPSIA.

Almost all the symptoms of indigestion are relieved by the following prescription:—

Wear the wet bandage of several folds every night over the stomach, or day and night if agreeable, and with covering sufficient for warmth. Take a morning bath or wash in any suitable form, followed by a moderate walk *before* breakfast.



Breakfast only in quantity agreeable to the appetite, and more on dry food than soft, for chewing assists digestion, avoiding spoon meat for a time.

Weak tea, bread and butter, also boiled fish is good, and even toasted bacon.

Dinner of lean meat roasted or brandered, with bread alone, without pudding or dessert.

Tea or supper, but not both, may be somewhat like breakfast; but with attention to the quantity digestible the weak stomach will soon regain strength.

The trunk pack or full pack, followed by a partial or full bath, will do much, if needful, to relieve and renovate the entire constitution in all its organs and functions. These baths are more effective in the morning, although other times may suit if not less than two hours after food.

#### STOMACH AND DIGESTIVE ORGANS.

Stomach ailments are so complicated and dependent on diet and habits that great care must be taken to discover the primary cause, otherwise we work in the dark.

Many children are readily cured by giving up supper and having half an hour's run in the fresh air before breakfast, and even to wait till hungry before partaking of any food. If the tongue is red on the top and edges, a compress should be worn of from two to six folds of cold wet towelling, from ten to twelve inches long by six to eight wide, kept over the stomach, with a dry flannel bandage above, every night. This soon draws out the internal inflammation and improves digestion.

When the tongue is pale or coated with mucus (that is to say, foul), a fomentation of hot flannel fastened on the stomach for some nights is very effectual.

An apple or orange is very good in these cases, taken before breakfast for a longer or shorter period.



Individuals of a bilious temperament may undertake more onerous duties and perform more work with richer food to fit them for carrying it on ; but when enjoying rest and leisure, lighter food must be partaken of. Liver and bilious diseases have been the causes of death to thousands in warm countries, caused by indolence and indulgence in rich food suitable only to our cold climate, while the flagging appetite was kept up by tonics, spices, and stimulants.

In the course of the war in India last century, a number of officers were captured and kept in prison for three years by Tippoo Sahib, and fed simply on rice and water. They grumbled sore all the while, but maintained good health ; and on liberation and return to Calcutta, they were perfectly astonished to learn that most of their brother officers who had been living on the fat of the land were dead, while they who had been so poorly fed were not only in excellent health, but all of them promoted several steps to fill up the numerous vacancies caused by "good living."

Wearing from two to eight folds of cold wet towelling over the liver constantly, and renewing it as it becomes hot, is very effectual in relieving congestion of that organ. This may be worn only at night—say twelve to eighteen inches by nine inches wide—over the right side on the lower ribs. One application may suffice for all night, and on taking it off have the side vigorously rubbed by a strong hand.

This treatment effectually prevents the retention of bilious matter in the gall bladder which might form gall stones. I have seen upwards of seventy stones brought away by the compress and rubbing in the course of a month.

#### ENLARGED LIVER

Must be treated for many months, as the enlargement may have



been going on for years, and restoration will be slow towards the normal dimensions. The liver in health may be 4lbs. in weight, but in disease frequently attains thrice this weight, and presses on the lungs, stomach, bowels, and heart,—interfering with the proper function of some or all of them.

The local douche or spouting from five to ten minutes over the liver with cold water is very effective in contracting and reducing it when enlarged and congested.

Remember that any severe mental strain may result in weak digestion, by absorbing and exhausting our entire vital power in the brain, leaving none to digest with; for we have only a limited amount of power or capital to draw upon, and a large proportion is required for digestion—part for working, part for walking and other exercises, and only part for thinking and other brain operations. Man is complex in his organs.

#### BILIOUS ATTACKS AND BILIOUS FEVER.

Vomiting of bile and other indications of its presence in excess may be relieved by fomenting the liver and stomach *outside*, and at the same time drinking freely and frequently of *cold* water, thereby cooling the organs *inside*.

Warm food and drinks relax the stomach and liver, and an attack is much sooner relieved by abstinence from food for twelve to thirty-six hours, with the fomentations outside and only cold water inside. The cold compress may be worn for a month after relief, aiding greatly in preventing a return of the biliousness.

#### CONSTIPATION.

The radical cure of constipation requires particular attention to diet and habits in regard both to the nature of the food and the times when partaken of.



Before giving an opinion or advice, I always inquire into the general routine of the day, such as business and other habits, and then as to quality, quantity, and times of taking food. But the means to effect natural action are somewhat similar to those for the cure of bilious tendencies, constipation being one of the results of defective liver action.

Food taken into the stomach should gently press upon the liver and gall bladder, causing bile to flow in some measure into the first bowel or second stomach, where it mixes with the contents and more thoroughly digests and acts as a gentle purgative. *Undue* heat in the stomach dries up both gall and liver, and also the contents of the large bowel at its last bend or convolution, where it lies, directly under the stomach.

Rough food, such as whole or unscreened wheat meal in various forms, as porridge and home-baked scones, are very beneficial. Fruits before or with breakfast are almost a specific. Green fruits are best, such as pears, apples, gooseberries, or an orange or two; but dried fruits, as figs or prunes, cooked or uncooked, answer very well, being both palatable and nourishing.

Another simple remedy is, to take two or three teaspoonfuls of linseed which has been steeped in cold water for twenty-four hours. This is quite agreeable to the palate, and suits very well either before or after food—say breakfast and tea.

More active assistance is attained by fomenting and kneading the bowels, and even pouring or dashing two or three canfuls of cold water over them occasionally or after fomenting. Dashing water over the bowels is very effectual in cases of constipation, and even inversion of the bowels may be cured by this means.

The use, more or less, of some of the endless variety of vegetables and roots found in our markets, suitable to the season, is a great aid in maintaining healthy action of both bowels and kidneys. Moderate injections or enemas of cold water are



valuable in helping nature for a time, as it is frequently the lower bowel which is dried up from much sitting or other sedentary action, along with heat and pressure, which are the local causes.

Cold water enemas have no injurious effect, and may be taken daily.

I propose that they be taken slowly and freely, and that the water be retained for sometime—say ten to thirty minutes—before voiding. It may, however, be entirely absorbed, and pass off by the bladder.

#### DIARRHŒA, OR PURGING.

Diarrhœa and natural purgations are frequently salutary, and should not be violently interfered with by narcotics, which neither cure nor remove the cause, but only deprive nature of power to act, by soothing or lowering the nerve-power, after which the attack frequently returns with more violence.

When we have ascertained the cause of purgation to be from some article of unsuitable food, or some error as to time or quantity, etc., we are able to prescribe appropriate remedies with more confidence.

Warmth—general warmth—is the first object to be attained, especially of the feet. Apply fomentations to the stomach and bowels, not only to assist in giving general warmth, but also to soothe the bowels and liberate flatulence, which is frequently the cause of purgation and due generally to fermenting and undigested food pressing on the contents of the bowels with violence.

The addition of from two to six folds of cold wet towelling (compress) to the back, opposite the stomach, and at the same time hot flannels in front, give tone to the nerves which supply the bowels with power.

Repeat these warm applications, with the addition of a



few bottles of hot water (each drawn into a stocking to prevent their affecting the skin), laid alongside of the person in bed, and then give, if needful, the warm foot bath, perhaps for thirty minutes, increasing warmth with moisture.

Endeavour by such means to attain perspiration, as when the skin acts freely and the circulation comes to the surface, purgation is immediately checked.

*Rest and warmth—moist* warmth in bed—maintained for a few hours, or, if needful, for a few days, are generally sufficient to relieve and cure overaction of the bowels. Drinking moderately of cold water after warmth and perspiration has been attained, cools the interior and supplies the loss of impure secretions.

A moderate cold water injection after every motion is favourable in lessening the discharge by cooling and contracting the lower bowel.

The sum of the whole treatment is, to diminish the excessive circulation to and discharge from the bowels, by increasing the circulation to and action of the skin, by means of sufficient moist heat to the body as a whole, and especially to the skin—while cooling and contracting the interior by cold drinking and cold injections. I have proved its efficiency in hundreds of cases, from a slight diarrhœa to the apparently hopeless stages of chronic diarrhœa of long standing, and in 1848 in many cases of cholera, several of which were considered hopeless before I saw them.

But in cases where there is strength to sit, I propose a sweating by means of vapour or hot air bath, which may be attained by several methods, as fully described elsewhere.



## COLIC, CRAMP, AND FLATULENCE.

These spasmodic ailments are mostly owing to indigestion also, and must be cured by special attention to diet and habits.

Children may be relieved by fomenting the stomach and putting the feet in warm water, also by bathing the spine with cold water and gently rubbing the stomach.

Excessive flatulence may be treated by the moderate use of dry and cool or cold food for a few days; by abstinence from almost all food from twenty-four to thirty-six hours; and by keeping in the open air and drinking moderately of cold water, or curdled or buttermilk.

## PILES.

The two extremes of constipation and purgation predispose to swelling of the bloodvessels at the end of the bowel, forming piles. These vessels are peculiar, having no return, but terminating in little sacs which, when relaxed in purgation or severely pressed upon in constipation, gradually grow larger and harden, or if soft frequently give way and discharge blood—sometimes protruding beyond the anus, or outlet of the bowel, and in some cases drawing the bowel itself beyond the opening.

Astringents are frequently used to contract them, but we require cooling and bracing of the weak muscles in contractile power; and thorough cure must embrace the special causes: CONSTIPATION, DIET, and SEDENTARY HABITS. General weakness of the digestive organs and intestinal canal are often evident accompaniments of general relaxation. Bright lips and gums indicate tenderness of the whole digestive organs, and should teach the necessity of habitually using a cooling diet in regard to both quality and temperature, and also to avoid salt in excess and all spices.

Troublesome piles are sometimes cut or excised with safety and subsequent comfort when the person is past middle life;



but I have seen severe suffering and danger to life follow an operation in youth. Nature must be the only doctor who can operate with safety when the system is full of blood and the ailment likely to recur.

With careful attention to diet (embracing, as in costive tendencies, the free use of fruit, especially in the morning, and rough foods, as whole wheat meal, barley, rye, etc.), I propose frequent short sitting or hip baths. In the earlier period of the day, cold or not above  $70^{\circ}$ , according to the season and sensations, from five to fifteen minutes, and followed by a walk; but in the afternoon or evening, the tepid sitting bath, at from  $80^{\circ}$  to  $95^{\circ}$ , is very beneficial in softening and soothing.

The parts may afterwards be well rubbed with oil or any simple ointment.

The daily use of water injections, entirely cold,  $60^{\circ}$ , or with the chill off,  $70^{\circ}$ , is very beneficial; and with proper diet and these soothing baths, etc., a thorough cure may be expected.

#### FISTULA.

Fistula is akin to piles, and often results from the straining and distension caused by constipation. The skin cracks or breaks, and from repeated straining cannot heal; it then ulcerates, producing an opening through the bowel, forming often a false passage.

I have seen repeated cures by such means as a fruit diet, sitting baths, cold water injections, and attention to the health by general hydropathic rules. Attend to the rules for "Constipation and Piles."

#### INFLAMMATION OF THE BOWELS.

Inflammation of the bowels and also of the peritoneum may be treated together; and indeed inflammation of any organ, or



of any internal or external surface, may be treated on the same general principles.

First maintain *general* warmth and comfort, and then allay or extract the diseased or inflammatory heat or action, which is essentially a distension or gorging of the minute blood-vessels, whether from accidental injury or from diseased action in the interior, or in the particular organ affected.

Acute or active inflammation requires prompt measures, and may be relieved (cured) in a few hours in the early stage.

Chronic inflammation requires slower and more persistent treatment.

Inflammation of the bowels is known by the excessive pains and distension of the abdomen, which sometimes becomes as tense as a drum, and by the high fever, etc.

Apply from two to four folds of cold wet towelling, suitable in size to cover the abdomen, and change this as it gets hot or warm, say from ten minutes at first to sixty later on, the towel being slower in heating as the inflammation or heat is extracted.

The compress may be placed all round the back also if the pain and fever is high, as the greater the surface acted on the speedier will be the relief.

Great care must be taken for some time to prevent and relieve any return of the inflammation. Gentle sponging and washing between each fresh application will hasten the completion of the cure.

A gentle aperient of castor oil assists in allaying the distension and removing obstruction, whether depending on constipation or flatulence.

#### MESENTERIC DISEASE.

Enlargement of the belly in children is often a serious symptom, being frequently an indication of weakness of constitution, and an inability to make nutriment from want of thorough digestive power.



All the general invigorating influences available in the case must be drawn upon, especially fresh air with outdoor exercise, such diseases being often the result of living in a confined and impure atmosphere.

Warm bathing, followed by warm oil rubbing, before bed, is excellent. An occasional warm blanket pack is also useful to soften obstructions and equalise the circulation. Keep also from two to four folds of wet towelling constantly over the belly, bound on with dry flannel. This relieves and contracts the enlarged and gorged condition of the parts. Gentle manipulation with the hand, or rubbing of the belly and back by a kindly, healthy hand, is good. Keep the feet and body always comfortably warm. Where there is high and feverish pulse, give farinaceous and milk diet only; but if the pulse is low and feeble, give beef and stimulating food in proportion, and suitable to the digestive powers.

#### DYSENTERY.

Dysentery manifests itself in great irritability of the lower bowel with frequent slight discharges of an acrid nature, and, when long continued, of mucus and blood also.

Dysentery consists in inflammation chiefly of the lower bowel, and is peculiarly a disease of warm and marshy countries, leading to the conviction that impure water and unhealthy emanations from stagnant and decomposing substances are the general causes.

Exhaustion and chills are predisposing conditions, especially when under the above influences.

These influences point at once to the sweating processes for cure, along with vegetarian diet, flesh food being particularly prone to decomposition both in and out of the body, and especially under any pestilential and relaxing influences.

Frequent sweatings followed by washing, and the wearing of



woollen clothing next the skin, with pure water in the food and as drink, are the main elements of cure.

Injections of water with the chill off, and also tepid water with a tablespoonful of olive oil, or half milk and half water, are invaluable in removing the irritability of the bowel and the acrid secretions which keep up the irritation.

Wear also the wet towel bandage all round the stomach constantly, to draw out the inflammation and purify the blood.

Wet sheet packs, when otherwise suitable, are also excellent; and after recovery use general bracing treatment, as the disease is liable to recur while under the same conditions.

#### WORMS.

These frequently find lodgment in weak stomachs and bowels, being favoured by impure secretions; for no parasite of that nature can live in a perfectly healthy individual. Hence the first great object is to give tone and strength to the patient; and, secondly, more direct appliances to the stomach and bowels.

#### TAPEWORMS.

This class of parasites are frequently expelled by castor or olive oil taken for a few mornings on an empty stomach, missing breakfast altogether. Fasting is an excellent adjuvant in such cases, and I advise the omission of supper also. Take of the oil from a dessert spoonful to perhaps two tablespoonfuls, and give due weight to abstinence.

Bitter infusions are frequently given with good effect under similar conditions of previous fasting; and are also used as injections into the bowel.

A small quantity of salt along with the oil is often beneficial, but it tends to irritate the bowels, already too tender.

Wearing the wet bandage and keeping to plain, spare diet, with the use of the oil, will almost always expel such intruders.



## SMALL THREAD WORMS.

These are chiefly located in the lower bowel, and, along with the treatment above described, may be effectually cured by frequent injections of pure cold water and an occasional injection of a cupful of castor or olive oil, with tepid water, or two-thirds milk. Give these injections *slowly*, and let them be retained for some time, if possible.

When excessive irritation is experienced from these parasites, great relief is obtained from the tepid sitting bath at 90°, and by anointing the anus afterwards with any simple ointment, as cold cream or olive oil.

## FALLING OF BOWEL AND ITCHING OF THE ANUS.

Falling of the bowel is common in children, arising from a relaxed condition of the muscles, and oftentimes from excess of nutrition and rich food.

By rough, plain food and cold bathing such children will be made strong, and the bowels, along with all the tissues, will soon do their duty satisfactorily.

The direct remedies are, first to have a bracing bath daily, such as standing in an empty bath and having one or two basins of cold water poured quickly over the shoulders and whole body; or use the cold plunge bath, followed by vigorous rubbing and quick dressing, and active exercise in the fresh air before breakfast.

Take also one or two cold sitting baths for ten minutes in the course of the day. When the ascending spray or douche is available, it has great power in strengthening the bowels.

Give also injections of cold water after every motion, or symptom of protrusion of the bowel, till quite well.



## HERNIA, OR RUPTURE.

Rupture results from some part of the bowel being forced through the web-covering of the abdomen by some strain or pressure, such as leaping or lifting heavy weights.

The protrusion most frequently takes place near the foot of the abdomen, where the spermatic cord has its exit.

When rupture takes place in early youth nature generally remedies it with care, and a perfect cure may be expected.

As rupture occurs most frequently in persons with soft muscles, it is difficult to cure it and retain the bowel without such artificial assistance as trusses afford, particularly when the person has reached middle life. Rupture more rarely occurs near the navel. When unchecked or unsupported it is apt to be further forced out by any extra exertion—such as straining at stool,—and if not returned it is liable to become strangulated, or so enlarged or distended that it cannot be pressed back into its proper place. Operations by the knife have been then requisite to allow the swollen bowel to return; but the following hydropathic remedy has now been adopted generally by the medical profession:—

The person is placed in a suitable position, lying on the back with the hips slightly elevated, and has cold water slowly poured over the swollen bowel until it contracts sufficiently to return, which it generally does with an impulse.

A proper appliance—say a well-fitting truss—must be kept on habitually when not in bed, and this for months or years, if union is hoped for. When properly adjusted a truss gives but little uneasiness, and it should always be adopted when any unusual fulness or protuberance is observed near the foot of the bowel, generally in the groin.

Such a swelling creates no pain in general, and may be pressed back into its place, but rarely remains, and is readily



acted upon and protruded by the act of coughing, this being one of the most certain tests of rupture.

Much benefit is experienced from the frequent use of cold sitting baths from three to four inches deep, and also by laying several folds of wet towelling on the weak part while sitting, the water itself not reaching up to cover the protrusion.

Keep also occasionally several folds, say six, of cold wet towelling, four or five inches square, over the fulness or swelling and under the truss, as this is of great service in allaying any inflammation and irritation, and in assisting the contraction and healing of the part.

When in bed lay several folds of cold wet towelling, say six or eight inches square, over the parts, and cool them as they become hot or warm; this frequently used is another valuable aid toward restoration and natural healing.

Keeping the bowels habitually free by plain, rough grain and fruit diet lessens the danger of strangulation.

Trusses generally require a small cross strap from the back to the front between the limbs to maintain them in position.

Cold bathing with bracing treatment in general, and the act of swimming, are all good for strengthening the muscular system and indirectly curing rupture.

#### ACIDITY.

Acidity and heart-burn generally proceed from slight inflammation of the stomach, although some articles of diet, and any excess beyond what the stomach can digest, may generate acid.

*Rest* to the stomach and the frequent drinking of small quantities of cold water soon give tone to the stomach, and thus prevent further mischief. But a repetition of the transgression will lead to a morbid habit, and an inflammation of the stomach, bowels, and kidneys will follow, the acid affecting them all, and the blood generally, creating a susceptibility to rheumatism and other diseases.



Persons liable to acidity generally know pretty well what articles produce acid, and should avoid using them. Pastry, sugar, fat, salt, etc., etc., are among the common causes.

Repeated sips of cold water prevent the formation of acid, as lowering the temperature of the stomach under  $98^{\circ}$  stops that morbid product, as well as fermentation and flatulence. While the stomach is kept under blood heat, healthy digestive power, after a few hours, is regained.

#### URINARY AND GENITAL DISEASES.

The kidney secretions are more essential to good health in abstracting waste matter than the bowels.

Hence every material or substance likely to injure their efficiency should be avoided. Alcohol in all its combinations, excess of salt and spices, and even sugar, give increase of labour to the kidneys. So do fluids generally, and particularly in cold weather, as what we drink passes off by the lungs, skin, and kidneys. But the kidneys, less dependent on external temperature, especially maintain the purity of the blood by abstracting excess of water and salts, and those materials which give rise to stone, gout, and rheumatism. Persons who urinate frequently during the night will find relief so far by using very little fluid after dinner, old persons especially.

I frequently find those who drink much are also fond of salt, sugar, and spiced foods, generally, which create thirst, weaken the stomach, lower the temperature of the body, and injure the kidneys, besides making them more liable to colds and chills.

Avoid these causes as far as possible.

Gentle sweating greatly relieves the kidneys, by exciting the skin to extra labour; and on it we may safely draw, the skin being the most accommodating organ we possess, as, under difficulties, it can assist nearly all the other leading organs without complaint or injury.



**RETENTION OF URINE.**—This is frequently speedily relieved by a warm foot bath or warm sitting bath ; but if in bed, after warming the feet well, lay four-fold cold compress to the lower part of back, and warm wrung-out flannel to the lower part of belly, renewing both as agreeable, say in thirty minutes. If this fails, resort to the sweating process with confidence, as it will seldom fail to give relief.

Healthy urine is known by its transparency. When muddy or cloudy, it indicates indigestion and sometimes inflammation in the bladder, etc.

Tepid sitting baths, say at 90°, are beneficial, if the bladder is affected, as are also compresses of four-fold cold wet towelling, kept over the bladder while in bed, by dry flannel above, and renewed as they become hot. Wash also the lower part of the abdomen daily, and rub it well with olive oil or some simple ointment. Abundance of barley and rice soups and milk are good in cases of cloudy urine.

Such attacks are frequently the throwing off of some latent illness, as in similar irritation of the bowels when we have purging ; and the kidneys and bladder frequently assist both the liver and the bowels in purgation and purification.

Stone, gravel, and sandy deposits are in part counteracted or dissolved by acid fruits ; and their removal is also assisted by the wearing of a compress of two to six folds of towelling, twelve inches long by eight wide, over the region of the kidneys, middle of the back, when in bed, with sufficient dry flannel bound round the body to give warmth or comfort.

Dashing some jugs of cold water daily over the back and bowels will also assist or stimulate the discharge of these deposits when formed (*see Pail Douche*).

**INFLAMMATION OF KIDNEYS.**—This is a more serious disease, as being more internal and having reference to an organ in constant activity.



Cold is often the immediate cause, acting on tissues previously made tender or susceptible by irritant substances passing through them, as was alluded to under *General Remarks* in previous chapters.

Nitre has a most injurious effect on the kidneys, and, although frequently used with temporary relief, it ultimately dries up and hardens their substance.

Rubbing and washing over the region of the kidneys, and wearing a compress of several folds, well covered, with the use of mild drinks, and treatment similar, so far, to that described under *Retention of Urine*, is here recommended.

Trunk packs are also highly beneficial in relieving these internal congestions.

#### DIABETES, OR EXCESS OF URINE WITH SUGAR.

This is one of those mysterious complaints which cannot be definitely classified. General debility, with weakened digestive power, is frequently the condition of the individual for sometime previous to the coming on of the ailment.

But leaving the difficulty of ascertaining its primary causes,—whether it arises from weakness of the digestive function, or a perversion of that process in making sugar instead of blood—we must treat the disease by its leading symptoms. We are thus certain to relieve, and, with a fair amount of vital power, to cure the complaint.

When excess of action and increased quantity of urine of a pale colour is observed, in connection with great thirst, immediate resort should be had to the vapour bath or sweating process, and also to the constant use of the wet bandage or girdle all round over the stomach and kidneys.

All sugar-making articles must be given up, and plain rough food only used. A thorough cure is supposed to be found in the use of only the gluten of the wheat, the starch being well washed out, and also by living entirely on milk, especially on



skimmed milk ; this to be carried out for some months, several quarts being drunk daily as hot as it can be swallowed. Cold lean roast beef or mutton is also highly nutritious. These means assist greatly towards the attainment of cure. Keeping the patient warm and causing him frequently to perspire also greatly assists nature to gain the supremacy, and should be steadily kept in view under any condition or process of cure. The sweating process relieves the kidneys greatly, and assists digestion, giving also a sufficiency of heat, which is an essential to all healthy processes.

#### DROPSY, OR WATERY SWELLINGS.

Dropsy is often a result of cold or inflammation of the kidneys, but as often it results from a weak heart, the natural termination of a disease of, it may be, twenty years' standing.

The skin here is the grand organ whereby we can assist nature, until restoration of the proper function is established.

Slight swelling of the feet is frequently the first indication of general weakness, especially of the heart, and, it may be, of the kidneys also. These symptoms pass away with warmth and a night's rest, but attention should then always be given to the general health, as such indications convey a strong warning of danger.

The varied and special causes of this condition are numerous, and are not to be looked for in a book meant only for home guidance, at least not beyond what will impress on each the duty of attending to every condition affecting the general health. For such slight dropsies follow the rules given above regarding *Retention of Urine* and *Diabetes*.

Hydropathic applications are valuable in being applicable to general symptoms, and in distributing the relief through one and all of the leading organs, without injury to any, and in a natural manner. As long as warmth and restorative rest in sleep are preserved, we are quite safe in pursuing such treat-



ment. But in feeble or cold states we must supply nature with as much warmth as may be required. Packing in dropsical cases, by means of a half blanket quickly wrung out of hot water, is invaluable, and may be used for all persons, old or young. It may be enjoyed for from one to three hours daily, and should be followed by a tepid wash and a gentle perspiration, maintained for a day or so afterwards in bed, to be followed by a bracing, cold, half-wrung rubbing sheet.

#### RHEUMATISM.

Rheumatic attacks, or rheumatism, are readily produced in certain constitutions by a slight chill, particularly in connection with a damp atmosphere, clothes, or bedding. The local pains are peculiar, and have a dull, gnawing, uneasy sensation. If in the arm or shoulder, they prevent us from lifting the arm or using it freely, and they are frequently aggravated by heat.

Gentle sweating is also the cure for these attacks, and, if chronic or of long standing, the sweating will require frequent repetition, with occasional pouring or douching upon the painful or stiff part.

Compresses or bandages of sponge are good, and should be worn constantly for some time, and followed by occasional vigorous hand rubbing.

OLD PAINS, connected with change of weather and advanced life, are very much benefited by wearing a piece of wash leather or a rabbit's skin over the part.

When the pains are in the knee joint, a sponge bandage, with elastic fastenings, is of great use, and soon relieves or cures cases of many years' standing. Pains in the foot require several folds of wet towelling over the whole foot when in bed, with sufficient dry flannel above; this soon relieves the foot, if the general health be good.



Gentle sweating at the same time relieves all local pains, and stimulates the skin and kidneys to throw off the chalky matters which are the material or food of rheumatism.

Wearing the wet bandage all round over the stomach expedites the cure of rheumatism, as it does that of many other ailments, by assisting the stomach, liver, and kidneys to perform their special duties. All sweets are injurious; but the acids in fruits, as lime juice, etc., are good, as they assist in dissolving these abettors of rheumatism.

#### SEVERE RHEUMATISM WITH FEVER.

Rheumatic *fever* is accompanied by much suffering, but is capable of speedy cure, as the fever is consequent on, or resulting from, the pain.

When recently attacked, although it may be some weeks after exposure to the producing chill or cause, we must resort immediately to one or other of the sweating processes as most suitable. I have frequently had the most severe cases thoroughly cured in from eight days to a fortnight by the lamp or vapour bath, given twice a-day.

With sufficient bodily heat in the system—(and this is almost certain to be)—wet bandages should be kept constantly on every painful joint or part, as they assist greatly in softening the swelling and allaying the heat, and, in short, extracting the disease. With weak digestion and a foul tongue, the greatest care must be taken to keep the stomach from adding to the distress, as imperfectly digested food will greatly aggravate the disease. Plain spare grain food and buttermilk, if possible (rather than sweet milk), or milk kept for two or three days till slightly acid, is good, as also acidulous fruits, if procurable at the season. Beef-tea may be given, as it is readily absorbed, and is strengthening. In the Bath List other suitable remedies will be found; and all applications should be suited to the symptoms, which vary much with age, duration of illness, con-



stitution, etc. It is very important to persevere till perfectly cured, as rheumatic attacks are apt to affect the heart when continuous or repeated.

#### GOUT.

Gout has many symptoms similar to rheumatism, with the aggravation of leaving behind a foundation for future disease, by depositing substances in the system which the excretory organs, especially the kidneys, are unable to abstract from the blood. These ultimately form swellings of a chalky material round the joints and elsewhere.

I have seen very severe cases of gout in the first and third generations, missing the son and afflicting the grandson severely; so we have a double call to avoid all injurious habits, lest the curse fall on others who have not sinned, and who may have to suffer for our transgressions.

For the cure we again resort to the sweatings and wet compresses, similar to those used for rheumatism; but it is often needful to give warm baths (96°) for thirty minutes again and again, so as to soothe and soften the swollen members, and the sweatings to be given when able to take them. Whether out of or in the bed, keep wet cloths—hot or cold, as is most agreeable—over every painful part. I have had a sufferer from periodic attacks for twenty years, lying for two months with about six wet towels on various parts, these being renewed as required, and followed by two daily washings. A perfect cure resulted, and I have seen the individual frequently after many years' freedom from any attack. I mention but one out of several equally severe cases who were perfectly cured. It would be easy to fill volumes with most remarkable cases of cure; but the principles and modes of treatment seem to



me more useful for reference, as suitable remedies which may be followed out at home.

#### SUPPRESSED AND DEFECTIVE SECRETION.

The frequent occurrence of suppressed or excessive menstruation and pain in many cases demands a chapter.

General good health is to be attained and retained only by attention to good dieting, exercise, and bathing. Active romping habits in girls are favourable to every natural function. But if the system is feeble a few trunk packs, followed by bathing and a smart walk, will greatly assist action in every department of the body.

Frequent cool washings of the head and cold spinal compresses are particularly effective in assisting languid secretions.

*Cold* sitting baths, forenoon or afternoon, from ten to thirty minutes, followed by a smart walk, are also valuable.

So is the towel bandage, worn round the loins every night for perhaps a month. These means are certain to establish functional changes if the organ is normal. When pain is experienced, it gives relief to place four-fold of cold wet towelling, a quarter of a yard square, on the foot of the spine, with dry flannel outside, and apply several folds of warm wrung flannel to the foot of the abdomen. These may be renewed a few times, while in bed, the same day, and applied for a day or two. Keep the feet warm and the head cool. The needful diet must be plain, with plenty of fruit and very little of animal food, stimulants, or spices.

Excess at these periods is soon corrected by plain diet and active habits, and, if needful, a few sweats, and the use of the wet bandage all round the loins, all night, for perhaps a month.

Washing the head frequently, as prescribed under *Head Processes*, will strengthen all the nerves.



With excess at the proper periods, or returning after too short intervals, a few gentle sweats by one or other of the sweating processes, described under that head, will be found efficacious in *regulating* the function. A gentle sweat before going to bed, or taken in bed, followed by a slight tepid wash, maintains the skin in a general warm or moist condition all night, without perspiring. A morning cold bath may be taken on rising, suited to the strength of the individual—from a simple rub with a cold wet towel to the dripping sheet or plunge bath—followed in any case by active exercise, in the open air if possible; as in walking all the muscles of the body are in motion, and the circulation is equalised, and the general health improved.

With *any* excessive secretion, dispense with fluids and soft food as much as possible, until restored; and if thirsty, use cold water *moderately*.

#### SKIN ACTION.

The skin, or rather the living system, when in good order, should throw off almost all its consumed materials by insensible perspiration. Therefore keep the skin in good order, and you will avoid much suffering through life, by warding off attacks of cold and disease in many forms.

In retained or suppressed disease of the internal organs or the blood, nature seeks at times, by strenuous efforts, to throw out the impure secretion by means of an eruption or skin fever, as erysipelas, measles, scarlet fever, nettle rash, and many other forms, the nature of which depends on the organ diseased or defective, and constitutional tendencies.

Every child should have a bath of some sort daily. But over-washing of slender or delicate children is frequently injurious, as it wastes too much material, which the digestive organs



may be unable to supply in sufficient quantities for the demands of the body, when, perhaps, growing in height, without corresponding bulk or strength.

Tender children may have a warm wash, say once or twice in the week, followed by a jugful of cold water being poured over the shoulders, and the body rubbed with olive oil when well dried, or in the evening.

#### TEETHING, FEVERISHNESS, ETC.

Slight red spots frequently appear on the skin during the trying period of teething. These are indicative of inflammatory heat from indigestion, resulting from the strain or pain, and are easily removed by reducing the food in quantity or quality during such irritation, and applying the bandage all round the body, over the stomach, for a few nights.

#### SEVERE FEVER AND THREATENED TYPHUS.

Severe fevers, in general, and continued feverishness have common symptoms, in particular, great increase of heat, which rises from 98° up to 104°, sometimes even higher, with quickened pulse, which condition we know to be destructive of, or injurious to, all the conditions of health. Our object, in such a case, should be to lower or liberate the excess of heat, and, at the same time, assist or modify the purpose nature has in view—purification and renovation.

#### FEVERS—TYPHUS AND GENERAL.

The chief danger in fever arises from the great destruction of substances in the body which are essential to the maintenance of life; while the digestive and restorative organs are almost dormant, the whole of the vital powers being engrossed in the great operations the fever is performing, which we may compare to the refiner's fire and the fuller's soap.



The quality and quantity of food to be given in fever is, therefore, a subject of the greatest importance. Beef-tea and such substances may be given with discretion, when the system is unable to absorb such substances as milk and grain food; but, as a rule, animal diet, in every form, should be denied during the active stage of all fevers, as it more readily becomes corrupt and feeds the fever fire.

Nature during the wasting and purifying process requires almost no food, but abundance of pure air and plenty of cold water, both for drinking and bathing, and these, when judiciously supplied and applied, along with careful nursing, embody the whole essentials required for fevers.

Increased heat is the prominent feature of fever; and the sensations of the individual suffering, and the observations of the physician, friends, and nurse should continually be directed to symptoms, especially the sensations and conditions of the patient, as they vary day by day and hour by hour.

Heat, excess of heat, requires liberating or cooling. Thirst, as indicating internal heat, also manifests a necessity for the free use of cold water, both for cooling and purifying all the delicate internal organs, and carrying off all waste and impure substances.

But pure air is of still more importance, and all through the hot stages of fever must be supplied, without stint, continually, as the emanations, both from the skin and lungs, are exceedingly active; and the purifying process is much sooner and safely gone through when these two great requisites, PURE AIR and COLD WATER are abundantly and judiciously applied; nature will do the rest.

#### FOR PREVENTION OF FEVER IN THE FIRST STAGE.

When threatened with an attack of fever, or when peculiar sensations are felt in the head and spine, along with a general sensation of discomfort, it is well to endeavour to remove



these first symptoms, and thus, it may be, prevent fever, or some other illness, from taking hold of the body in its usual course.

For this purpose wash and bathe the head freely with cold water, as fever certainly begins its operations in the brain, and incubates there for some days before it manifests itself in the body. Dipping the head again and again, and holding it in the water as long as possible, is the most direct and effectual process of any, and may be repeated every few hours till relief is obtained.

A full cold bath may also be taken, if needful, followed by a smart walk in the open air. Drink also plenty of cold water, and perspire by exercise if possible, and, most likely, all unpleasant symptoms will disappear. Watchfulness must be maintained for several days over any return of the symptoms, and, should they again recur, remove them by the same means, if possible—as fever, even to the third day, may be removed or quenched by the use of the cold plunge bath.

But if the fever has passed the first stage and taken hold of the patient, we must then rather nurse it than cure it.

The preceding directions, if attended to, will greatly modify the severity of the attack, if not in time to prevent it. Even while the fever continues, give a daily head wash, and keep a wet towel round the head constantly, well secured to prevent it getting loose.

Keep a broad wet bandage also constantly round the body, from under the arms down to the thighs, renewing it as it dries or gets hot. This liberates the heat gently and continuously.

Wash the whole body daily with tepid water and soap, bit by bit. Do this in bed to prevent chilling.

Attend carefully to the excretions from the bowels and kidneys, removing them at once, and disinfecting them by coal ashes, simple earth, or other disinfectant.

These means should enable the fever to run its course in the



shortest time—fourteen days—and changes must be looked for and attended to.

Frequent washing, bathing, and bandaging of the head prevents the delirium which almost always comes on in high fever.

Careful attention must be given to the feet—to cool them when too hot, by wrapping wet towelling round them. But after the turn, or in low conditions, give warm foot baths in bed, or wrap the feet in warm wrung flannels, four folds, to keep them warm and moist.

We insert the following fuller account of fever and its hydro-pathic treatment from a tract published by the Glasgow Society thirteen years ago.

In treating fever under any system it is all-important to draw more attention to the value of pure air and water, as from the experiments of Dr. Currie it seems evident that bathing in the first stage prevents it from passing into the other and more dangerous stages.

*Symptoms.*—Typhus comes on in a variety of ways, and frequently in a manner similar to that of simple fever. There is languor, lassitude, and a feeling of general indisposition, accompanied by alternate chilliness and flushing; there is giddiness, more or less, with pain in the head, back, loins, and limbs; there is dulness and confusion of mind, and dejection of spirits, accompanied with weak and imperfect respiration; the eyes are suffused and the face flushed. If the symptoms go on badly, the mind becomes more and more affected, till at length there occurs a low, muttering delirium, from which, however, the patient may in many cases be aroused transiently by speaking to him in a loud tone of voice.

The *tongue* presents a variety of aspects in this as in other fevers. It may present all the various intermediate grades of light brown, dark brown, yellow, etc. It may likewise be “red,



glazed and smooth, and dry." It may also be cracked. When it is of a brown, reddish-brown, or black colour, there are apt to be collections of dark-coloured matter about the mouth, called in medical language, "*sordes*." Such matter may consist of dried vitiated secretions from the mouth and throat, or from slight effusions of blood which coagulate in the mouth, presenting a dark appearance. The tongue is apt to be more or less tremulous in fever, the same as other parts of the body.

The animal heat sometimes becomes a good deal elevated. It is not uncommon for the temperature to rise in fever to 105°, 108°, and even 110° Fahr.; that is, twelve degrees higher than its natural state. The heat of a fever patient seems often to have something peculiar about it; it is a pungent or biting heat. It sometimes, also, happens in fever, even of the continued forms, that the heat falls *below* its natural standard, particularly in the latter stages of the disease.

Until after the fever has somewhat subsided, the *pulse* is in general, like the temperature of the body, augmented. It may be full or hard, soft, small, or weak. In some cases it becomes so feeble that it can scarcely be distinguished. The *quickness* of the pulse in typhus varies much in different cases, and from time to time in the same individual. The pulse, in fever, is seldom found to be more than 160; its more common range is from 100 to 140. The pulse should be carefully watched in fever, as there is no better index by which to determine the patient's condition than this.

The *appetite* is usually altogether absent after the disease has fully set in. Ordinarily the stomach is wholly unable to perform its function. In some cases individuals have gone two and even three weeks without any nutriment but water, recovering in the end perfectly well.

Usually, as the fever declines, the appetite returns, and in most cases soon becomes voracious. It is necessary, of course, to guard against over-eating in such cases.



When typhus is communicated from one person to another, the period of incubation varies, it is supposed, the same as happens in small-pox, measles, etc. It is believed that it may occur almost immediately, in a day or two; and in other cases it lies dormant for several weeks, and even months. The most common period of incubation in typhus, however, is supposed to be from one to two weeks.

The *duration* of typhus fever, under the ordinary modes of treatment, is very variable. When it terminates favourably, it usually runs three weeks or more, there being about one week of its increment, another of its formed state, and a third of decline. It may terminate in seven or eight days; and it is asserted on such authority as Drs. Currie, Good, and others, that it has been cut short by cold affusion the second or third day, and this even when it occurred in a malignant form.

*Critical days.*—A favourable change in fever is more apt to occur on the seventh and fourteenth days than others, those two days being the most favourable.

Typhus fever may attack persons of any age; but it is most common with those in middle life. Infants and young children, as well as very old persons, are not so subject to it.

It prevails at all seasons of the year, although both extreme cold and extreme heat are known to be unfavourable to its production. Intense cold is probably less favourable to it than intense heat; but it generally seems to have a preference for the winter season, doubtless because the inhabitants house themselves up so closely and heat their rooms to so high a point. In warmer latitudes, where people live much in the open air, typhus is much less prevalent than in the north.

*Causes.*—The question as to whether typhus fever is contagious, has been the occasion of a great deal of controversy. Typhus fever is, beyond doubt, sometimes contagious, though not to all who come within its influence. To some it is contagious; to others not. It also often springs up spontaneously, we



have every reason to believe, just as measles, scarlatina, whooping-cough, and even small-pox are known to do. Observers are agreed upon the important point that it is among the poor and destitute, and those who are poorly housed, fed, and clad, that typhus commits its most fearful ravages. Those who live in airy and well-ventilated houses, and in healthy localities, whether in city or country, and who are abundantly supplied with good and healthful food and water, are seldom attacked with the disease. And when it does occur under such circumstances, it is much less liable to spread, in the way of contagion, than when among those of the lower class.

Foul air itself is not sufficient to generate typhus in all cases, yet it certainly does often occur, and in its worst form, in situations where human beings are crowded together, as in prisons, badly ventilated hospitals, and the more confined parts of large cities, and in camps and ships.

So important and striking is this relation between pure air and health, and foul air and fever, that a few facts bearing on these points will prove instructive.

Dr. John Griscom, of New York, the talented author of a work on ventilation, mentioned the following remarkable facts, which occurred in a letter from a distinguished citizen of New Jersey:—In August (1837) a ship arrived at Amboy with a number of passengers down with ship fever. There was no hospital, and temporary shanties of rough boards, with canvas roofs, were put up, a mile and a half from the landing, near a pure spring of water. Thither the sick, eighty-two in number, were carried, under the full blaze of the sun. Some twelve of the number were then insensible, and no one expected them to live. A day or two after there came on a very heavy shower, perfectly drenching the sick persons, as their cabins were hardly any protection. Of course it was expected they would die by dozens, but, strange to say, *every one* of them recovered.

Here was an instance, showing, in the most conclusive



manner, the good effects of pure air in overcoming a most dreadful and destructive disease. It is true "the pure spring of water" and the "perfectly drenching of the sick persons" had no small share of influence in the matter, nevertheless, the pure air of heaven was no less important than the watery part of the regimen. *Water treatment, it should be remembered, implies not only water, but every natural substance and thing that can be made to act beneficially upon the system.*

Another remarkable instance, showing the effects of foul air in fevers, is given by Sir George Ballingall. He observes:—In the summer of 1811, a low typhus broke out in the fourth battalion of the Royals, then quartered at Stirling Castle. The season was the healthiest of the whole year, and the locality about the most salubrious in the country. On investigating the causes which could give rise to so much illness, under circumstances apparently so favourable to health, the mystery was speedily solved. In one room, twenty-one feet by eighteen, SIXTY men had been placed, and in another of thirty-one feet by twenty-one, SEVENTY-TWO men—a greater number of human beings had been crowded into one place than the air which it contained could by possibility keep alive! To prevent absolute suffocation, the windows were thrown open during the night, from which a cold air streamed in upon those nearest them. The natural result of this crowding was typhus fever, to which inflammation of the lungs was superadded in those exposed to the cold draughts.

The two together proved very fatal. Had the officers who assigned quarters to these unfortunate men been acquainted in the remotest degree with the laws of respiration, and with the fact that one pair of lungs requires the use of fifty-seven hogs-heads of pure air in twenty-four hours, they would, I believe, as soon have thought of ordering the men to be shot as of exposing so large a proportion of them to almost certain death from an easily avoidable disease. The simple fact added by



this writer, that *in less crowded apartments of the same barracks no instance of fever occurred*, speaks volumes to a reflecting mind on this subject.

The chief causes of fever assigned by medical inquirers are, as before remarked, dense population, bad ventilation, and destitution. But the late Dr. Combe argued, that however destitution or any other cause may operate remotely, the *immediate* cause is deficient ventilation. In proof of this theory, he made, in 1841, the following observations:—There was in the suburbs of Glasgow a large house, called, from its mode of construction and the vast crowd of human beings who lived in it, the Barracks. It is said that nearly five hundred persons, chiefly poor Irish, lived in this building, each family having one, or at most, two little rooms. At one time fever was never absent from the Barracks; *five had been seen ill at once in one room; and in the last two months of 1831, the cases in this single house were fifty-seven*. During the five years, ending with 1849, there were 55,949 cases of fever in the whole city; consequently it will be observed, this house, with say 480 inhabitants, ought to have had, as its fair proportion, 112 cases, the population of the city being considered as at a medium 240,000. But, continues Dr. Combe, how does the case really stand? Early in 1832, at the recommendation of an ingenious surgeon of the district (Mr Fleming), a simple tin tube, about two inches in diameter, had been led from the ceiling of each room of the Barrack into a chimney of a furnace connected with a neighbouring factory, by which means a perpetual draught was established upon the atmospheric contents of every room, and its inmates compelled, whether they would or not, to breathe pure air. The consequence—for we cannot but consider it as the consequence—was, that during the ensuing eight years, fever was scarcely known in that house, although it was at times very prevalent in the city. Mr John Pearson, of England, an able medical observer, informed Dr. Dunglison,



that when he was surgeon of the Lock Hospital, he uniformly observed, when more than a certain number of patients were admitted in any of the wards, fever became more prevalent, and that from repeated observations of this fact he was induced to restrict the number of beds in each ward, and never afterward witnessed the recurrence of fever in the house.

"In cases of camp fever," says Dr. Stokes, "it has been repeatedly observed, that when the camp was broken up, and the sick separated into different parties, the fever totally disappeared, although the patients might be exposed to bad weather and the jolting of carriages."

It is to be laid down as a well-established fact, and one of great importance to the human race, that foul air is one of the worst, and probably *the* most prolific, of all the causes of typhus. It is very seldom that we see a fever happening in a healthy locality where due attention is paid to ventilation. True, we do now and then hear of bad cases of typhus, or malignant form of fever, in healthy localities, such as are to be found in various parts of England. But how do people in such parts ventilate their houses? None at all, we may well say, especially in the winter time, when the whole object seems to be to exclude pure air as much as possible from the house; and it is at such times, as before remarked, that malignant fevers are most apt to prevail. In the summer the doors and windows are more likely to be thrown open, and hence in the warm seasons fevers are not so common.

Whenever a general feverishness, from whatever cause, is brought on in animals, they not only instinctively drink water, but immerse themselves in it.

Do not these facts prove beyond all cavil that PURE AIR AND PURE WATER ARE GOD'S OWN REMEDIES FOR FEVER?

Dr. Watson, in speaking of the natural tendency to health in fevers, agrees entirely with Dr. Pitcairn, who, being asked what he thought of a certain treatise on the subject, declared,



“I do not like fever curers ; you may *guide* a fever, you cannot *cure* it. What would you think of a pilot who attempted to quell a storm ? In the storm you steer the ship as well as you can ; and in a fever you can only employ patience and judicious measures to meet the difficulties of the case.”

But that we can, not only modify the symptoms of typhus fever, rendering the patient's sufferings vastly less than they otherwise would be, *but actually cut short the disease*, I think hydropathy has already most conclusively proved. As bearing on this point directly, I shall here introduce several cases from that excellent author, Dr. Currie, who wrote about seventy years since. He commences by giving an account of some cases from his friend Dr. Wright. “On the 1st of August, 1777 (says Dr. Wright), I embarked in a ship bound to Liverpool, and sailed the same evening from Montego Bay. The master told me he had hired several sailors on the day we took our departure, one of whom had been at sick quarters on shore, and was now but in a convalescent state. On the 23rd of August we were in the latitude of Bermuda, and had had a very heavy gale of wind for three days, when the above-mentioned man relapsed, and had a fever, with symptoms of the greatest malignity. I attended this person often, but could not prevail with him to be removed from a dark and confined situation to a more airy and convenient part of the ship ; and as he refused medicines, and even food, he died on the eighth day of his illness.

“By my attention to the sick man I caught the contagion, and began to be indisposed on the 5th of September ; and the following is a narrative of my case, from notes daily marked down. I had been many years in Jamaica, but, except being somewhat relaxed by the climate and fatigue, I ailed nothing when I embarked. This circumstance, however, might perhaps dispose me more readily to receive the infection.

“Sept. 5th, 6th, 7th.—Small rigors now and then—a pre-



ternatural heat of the skin—a dull pain in the forehead—the pulse small and quick—a loss of appetite, but no sickness at stomach—the tongue white and slimy—little or no thirst—the belly regular—the urine pale, and rather scanty—in the night restless, with starting and delirium.

“Sept. 8th.—Every symptom aggravated, with pains in the loins and lower limbs, and stiffness in the thighs and hams.

“I took a gentle vomit in the second day of this illness, and next morning a decoction of tamarinds; at bed-time an opiate, joined with antimonial wine; but this did not procure sleep, or open the pores of the skin. No inflammatory symptoms being present, a drachm of Peruvian bark was taken every hour for six hours successively, and now and then a glass of port wine, but with no apparent benefit. When upon deck, my pains were greatly mitigated, and the colder the air the better. This circumstance, and the failure of every means I had tried, encouraged me to put in practice on myself what I had often wished to try on others in fevers similar to my own.

“Sept. 9th.—Having given the necessary directions, about three o'clock in the afternoon I stripped off all my clothes, and threw a sea cloak loosely about me till I got upon the deck, when the cloak also was laid aside. Three buckets full of salt water were then thrown at once on me; the shock was great, but I felt immediate relief. The headache and other pains instantly abated, and a fine glow and diaphoresis succeeded. Toward evening, however, the febrile symptoms threatened a return, and I had again recourse to the same method as before, with the same good effect. I now took food with an appetite, and for the first time had a sound night's rest.

“Sept. 10th.—No fever, but a little uneasiness in the hams and thighs—used the cold bath twice.

“Sept. 11th.—Every symptom vanished, but to prevent a relapse I used the cold bath twice.

“Mr. Thomas Kirk, a young gentleman, passenger in the



same ship, fell sick of a fever on the 9th of August. His symptoms were nearly similar to mine, and he was desirous of trying the cold bath, which, with my approbation, he did on the 11th and 12th of September, and by this method was happily restored to health."

Dr. Currie proceeds—

"On the 9th of December, 1787, a contagion fever made its appearance in the Liverpool Infirmary. For some time previously the weather had been extremely cold, and the discipline of the house had been much relaxed. The intensity of the cold prevented the necessary degree of ventilation, and the regulations for the preservation of cleanliness had been in some measure neglected. These circumstances operated particularly on one of the wards of the eastern wing, employed as a lock hospital for females, where the contagion first appeared. The fever spread rapidly, and before the progress could be arrested, sixteen persons were affected, of whom two died. Of these sixteen, eight were under my care. On this occasion I used, for the first time, the affusion of cold water, in the manner described by Dr. Wright. It was first tried in two cases only, the one in the second, the other in the fourth day of fever. The effects corresponded exactly with those mentioned to have occurred by him in his own case; and thus encouraged, the remedy was employed in five other cases. It was repeated daily, and of these seven patients the whole recovered.

"From this time forth I have constantly wished to employ the affusion of cold water in every case of the low contagious fever in which the strength was not already much exhausted; and I have preserved a register of 153 cases in which the cure was chiefly trusted to this remedy."

Before proceeding to explain particularly the manner in which Dr. Currie used water in fevers, he describes a fever which broke out in the 30th regiment, and the treatment adopted. It commenced about June 1st, 1792.



“Such men as were sent to the guard for misbehaviour were confined in a dark, narrow, and unventilated cell. Several men were put there for drunkenness, and suffered to remain twenty-four hours. The typhus fever made its appearance among these men, and spread rapidly among the rest. The Liverpool Infirmary being full, a temporary hospital was fitted up at the fort. In two low rooms, each about fifteen feet square, were fourteen patients labouring under the fever. One was in the fourteenth day of the disease, two in the twelfth, and the rest from the ninth to the fourth day. In every case there was cough and mucous expectoration. Those who sustained the disease eight days, had *petechiae* on the skin (spots resembling flea-bites, denoting great prostration). The debility was considerable from the first, and (as Dr. Currie says) had been increased in several cases by bleeding, before the nature of the disease was understood. The pulse varied from 130 to 100 beats. The heat rose from  $101^{\circ}$  to  $105^{\circ}$  Fahr. There was great pain in the head, and in several instances low delirium.

“Our first care was to clean and ventilate the rooms, which were in a high degree foul and pestilential. Our second was to wash and clean the patients themselves. This was done by pouring sea-water over the naked bodies of those who were not already greatly reduced: the whole heat was steadily above the temperature of health. In those more advanced, whose debility was great, we sponged the whole surface with vinegar, a practice that, in every state of fever, is most salutary and refreshing.

“Our next care was to stop the progress of the infection. With this view, the guard-house was first attempted to be purified by washing and ventilating, the greatest part of the furniture having been burned or thrown into the sea. All our precautions and exertions of this kind, however, were ineffectual; the weather was wet and extremely cold for the season; the men on the guard could not be prevailed upon to remain



in the open air; and from passing the night in the infected guard-room, several of the privates took the infection. In several of these the fever ran its course, and in others it was immediately arrested by the affusion of sea-water. The guard-room was shut up, and a temporary shed erected in its stead. Still the contagion proceeded. On the morning of the 13th the whole regiment was drawn up at my request, and the men examined in the ranks. Seventeen were found with the fever upon them. It was not difficult to distinguish them as they stood by their fellows; the countenance was languid; the whole appearance dejected, and the eyes had a dull-red suffusion. These men were carefully separated from the rest, and subjected to the cold affusion, always repeated once and sometimes twice a-day. In fifteen of the number—seventeen—the contagion was extinguished; the two went through the regular disease.

“On the same day the commanding officer, at my request, issued an order for the whole of the remaining part of the regiment to bathe in the sea; and for some time they were regularly mustered and marched down at high water to plunge into the tide. These means were successful in arresting the epidemic. After the 13th of June no one was attacked. In all, fifty-eight had the disease, of which twenty-two went through the regular course of the fever; and in twenty-six the disease seemed to be cut short by the cold affusion. Of the twenty-two, two died. Both of these were men whose constitutions were weakened by the climate of the West Indies; both of them had been bled in the early stages of the fever; and the one of them being in the twelfth and the other in the fourteenth day of the disease when I first visited them, neither was subjected to the cold affusion.”

According to Dr. Currie, the safest and most advantageous time for the affusion of cold water is when the exacerbation is at its height, or immediately after the declination is begun;



and this had almost always led him to adopt it from six to nine in the evening ; but it is perfectly safe to use it at any time of the day, according to Dr. Currie, "*when there is no sense of chilliness present ; when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration.*" This rule respecting perspiration, as we shall hereafter see, relates to that caused by too much exertion.

These rules are so plain that no one could be at a loss in knowing how to proceed, at least safely, in the affusion of cold water in typhus fever ; and yet Dr. Currie's method has been considered as being one which required a great amount of skill to determine when it should be used.

Dr. Currie afterwards says in reference to this fever, when epidemic, "that a great number of cases occurred in which the disease was suddenly cut short by the use of the cold affusion on the first and second day of the disease. The good results were so uniformly, so precisely similar to what had been related, that a detail of cases would be unnecessary."

In cases in which the affusion was not employed till the third day of the fever, he had seen several instances of the same complete solution of the disease. He had even seen this take place when the remedy had been deferred till the fourth day. Some cases are given to show the effect on the third and fourth days. "Jan. 17th, 1790, A. B., aged 19, a pupil of the Infirmary, caught the infection in attending the fever ward. When I saw him, in seventy-eight hours, the fourth day of the disease, he had all the usual symptoms—headache, thirst, furred tongue, pain in the back and loins, with great debility. Heat 101 degrees, pulse 112 in the minute. A bucketful of salt water was poured over him, as usual, at noon. His heat sunk to 99 degrees, and his pulse to 98. A profuse perspiration followed, with the cessation of all feverish symptoms. This intermission continued for several hours, during which he enjoyed some comfortable sleep, but at five in the afternoon



was again seized with feverish rigors, followed by heat, thirst, and headache as before. An hour afterward the hot stage was established. Heat  $100^{\circ}$ , pulse also 100. The same quantity of cold water was again thrown over him, with similar effects. His pulse fell immediately to 80 the minute, and became more full. The heat became natural. The following night he took twenty drops of laudanum, and slept well. On the 18th, the second day of treatment, at noon, the pulse was 96 and soft, skin moist, but a little above the natural heat; the tongue a little furred, and the head ached. He also complained of thirst. The same remedy was again applied. He was greatly refreshed by it. The pulse fell to 90, the skin became cool, the thirst went off, and all the feverish symptoms vanished. On the 19th, the third day of treatment, his pulse was 88, his heat natural, the thirst and headache gone, and appetite improving. The ablution was repeated for the last time at six in the evening. On the 20th he was further improved. On 21st had some debility. On the 22nd was free from complaint. This patient, during his fever, took no medicine. The affusion was used four times."

Another case we cite: "Feb. 2nd, 1792, S. C., a healthy man, forty-four years of age, about seventy-two hours after the attack, came under treatment. Pulse 100, heat  $104^{\circ}$ , other symptoms as usual, but the pain in the head and back particularly severe. Two minutes after the affusion, pulse 90, heat  $100^{\circ}$ . The patient felt great refreshment, and was entirely relieved of the pain in the head and back. In the evening, however, the exacerbation of the fever was severe, and the headache returned with violence. He passed a restless night. At four in the morning the affusion was repeated by his request. At nine a gentle perspiration covered the surface of the body, the pulse 84, the tongue moist, the skin cool, the pains of the head and back entirely gone. In the afternoon the fever returned, though in a less degree. The affusion was repeated



the fourth time, with the same happy effects, after which there was no return of the disease.

"Thus it appeared," says Dr. Currie, "that the cold affusion, used on the third and fourth days of the fever, does not immediately produce a solution of the disease, but that it instantly abates it, and by a few repetitions brings it to a happy termination in two or three days."

The editor of Dr. Good's "Study of Medicine," asserts, that he saw many cases of typhus fever in the Military Hospital at Canterbury, in England, treated entirely by sponging the body with cold water, and making the patient drink copiously of the same cheap article, and that the success of the plan was on the whole very satisfactory. This goes to show that the most "heroic" treatment is not always absolutely necessary in this disease, although such treatment, when judiciously and skilfully managed, does the work in a much shorter time.

I make here a remark which I wish to be well remembered in regard to the time it requires to cure typhus. In general we can get a patient out of typhus in the course of two weeks. In some cases we can do it much sooner, as Dr. Currie also did. But be the time longer or shorter, we should not be discouraged. Experience proves that water is the best remedy for fever, as well as the most speedy in its effects.

Priessnitz gave directions for treating fever, which are the following:—

1. "Envelop the patient in one or more heavy wet linen sheets, according to the heat and strength, the sheets not much wrung out, and to be frequently renewed, as often, at least, as they begin to grow dry. There must not be much covering over the sheets. In severe cases the patient should be kept in the wet sheet the most of the time until the fever is broken up. As much fresh air as possible is to be admitted into the room. The sheet should always be doubled, and wet towels



applied to such parts as the armpits, between the limbs, and wherever one part comes in contact with another.

2. "The cold bath is given three or four times in twenty-four hours, and even oftener, should there be much heat. If the patient is very weak, the water is used mild, but never higher than 77° Fahr., and this should be diminished from time to time until it can be borne cold. The bath should, if possible, be administered to the patient in a reclining posture. At the same time the back of the head and neck should be bathed in water of the same temperature as the general bath, ending always with the water cold. The surface of the body should be rubbed constantly while the patient is being bathed, and the bath continued until the temperature of the armpits is the same as the rest of the surface.

3. "As the patient becomes able to take nourishment, give cold milk, fruit, and farinaceous food in small quantities, always cold, and at intervals of the usual meals. Great care is necessary in the food. Water at all times to be drank according to the dictates of thirst.

4. "Use the wet bandage all the time when the patient is not in the wet sheet.

5. "Injections, or clysters of pure water, are to be given if the bowels do not act naturally without; the water cold, if the patient is not very weak, one pint at a time.

"The object of the whole treatment is to supply the body amply with coolness and moisture, in order to counteract the tendency of the disease to dry up and consume the natural juices."

If a patient has been all but killed with drugs, or if the disease has been allowed to go on until the strength is exhausted, and the patient has become delirious, then the treatment is modified. But even in such cases let the surface be sponged over with tepid water, as at 85° or 90° Fahr., and see what relief will follow. Get permission of your doctor to do this;



no one will object, only he will want a little vinegar or spirits and the like put with it; whereas the pure thing is the safest and best for the surface as well as the internal parts. Put also the great wet fomentation about the body, to act as a soothing poultice; this no physician will object to either. Have a mattress for the patient to lie upon—never a feather bed; and use the hair or straw pillow, instead of the heating feather pillow. There is truth in the old maxim, “Keep the head cool.” Administer daily, if need be, clysters of pure tepid water. No well-informed physician will object to any of these things. Get thus what water treatment you can. Nature and good nursing have cured many—drugs very few.

The advantages of fresh air in fevers is wonderful. I was told by the learned Dr. M. Barry, of Edinburgh, that one summer, in that city, the hospitals were so filled that it became necessary to erect tents in the open air to accommodate patients having the ship fever; and it was found the mortality was much less in these airy, out-door places than in the more comfortable hospitals. Could all fever patients be, from the first, kept perfectly clean, have constantly a full supply of cool, fresh air, pure soft water to drink as the thirst indicates, and be nourished in the most careful manner, how few would die with fever!

One of the most striking effects of water, and, I may add, of all the phenomena observable in nature, is the *revivifying* power of this remedy. Even when life has appeared to be extinct, in not a few cases has it been known to restore the individual. The benevolent Howard has given us facts on this point.

“I might mention,” says Howard in his writings, “as an evidence of the advantages of the baths in prisons, that I have known instances where persons supposed to be dead of jail fever (typhus gravior, or malignant typhus fever), and brought out for burial, on being washed with cold water, have shown signs of life, and soon after recovered.”



Howard, when at the county jail in Hertfordshire, was told of a prisoner who, on being pumped upon in the yard when in a state of apparent death from the jail fever, recovered; and he declared afterward, that he had known other instances of the same kind.

A few years ago an account was published in the papers of a singular case of resuscitation, by means of water, in the State of Wisconsin: "Captain Hood, a well known citizen of Beetown, Dane County, had a little child taken sick, which, after much suffering, and with all the usual indications of the final struggle with death, received its parents' parting embrace in the presence of other friends. The glazed eyes of the little sufferer were closed, and a bandage was applied to support the under jaw, as is customary. After a lapse of some twenty or thirty minutes, a woman in attendance, who was aiding in the ablution and laying out the corpse, commenced by sprinkling cold water in its face. Strange to tell, the child opened its eyes, began to recover, and is now in the enjoyment of full health."

Another important effect of water *is its power of quelling delirium*, if this has not existed for too long a time. Cases have occurred in which patients have stealthily gone into cold water, when the height of delirium was upon them, and have been quickly restored to their senses. Some facts of this kind might be given, one of which I quote from Dr. Baynard, who wrote one hundred and fifty years ago.

"A Turk (a servant to a gentleman) falling sick of a fever, some one being called in, whether apothecary or physician I can't tell, but between blister and bolus, they soon made him mad. A countryman of his that came to visit him, seeing him in the broiling condition, said nothing, but in the night-time, by some confederate help, got him down to the Thames' side, and soundly ducked him. The fellow came home sensible, and went to bed; and the next day he was perfectly well.



This story was attested to by two or three gentlemen of undoubted integrity and worth; and I doubt it not, but believe it from the greater probability; for I'll hold ten to one on the Thames' side against all that hot regimen which inflames the blood, breaks its globules, and destroys the man."

There are several other circumstances relating to the treatment of typhus fever, all of which are highly important in this place, and which will be briefly noticed.

In fevers, as well as in other severe inflammatory diseases, in which the patient is obliged to remain in the horizontal posture much or most of the time, the feet are certain to become more or less cold. The most salutary method of warming them is for an assistant to rub them with the dry hand till warm, or warm foot-baths in bed, by drawing the knees up and putting the feet in a small tub, covered with the bed-clothes. Wrapping them in warm flannel is also advisable; and so likewise a bottle of warm water or a warm brick, but not *hot*, as we so often read in the old school-books, and, I am sorry to add, sometimes in the new.

The custom of having *watchers* with the sick is often productive of evil. Watchers are in the habit of keeping apartments by far too hot, if it is in the winter season. The patient should have the largest and most airy room that can be obtained; and it should be kept at a much lower temperature than would be agreeable to persons generally in health, and those whose duty it is to attend to the sick person should remain in another apartment most of the time, so as not to render the air foul about the bed.

In case the patient is not so weak as to render it impracticable to move him often, it will be of essential service to change his bed and body clothing four times in the twenty-four hours. It is not absolutely necessary that the articles be washed so often as this; they may be hung out in the open air, or put before a stove or fire to ventilate. But they should also be



washed often. If the strictest cleanliness is observed in all these matters, it will not only contribute essentially to the patient's comfort, but will aid materially in his restoration to health.

It has been customary to recommend giving fever patients nourishment, not only several times during the day, but also during the night. This practice is often a mischievous one, hindering the patient as to his recovery, and causing, in some cases, a dangerous relapse. Those do not seem to take into view that digestion to go on well, the stomach must have time to do its work. We know that ordinarily from three to four hours is required for food to pass through the process, and that the stomach, in order to perform its functions properly, must have a period of rest after a portion of food has been digested. Now this rest is even more necessary in sickness than in health. The patient ought certainly not to have food oftener when he is sick than when he is well. Three times in the twenty-four hours is certainly often enough, and will in general be the better rule.

In all severe cases of typhus, the period of convalescence requires much care and prudence on the part of the physician and attendants. In water treatment there is nothing like that danger of relapse that there is in the old mode. The mildest forms of nutriment only should be given, and the bowels should, as a general thing, be made to act daily by tepid injections, if these are necessary. The mere exercise of the bowels in this way is useful even if little or no fecal matter is made to pass them. The quantity of water used should depend upon the patient's strength. In fevers of this kind the bowels are often in an ulcerated condition. The debilitating night sweats which the convalescent fever patient is apt to be troubled with, are effectually combated by ablutions and spongings with cool or cold water. A good sponging of the surface with cold water is a tonic to the skin, and consequently to the whole system. If



the patient can have his bed linen changed after he has slept some hours and become restless, it will be of great service to him, preventing the night-sweat and helping him to obtain sound and refreshing sleep, on which his recovery very much depends.

If the attack has been a severe one, the patient must exercise a good deal of patience in his recovery. When everything is managed the best it can be, it may require even months for his full recovery. Especially if the bowels have been ulcerated will it require time for him to gain his full strength. He should all along exercise the greatest prudence and caution in everything, and allow of no unreasonable draught being made upon either his corporeal or mental powers. It is for his encouragement to remember that if he gets well through his attack his health will in the end be benefited by the ordeal he has passed through.

We here insert the following letter from a humble farmer, who seems to have discovered a mode of treating fever somewhat similar to that of Dr. Currie, and the unfailing result was quite in accordance with the great principle of cooling thoroughly with water in the most efficient and simple manner attainable in the circumstances. Whenever there is fever heat, or a recurrence to the hot stage, this rule, with the accessories of abundance of pure air and plain diet, or no diet, but plenty of pure cold water to drink, seems to embody the sum and substance of treatment in the first and all the following stages:

“EAST PRAIRIE, MISSISSIPPI Co., Mo.,

“*November 30, 1850.*

“MESSRS. FOWLER & WELLS,

“I am a farmer, in my seventy-fifth year. I have taken your journal since January last, and have taken Wilson & Co.'s little *Dispatch* for two or three years, and have always



sent to him for any books he advertised on the Water Cure, with the request that he would send me the best and plainest he could procure. I think I have seven or eight of them, but in none of your journals, nor in them, do I see where fevers have been treated with the success that I have treated them with for more than thirty years, and I have never failed in a single case to make a perfect cure in a few minutes. Strange as this may seem, it is nevertheless a fact, and this is the reason why I trouble you with these lines. . . .

"I have treated all fevers, fever and ague, etc., alike. My plan is simply to bathe at the time the fever is the highest: if the fever has passed its highest point and is going off, I let the patient alone until it returns. I know nothing of wet sheets, bandages, etc.; but when the fever returns, or gets as high as I think it will go, I put the patient in a hogshead that I keep for bathing. I have him go entirely under water, head and all, for three or four times, keeping his head under each time as long as he can conveniently hold his breath; then let him dabble in it up to the chin, until the heat is reduced to the natural temperature, and the patient feels comfortable; then let him come out and wipe dry with towels, put on his clothes, walk about, lie down, or do as his inclination leads; eat what he will, drink what he pleases; as for rubbing, I do nothing of the kind. I pay no attention to the temperature of the water, the object being to bring the patient to the natural heat, and this can be done in fifteen or twenty minutes.

"When I have no convenience for bathing, and, in fact, sometimes, as a matter of preference, I pour water on the patient's head, instead of bathing; and, surprising as it may seem, this always has the same effect that bathing has, and I do not know that it takes longer to cool the body in this way than it does by bathing. I have the patient lie with his head over the edge or side of the bed, so that the water will not wet the bedding. I then get a bucket of the coldest water, place it



under the head, and pour the water over the back of the head, from one temple to the other; and patient lies with the face downward. I pour it on moderately, and at the height of the fever; I think it will have little effect if done at any other time. Pouring water on the head in this way will cool the whole body nearly or quite as soon as going all under water, as before directed. If the water is not poured on long enough at first, the fever will return in a few minutes; but repeat the pouring then as at first. I have known the fever return twice before it was finally driven away.

“The next day after the treatment the patient is capable of attending to business as usual, and I do not recollect a case in which the patient had another attack the same season. There is one thing I cannot understand—how pouring water on the head should relieve the stomach of bile; but so it is. Let the patient be ever so sick at the stomach, and incline to vomit ever so much, in two minutes after you begin to pour water on the head the stomach is relieved, and there is no more of that trouble. As before stated, the cure is completed in a few minutes; and it is a permanent cure, and a cure that all persons can perform at home without any inconvenience. The shortest time I have seen noted in any of your books to cure the fever and ague is five days, and that with your wet sheet, etc. I am sure this plan is a great deal easier, and much quicker. And again, these books give no directions when to commence the treatment, which I am certain is a material point. I am sure if my mode is not employed as directed, at the height of the fever, it will fail. As stated at the beginning, I am no doctor, neither did I make this discovery myself. I lived forty-two years on the Sciota bottom-lands, in Sciota county, Ohio, the most noted place for bilious complaints, perhaps, in the world. A physician who had attended my family, being about to move away, I asked him whom I should apply to after he was gone in case of sickness. He then told



me how to apply water in all cases of fever. I have now tried it more than thirty years, and have never failed.

“The effect the cold bath had on me last spring, in the worst dysentery I ever experienced, no person would believe. I could name a great many cases of different kinds of bowel complaints which have been successfully treated with Water Cure; but it is a very smart undertaking for me to write a few lines, my hand is so unsteady, and I fear it will be a greater task still for you to read them. But I thought it was a duty I owed the community to make known my experience in the treatment of fevers with water, especially as there is a considerable stir at this time about the Water Cure. But I have found that almost ninety-nine in a hundred have been opposed to the application of cold water in any case whatever. The few who have tried the cure as directed have never failed to get well speedily; yet even they would almost always, on the next attack, apply to a drug doctor. In the cases of small children, I have induced their mothers to hold them in a bucket or tub of water and wet their heads, continually for five minutes. I have never known this fail to cure the chills and fever; let it be done also when the fever is at the highest. —I am respectfully yours, etc.,

“ABRAHAM MILLAR.”

#### SCARLET FEVER.

This eruptive fever, named *Scarlet* from the colour of the rash which the disease throws out over the skin, is a peculiar form of a purifying ordeal belonging to this generation, as small-pox was the ordeal or scourge of the last century. Superior sanitary and dietetic habits greatly modify, and may ultimately obliterate or prevent, many forms of fever, cholera, and even the plague, as the causes and conditions under which they originate and exist come to be better known, and removed or avoided.



Scarlet fever is frequently epidemic, very infectious, and rapid in action and short in duration when properly assisted by bathing and other hydropathic appliances, so as to throw it out of the internal organs on to the skin.

I have seen several cases of congestion of the head, and others of supposed diphtheria, which were speedily proved to be cases of incipient scarlet fever by the application of a thorough head wash in the cases of congestion, and the tepid wash and wet sheet pack when there was high fever and pale skin, with swelling of the throat, bringing out first a slight crimson blush, and soon afterwards the full eruption with immediate relief to both head and throat.

This result illustrates the value and safety of water treatment in acting in accordance with indications or symptoms, or rather aiming at assisting NATURE.

When scarlet fever is suspected as the cause of feverishness, it is well to give the child a good tepid wash, say at 90°, washing the head also if at all uneasy or painful; and when in bed, or comfortably warmed after the wash, put on the wet towel bandage, perhaps ten or twelve inches wide, round the body under the arms, and three or four folds of wet towelling round the throat also, as the throat is very often the first organ affected.

If the child sleeps well there is no cause for anxiety; but if restless during the night, renew the bandages and observe the colour of the skin, as most likely these means will develop the disease if in the body; but although the skin shows no brightness after gentle pressure with the fingers, if the child be still feverish, repeat the bandages until relief or cure is accomplished.

In general, the fever results in developing the peculiar rash, sometimes only a general blush, other cases have a rough feeling to the hand from a papular rising of small red spots, beginning on the breast or back, but sometimes on the arms first, then spreading over the whole body gradually, as nature to



economise the strength matures the eruption piecemeal over the surface bit by bit, and over the limbs last; although the high coloured tongue, which remains for some days after the skin has regained the usual colour, indicates the eruption to have been over the internal surfaces also.

With high fever, and the eruption slow in developing, the half or whole pack may be given two or three times daily; but if moderately out, with general relief and freedom from any oppression, it will be sufficient to give a daily tepid wash, piecemeal, in bed, or, with more freedom, in a suitable bath of some sort, observing that warmth, especially of the feet, and comfort follow all processes. But keep the body bandage on constantly, until the eruption is entirely gone, which in general continues three days.

It makes a good finish to the cure to give a full tepid pack when the brightness of the skin is fading, as it brings out all the latent remains or dregs, and stimulates nature to rid itself of all morbid or impure remains through the skin and kidneys speedily.

Peculiar cases, connected with some weak organ or other cause, often manifest themselves, and must be treated in accordance with their symptoms. But the nature of all fevers is to purify, like the refiner's fire.

Sometimes an acrid discharge from the nostrils follows the fever. This must be assisted by wet cloths over the brow, and nose also, if possible, and touching the tender parts with oil or cold cream frequently.

Dropsical swellings frequently appear, generally from exposure too soon to cold. The best relief in such cases is to give the warm blanket pack for a few days, and to promote perspiration, also warm sitting baths, and wear the body bandage in bed.

The skin is generally withered, dried up, and rubs off in dust or scales, and in larger pieces from the hands. After the



fever has passed its height, and the bright colour is fading, an excellent assistant in preserving the skin, allaying irritation, and nourishing and protecting it from cold, is to rub it well with warm olive oil, after a tepid wash.

General care and watchfulness must be taken for a week or two after the disease has passed away, to prevent a relapse or a cold.

In general, eight days, from the time of the first symptoms till complete recovery, suffices to complete the process. I subjoin a short note of general rules which I have inserted in various newspapers repeatedly.

The means proposed are suitable for any illness showing similar symptoms, and at the same time applicable by the mother or nurse. When a child is restless or feverish, the best means to give relief is tepid bath, or wash, followed by a sound sleep. The head should be washed also, and if the hair is long or thick it should be bound close to the head with a dry handkerchief till dry. If the feet are not quite warm after the bath, a warm bottle or other means should be used to impart heat, as the continuation of cold feet is most injurious to health, and is generally the precursor of illness, and by keeping them in good condition we may frequently prevent disease, especially the taking of cold, with its serious results. Throughout any continued illness few influences are of more value than one or two warm foot baths daily, given in bed by drawing the knees up while keeping the feet in warm water, with the bed-clothes above the bath or pail, from fifteen to thirty minutes, or longer. If the person is feverish after the bath or at any other time, then put a damp bandage all round the body under the arms. This is formed by folding a soft towel, then dipping the half of it in water, and after wringing it fold the wet part against the dry half in the form of a belt, in length sufficient to go round the body from under the arms, in breadth from six to twelve inches, or even from the arms to the thighs, if the fever is high. The damp half is put next the skin, and in all



cases of feverishness it may be renewed or repeated, as it gets hot or dries, until the fever is overcome, or rather brought out. The pulse invariably falls from ten to twenty or thirty beats in the minute shortly after the bandage is applied. With this powerful aid to reduce fever, it is needful in all cases to have the patient bathed or washed at least once daily, even in bed, with tepid water and a little soap, piecemeal, if needful, using soft flannel or a sponge. If the throat is affected, put from two to six folds of soft towelling, half wrung out of cold water, and dry flannel above, renewing them as soon as the towelling is hot, which may be in from thirty minutes to several hours, till perfect relief is obtained. The head may be relieved in the same manner, observing that the wet cloths are covered and bound on, never left loose. If the eruption of scarlet fever manifests itself under these means, the same must be continued until the redness is entirely gone, using the means with more or less frequency as called for by the symptoms. Tenderness of the interior surfaces, indicated by the red lips and tongue, may remain for several days after the outside has regained its healthy colour; but while the tongue is high coloured, and all through the illness, great care must be taken in regard to food and drink, as these must be of the lightest description, and very little in quantity, avoiding all flesh in every form, with stimulants and spices, till the pulse has fallen to its healthy standard. These simple means will be sufficient for the majority of cases, as with them I have treated several hundreds in Glasgow and elsewhere, with only about one per cent. of loss in scarlet fever, while in measles and whooping cough the same general principles have been applied in hundreds of cases without the loss of one. Hydropathy assists nature in drawing disease from the interior to the surface, and one great means whereby we attain this end is by keeping the surface warm and moist, while we cool the interior by plain cooling diet and cold drinks, and, it may be, by cold or cool injections.



The pack may be repeated again and again until the eruption is thoroughly developed.

Occasionally dropsical swellings follow the subsidence of the eruption, from exposure to cold or through the remains of the disease in the kidneys, in which case it is well to give the warm blanket pack, and also to apply the wet bandage over the kidneys for a week or more till quite well.

Rubbing well all over with olive oil after the fever subsides, is very good, and relieves the dryness and tenderness of the skin; it also prevents the catching of cold and such influences as affect the kidneys, relieving the strain on them by increased emanations through the skin.

#### INTERMITTENT FEVER.

After severe illness, or during general weakness, nature is frequently unable to regain strength, and accordingly acts impulsively, making periodic or intermittent efforts to attain health by expelling the disease, in which efforts feverishness is but a symptom.

Intermittent fevers are common and severe in warm countries, but in Britain they are generally the indication of simple weakness.

After proper attention has been given to any special symptom, we may resort to bracing treatment, such as gently pouring a basinful of water with the chill off—say at 80° at first—over the shoulders, and day by day lowering the temperature till it is quite cold—50°.

These affusions are most suitable immediately before the feverish period comes on. Repeated applications of the cold spinal compress, say for an hour daily, also gentle cold pouring over the head, for from five to ten minutes, when the hot stage begins, is very beneficial. Daily rubbing with warm oil may also be applied, and the sponging with vinegar or salt water, if there are night perspirations.



## MEASLES.

Measles is another of the purifying diseases of childhood, and may be treated in somewhat the same manner as scarlet fever, etc. It is frequently ushered in by a rough troublesome cough, seemingly from the eruption and slight swelling affecting the throat first. The material of the eruption is found in all the tissues, and is got rid of by coming to the surface. It is frequently seen in pork, permeating the whole of the muscles.

This shows the importance of attending carefully to plain diet in youth, as impure and rich food, when undigested, supply the materials of disease, and prevention is better than cure.

Follow the same rules as in scarlet fever; and in both cases it is well to give a whole or half pack when the rash is fading, as it brings out all the remains or dregs of the disease, and prevents the danger resulting from the retention of any of the impurity lurking in the constitution, as we often find serious illnesses dating back to an imperfect cure of, or recovery from, measles.

Olive oil rubbing is valuable on recovery from measles; and also in any illness affecting the skin, especially new skin that is dry or tender.

## SMALL-POX.

Small-pox, which has been the terror of mankind for some generations, is now comparatively a stranger to society, and is not so severe or fatal as formerly. We may expect that better attention to cleanly habits in washing or bathing, and in clothing, will yet completely banish such diseases. We find they are more fatal in proportion to the neglect of cleanly habits among uncivilised races. They have at times swept off entire tribes among the American Indians, and quite recently measles in the Fiji islands swept off fifty thousand of the people, chiefly, we think, from neglect of personal cleanliness.



The same rules hold good as in scarlet fever ; and in treating a considerable number of cases in the course of twenty-five years I have never found any difficulty in meeting the symptoms, and attaining a perfect cure. Several cases have been very severe and confluent, having the skin completely covered. In these cases all we can do is to keep down the burning fever by simply laying two or three folds of cold wet towelling over every part of the body accessible, without moving the patient more than is necessary. During the height of the eruptive stage, cool the body gently by these means, keeping the air of the apartment thoroughly fresh and cool, and give water to drink in proportion to the thirst, and milk as food, taking care to keep the feet comfortable ; and a few days will generally suffice to allay the irritation and assist nature in throwing out the material, and complete the process of purification.

The intolerable itching which excites scratching, and so breaks the pustules, is greatly allayed by the cooling cloths, and pitting is completely prevented.

Individuals with but little of impure material in their systems, are hardly put out of their usual routine by any slight eruptions ; and, with Hydropathy to assist us, society has but little to dread from these purifying diseases.

Vaccination I look upon as far more dangerous to a large number of individuals, and especially to delicate children, than any attack of small-pox. It is very uncertain in its operation, and imperfect in its action, and we see many vaccinated persons who take the disease severely ; while again the medical profession know that many children die from the effects of vaccination, and very many never have perfect health afterwards. We frequently find bad matter blamed for failure ; but there is no *pure* matter. *Diseased* matter of a peculiar type is what is sought for ; but we find that matter from the same source, applied to ten cases, develops different effects in each ; while on some vigorous constitutions no effects are produced.



This is not the place for going fully into the question of vaccination; but as smallpox is so much less prevalent and less severe than it was, and under the water treatment is a purifying process mild and easily gone through, we think the severe compulsory measures to make vaccination universal should be abandoned, and that, with better sanitary habits, we should look for complete freedom from future visitations of this disease. Society has suffered much from numerous cases of incurable disease, and even death, following vaccination, as every medical practitioner can testify.

In conclusion, in any threatened attack of fever, or any case with feverish symptoms, always begin with a good warm washing and scrubbing, thus opening the pores of the skin to allow the escape of any disease or simple impurity, and then perspiration may complete the process, or, on the other hand, allow the disease to come more easily out.

Keep on the wet towel bandage round the body, under the arms, if feverishness continues after the washing.

#### ERYSIPELAS, OR ROSE.

Erysipelas first manifests itself by a hot sensation and heightened colour, generally on the face, developing into small blisters accompanied with a burning pain. These spread or eat along the surface, and in cases of impure blood—with predisposition to the disease—frequently go over the whole head. It frequently attacks the limbs also.

Cold is the immediate cause, based on indigestion and retained waste or perspirable matter in the skin. A gentle sweating or pack, followed by tepid washing, will be the best means to attain our object, which must be to open and purge the skin by such repeated applications, as the disease lies in the skin. With slight attacks on the face or head only, a warm or tepid thorough head-washing with soap may suffice, followed by keeping one or two folds of cold wet cloth over the part,



slightly covered, so as to allow the heat to escape, for one or more nights.

Slight spare diet, when the attack is severe, in this, as in all cases of acute disease, is essential, as the digestive powers are always weak during active disease. With foul tongue give fomentations also over the stomach. A few days, in general, suffices to throw off the attack.

Erysipelas frequently follows from severe injuries, such as bruises or surgical operations following accidents, especially in persons whose health has been impaired or the blood impure. The various symptoms must be met by appropriate bandages or baths as required.

#### JAUNDICE.

Jaundice is the result of liver affection, generally of a congested condition, although it may be from some temporary derangement of the digestive organs, and may have a revulsion of feeling or nausea, frequently accompanied by a rigor or shivering fit. The bile is forced into the circulation and shows itself in the yellow colour of the skin—generally of the face first, and chiefly in the eyes. Attention is required to the condition of the liver to effect a thorough cure; but with the use of proper remedies for that purpose, a few days of the pack and an occasional sweat will soon remove the bile from the skin.

#### SCURVY.

Scurvy in its severe forms is a most troublesome complaint, in general, resulting from the long continued use of dried, salted, and spiced food, without a sufficient proportion of vegetables and fruits conjoined with these. Dry, irritable skins are most subject to the disease, and the use of salt and even sugar increases the difficulty of cure. Crystallised substances such as these affect the blood, rendering it glutinous



or gummy, as I suppose; at all events, I have always found persons with dry, scurfy skins to have been fond of an excess of these articles.

Warm baths from  $90^{\circ}$  to  $96^{\circ}$ , taken for thirty to sixty minutes, occasionally, are very good for all dry skin eruptions.

Vigorous warm oil-rubbing is also good, and let the wet towel bandage be worn night and day for perhaps a month if needful, all round over the stomach, liver, and bowels.

Warm plunge baths at from  $90^{\circ}$  to  $98^{\circ}$ , taken for from thirty to sixty minutes, more or less frequently, from one daily to one weekly; or warm packs, by the same rule in regard to frequency, are both highly beneficial and preferable to Turkish baths for all dry eruptive diseases.

Of course the food must be suited to the disease, avoiding irritants, as referred to, and using fruits and vegetables freely.

Acid fruits especially are good, such as lime juice and oranges, when taken before breakfast and other meals.

Potatoes are excellent, even the raw juice sucked from the bruised roots has saved the lives of sailors, when the mouth could not be opened so as to chew or swallow other food.

#### LEPROSY.

Although leprosy is not often seen in this country, it may be mentioned that all excessive or oppressed action of the skin, from simple dry irritability to the extreme of leprosy, should be treated on the same general principles with confidence of cure. The *Lancet*, several years ago, gave some striking illustrations of this in giving the experiments by the doctor of an hospital for incurables on the continent. He placed several skin disease cases in baths at from  $90^{\circ}$  to  $96^{\circ}$ , with proper arrangements for support, while maintaining the same warmth, and in these baths they ate and slept for various periods of from three to six weeks—indeed, till they were cured, as they were, to the astonishment of both the doctor and themselves.



Such diseases are the outbirth of hot, dry climates, with neglect of washing and deficiency of pure water. Singularly enough they are also common in Iceland and other cold countries from the same cause—*want* of personal cleanliness with gross food.

The principles on which to act, in regard to diet and habits, in all cases of skin diseases of a dry, hard, or coarse cuticle, are evident from these examples.

#### ITCH.

Itch is so far referable to defective action of the skin, and although generally communicated by infection from touch or contact, the insect supposed to be the occasion of the irritation seems not to find lodgment or food unless the individual is so far deficient in vigorous health or personal cleanliness.

But in reference to cure. If the irritation be in the hand and shining little blisters appear, the hands may be well washed with warm water and soap, and then well rubbed with oil, taking care that the small blisters be not scratched or broken, as if they are unbroken they will pass away without spreading farther in a few days.

If the body to any extent of surface has become affected, general warm bathing must be applied, with soaping in the same manner, followed by oil-rubbing.

Gentle sweating might expedite the cure, although I have never required to use it.

Plain cooling diet is most suitable, as dry heating food is understood to predispose to infection and continuance of the disease.

In warm countries both man and beast are subject to annoyance from parasites, many of which are deadly in their effects, and at the best very troublesome. Pestilential emanations from marsh and swampy surroundings are the food of many winged insects, and they are useful in purifying the atmos-



phere of substances which engender fevers and other diseases. So the voice of Nature to man is to drain the swamp and cultivate the soil so as to produce what is good for life and health; otherwise, annoyance, disease, and death, will assail him.

#### HEAD PARASITES.

Frequent tepid head-washings and oil-rubbing, with combing and brushing, effectually frees the heads of children from parasites, and improves the hair.

#### BOILS AND CARBUNCLES.

These are frequently the result of a weak and impoverished condition of body. Overwork, poor food, cold and exhaustion, may result in boils.

Want of vigorous circulation is one of the causes, as impurities remain in the thick skin, which is the seat of the boil, although they burrow and press deep when swelling has begun, even into the muscle below.

When threatened with boils, a few warm baths, at  $96^{\circ}$  to  $100^{\circ}$ , for about half an hour, are an excellent check or cure. Wash and scrub the skin also, particularly all around the part affected, as the waste material which manufactures the boil is easily got out of the skin when softened and rubbed out, and the boil will likely be prevented from growing by want of food.

First, I impress thoroughly the great importance of a few warm baths and scrubbing with flannel and soap. Then apply a compress of several folds of soft wet towelling, three to six inches square, over the painful part, with flannel above to keep it warm, renewing it, and washing the parts frequently.

Also use easily digested food and general warmth. Cases that threatened to be severe and others of long standing, with boils following, crop after crop, have been thus speedily cured and the general health improved.

Never cut nor squeeze them before or when discharging,



as that weakens the skin and prevents the maturing of the boil material, and generally diffuses the seeds of another course deeper in the skin.

#### CHILBLAINS.

Chilblains affect children and persons with feeble circulation or an undue amount of water in the blood—poverty of the blood. A liability to chills in the hands and feet, sneezing, frequent colds in the head or nostrils, all of which show a general softness of tissue readily inflamed, also indicate a liability to this affection.

If possible give one or two gentle sweats, which will take away a considerable amount of mere water from the veins, and, at the sametime, stimulate the digestive organs to manufacture richer blood, besides imparting more warmth and vital heat to all the organs, which the watery blood has failed in doing.

Warm foot or hand baths for ten minutes, followed by vigorous oil rubbing, and, it may be, wet bandages all night, with dry flannel or worsted stockings above, will soon cure chilblains, and the condition which pre-disposes to chills and colds in the head also.

#### TENDER THROATS.

Persons with tender throats are frequently benefited by the application, for some nights, of a piece of boiled bacon to the throat. This application may be alternated with wet compresses, which draw out all impurities, while the fatty matter supplies nutriment and heat-material sufficient to resist the cold the throat is exposed to in breathing, etc.

A piece of bacon, about six inches long, three or four inches broad, and a quarter of an inch thick will answer this purpose very well, especially if the skin be attached. Bind it to the throat with a flannel bandage.

Rubbing the throat daily with simple oil or pomade after



washing it has, so far, the same effect of resisting cold. Pouring over the throat from a small kettle, or spouting with small tube, as described under "Local Douche" in the Bath list, is excellent for strengthening a tender throat.

Active exercise is also good to excite warmth, circulation, and perspiration.

#### ABSCESSSES.

Abscesses, or deep-seated gatherings, are evidences of imperfectly organised blood, which may be constitutional or only the effects of injuries, such as blows, or strained muscular exertions, as leaping, etc.

Perfect rest is needful, along with cold compresses to the part, which must be frequently changed so as to extract the internal heat, which favours the formation of matter, or pus.

Attention to the general health in every department, and especially in diet, will also be necessary ; but weeks or months may be required to soften, dissolve, and dissipate the swelling through the skin and other outlets.

Gentle perspirations and half packs may also be needful to purify the blood generally, while attending to the local disease as directed.

#### BURNS AND SCALDS.

Burns whether from fire or water are severe in proportion to the amount of surface affected and the depth to which the heat has penetrated.

When the skin is unbroken, and even when blistered and broken and the injury severe, as from clothes taking fire, the immediate application should be a bath for half an hour, or even longer, at from 70° to 95°, from which great relief will be experienced. After this, a thin piece of soft linen, rather larger than the injured surface, wet with olive oil, may be applied to the injured part. Gently press it, so as to cause it



to adhere to the tender skin, where it may remain till it comes off itself,—in many cases till a new skin is formed underneath, so saving nature an immense labour in secreting matter as a cover or scab to protect the tender and exposed nerves and skin. Cold wet cloths, of one or more folds, may be laid above this oiled cloth, and may be changed or renewed as often as it is found to be agreeable, without destroying the first cloth. I have had several severe burns treated in this manner with entire absence of pain after the first few hours, although it required weeks to complete the cure by the renewal of skin.

I have had the satisfaction of learning from a doctor residing in a large colliery district, where explosions and burnings are frequent, that these means have been frequently resorted to in severe burns from mine explosions, with the best results.

#### BRUISES.

Bruises, minor or severe, require bathing in warm water also, so as to soften and relax the injured blood-vessels and supply local warmth, for the weakened circulation produces at first extreme cold, followed afterwards by extreme or inflammatory heat, from overaction of the restorative power and want of contractile power in the nerves and blood-vessels of the injured part.

After relief has been obtained from bathing the part, by immersion or fomenting with warm water, keep several folds of tepid or cold compresses to the part, changing them if too hot, or keeping them warm if too cold by hot water or other means, as *comfort* is the only *rule*, in regard to quantity and duration.

#### WHITLOW.

Whitlow must be treated much on the same plan as bruises, it being a congestion or swelling from impeded circulation, and resulting in suppuration close to the bone.



Frequent warm bathing by keeping the hand in a jug or ewer of hot water from ten to thirty minutes, again and again, while keeping the whole hand wrapped up with one or several folds of *cold* wet soft towelling, with dry flannel or a worsted sock drawn over it between the hot baths, will soon give relief without requiring the lancet.

#### ULCERS.

Ulcers occur chiefly in the leg, particularly in persons advanced in life.

The general health must be attended to, particularly in regard to warmth and purifying food, fruits, etc.

Defective action, or stoppage of some important function, is frequently the cause of nature seeking an artificial, an extra or vicarious outlet. With attention to the cure or removal of any such defect, give general warmth and bathing, first by the sweating processes. After this keep several folds of soft wet towelling, well covered and frequently renewed, to the part till the surface is quite whole. Oil or some simple ointment is frequently of great value in these cases, as poverty of the blood is often a cause of ulceration, although they frequently proceed from excess and gross humours in the blood, with full habit of body. In such cases the *hunger cure* is very beneficial in assisting the cure, by diminishing the supply of material.

Ulceration and impure secretions of matter are greatly benefited by any simple dressing, either of wet compresses or oil or simple ointment, having a sprinkling under or above of finely-powdered charcoal and applied to the part. Charcoal absorbs all impurity and prevents smell.

Charcoal prepared from hard wood, or even burnt bread, may be taken into the stomach when the breath is offensive; but it must not be repeated too often, as it simply absorbs the gases and does not cure the disease; and taken internally, charcoal



soon becomes an irritant, entailing labour on the digestive organs to expel or get rid of a substance devoid of nutritive qualities. The system seems to discover its non-nutritive nature, and allows it to lie inert in the stomach or bowels, where it becomes an irritant or obstructive.

#### SPRAINS OF ANKLE OR WRIST.

The chief injury experienced in sprains is the stretching and relaxing of the muscles, destroying for a time the contractile power, and this is generally followed by congestion, swelling, and inflammation.

The first object in treating sprains is to soothe the strained muscles, by a warm or tepid foot bath, for perhaps half an hour. Then strap the foot and ankle comfortably tight with straps of cotton cloth, about two or three inches wide, beginning from the toes, smoothly swathed up over the ankle, and neatly and firmly bound or stitched, so as to remain on for one or more days. If painful, three or four folds of soft cloth should be bound over the weak part under the strapping, and kept well damped with a sponge as it dries or becomes hot, without loosening the strapping. Keep on a dry worsted stocking above all as a binder.

These means frequently restore tension and effect a perfect cure in a few hours. Gentle manipulation with the fingers over the part assists in restoring the circulation and soothing the weak muscles. Rub with oil also. Care must always be taken to save the weak joint from strain, for several days or weeks.

If the sprain has been of long standing, the same process must be used, but for a longer time—till strength is quite restored.

Warm foot baths may be taken daily, without interfering with the bandage or strapping, which may be kept on, and the surplus water dried off with a towel, keeping the foot comfortable afterwards with the stocking or other dry covering.



## SWOLLEN GLANDS AND MUMPS.

Mumps and glandular swellings are frequent in feeble or relaxed conditions of the body. The glands of the neck frequently, from exposure to cold, become enlarged and painful, and may even suppurate and discharge matter.

To prevent these attacks, young persons should habitually bathe the throat and neck freely with cold water.

Cold feet and hands also predispose to an attack.

Besides attention to these points, we must attend to the general warmth, as the circulation is likely to be feeble, and the blood poor or watery.

Apply three or four folds of cold towelling round the neck, or specially to the swelling, with dry flannel above, every night. Bathe also, and rub the neck well with cold water in the morning. Gentle firm rubbing during the day with a soft, warm hand and some oil or pomade, is good in assisting to soften and remove the congested substance into the general circulation.

Attention to the general health, as regards plain food and active out-door exercise, are essential aids towards the perfect cure and freedom from repeated attacks.

Cool or cold sitting baths are influential aids towards a cure, when followed by active exercise.

Occasional gentle sweatings are useful in abstracting excess of water in the blood, in addition to warming the whole body, quickening the general circulation, and loosening obstructions in any part of the body.

## NOSTRILS—EXCESSIVE OR OFFENSIVE DISCHARGE.

Colds in the head, along with indigestion and chronic inflammation of the secreting lining of the nostrils, frequently become very troublesome. The discharge may be very slight, or appar-



ently entirely gone, when some indiscretion in eating brings it back anew.

Much of the difficulty in effecting a perfect cure of any morbid discharge from nostrils or other organ, or even ulcers or abscesses, lies in the want of sufficient self-denial, for the sufferer might soon learn the connection between enjoying extra food at dinner or supper and an increase of the discharge on the following day. (Note the *hunger cure*.)

The treatment must be, for the general health, a few packs, bandages, and vigorous cold bathing, with particular attention to diet, which will do much towards the cure of this ailment.

Laying the face in water from the mouth over the brow frequently, in a basin placed on a table for height, is very beneficial; keeping the nose, also, in the water with intermissions for several minutes. Draw the water (which should have the chill taken off) up the nostrils. This is easily done by a slight effort, and afterwards with ease, and cleanses and cools the tender and inflamed parts, loosening the mucus. It is sometimes beneficial to draw up with the water a little milk or olive oil.

Wash also the whole head before going to bed with tepid water two or three nights in the week.

Sitting baths frequently, and cold, are very good as tonics.

Rubbing the nose and nostrils, both inside and out, with cold cream or butter assists in resisting the effects of cold.

#### PALPITATION.

Palpitation and tightness of breathing are frequently caused by the stomach being distended with food, or by flatulence diminishing the breathing or lung space, and also pressing on the heart. Watch these symptoms and indications carefully or you will damage the heart and lungs ultimately and shorten life.

Violent action of the heart, however, is sometimes the result



of impaired motion from rheumatic and gouty affections and secretions, or from imperfect shutting of the valves, or from ossification of the large blood-vessels proceeding from the heart, causing a loss of contractile power and elastic play.

With such sensations we must avoid all undue strain or excitement, and wear a wet compress over the heart; washing the breast daily and rubbing it well with a hand-towel afterwards. Be exceedingly careful regarding diet—in quantity as well as quality; and also bathe the head well daily, as the head so far controls the heart.

A gentlemanly priest, who was with me for some time, put the question of the amount of food required for health in a new light.

In conversation at table regarding diet and habits, he naively remarked, after stating that he required to walk ten or twelve miles daily to enjoy health, "The question, then, gentlemen, is not as to how much we require to maintain health, but how much we can eat without hurting ourselves?"

We must acquire the control and guidance of all our natural affections, otherwise they will attain the mastery over us and destroy us.

#### DEAFNESS AND DEFECTIVE HEARING.

Deafness and defective hearing may either be the result of a slight cold or chill, or dependent on a relaxed condition of the throat and hearing organs generally.

Recent cases of attack of defective hearing are readily cured by a tepid head wash, followed by binding the head well up in a wet compress of three or four folds of warm wet flannel, or even simple wet towelling, well bound on over the ears, for a few nights.

Pour also from six to a dozen drops of warm olive oil into the ear or ears after the washing; this is very useful in almost every case, whether recent or of long standing.



Inflammation, and some degree of congestion, resulting from cold, is the first stage or beginning of almost all cases of defective hearing.

Swelling of the surrounding parts and contraction of the tube, accompanied by heat and drying up of the wax, soon follows. When the interruption continues for some time, the nerves and vibratory organs soon lose their sensibility from want of use.

Continue the treatment as above, washing the head two or three evenings in the week with tepid water at bed time. Bind the head, or the ears only, with several folds of wet cloth, and drop warm oil into the ears.

Also bathe and rub all round the ears with cold water every morning.

These means may be effectual in a few days, but may require to be continued for weeks or months.

An occasional vapour or sweating bath will assist greatly in loosening the wax and secretions generally.

#### INFLAMED EYES.

Inflammation of the eyes is relieved greatly by the tepid head wash before bed, and by laying four folds of cold wet towelling on the back of the head and neck for an hour before rising in the morning, or by keeping it on all night.

The lying head bath should also be taken frequently.

A cold wet cloth, of several folds, bound over the brow and the eyes, is also very useful; and small wet pads laid into the hollows over the eyes and gently pressed with dry cotton or any soft padding above, kept on all night, do much to draw out the inflammation. Be careful to keep the hollow of the eye quite filled up with the pads, as any opening or looseness of the cloth will readily excite cold or inflammation again.

#### RED TONGUE AND LIPS.

A red tongue, especially at the tip and edges, always reveals



tenderness and irritation of the stomach. Gastric fever and the termination of scarlet fever have this indication. Red tongue in children calls for attention, as, with inflammation in the stomach, the digestive organs are always unfitted to make good blood. Fondness for salt and spices, it may be stimulants, are frequently the cause. Salt in excess is highly irritant and is not required for health, the larger half of the inhabitants of the earth using little or none.

Wearing a compress of four folds of soft wet towelling, twelve inches by six or eight, over the stomach, at night, for sometime, assists greatly in subduing the inflammation, as also a towel bandage, with the half wet, kept on for several nights, all round the body over the stomach.

#### EARACHE.

Earache is generally a symptom of inflammation of the ear, and calls for immediate attention as the pain is often intense. First learn if the feet are cold, as they are almost certain to be, and give a warm foot bath instantly; then wash the whole head freely with tepid or warm water, 90° to 98°; keep bathing and rubbing with the fingers, using fresh water, for five, ten, or fifteen minutes if agreeable, and the pain will soon vanish.

A few drops of warm olive oil may then be dropped into the ear, and the whole head may be the better of some pomade rubbed over the scalp under the hair, and the damp hair bound up with a silk or thin woollen binder till quite dry.

Repeat for one or two nights if needful.

#### TOOTHACHE.

Toothache, in its hydraheaded forms and degrees, can only be referred to in its leading features.

Indigestion is the basis of toothache and many other forms of disease and pain, and thus furnishes a double incentive to study well what we, and our children also, eat and drink.



City life and luxuries are the causes of a large proportion of the premature decay and disease of the teeth. Another fertile cause is the use and abuse of medicine—this telling most on the second generation. Every deviation from the perfect and inflexible laws of our being invariably results in suffering and disease, with loss of so much enjoyment, usefulness, and happiness.

Liability to toothache demands first enquiry into our habits and dietary so as to attain a perfect cure; but an attack of toothache from cold or other irritant acting on a decaying tooth or inflamed gum, may be relieved by a gentle sweat, and by wearing the wet towel bandage over the stomach for a night or two.

Washing the head frequently gives relief.

Bathing the feet and hands, also, in some cases relieves; but in general the Turkish, or vapour bath, is the most certain cure if the pain is severe and continuous.

Keeping the teeth clean assists in preventing toothache.

It is frequently necessary to avoid chewing for a day or two to prevent a return, particularly if the inflammation of the gums accompany the toothache.

Filling any hollow in a tooth with gutta percha, softened in hot water, will sometimes prevent toothache from an exposed nerve.

I have read of a self-constituted dentist at the gold diggings who made a fortune by filling cavities in decayed teeth, getting his stock in trade from a castaway gutta percha bucket.

Gutta percha is more suitable than some harder substances which contract and expand, and thus split the tooth, if nothing worse.

Pull a tooth only as a last resort. Aching teeth are useful monitors, and by obeying their lessons or warnings we may correct wrong habits, and also preserve many teeth, even though defective or half gone, to perform good service for many years.



All extremes of heat and cold are injurious to the teeth, as also artificial acids and condiments, spices, much sugar or salt, &c.

#### NEURALGIA AND TIC.

Neuralgia frequently begins in or results from toothache and inflammation of the gums, and requires similar treatment for cure. Gentle sweats, warm head-washing, and oil-rubbing of the head and along the spine will give relief; at the same time there must be moderation in diet, which should be chiefly cooling and soft for a day or two so as to avoid chewing. A warm sitting bath frequently relieves quickly during an attack.

#### SCIATICA.

Sciatica, or inflammation of the leading nerve of the leg, is frequently very severe; the causes, again, are fatigue or cold, or both acting at once, and more so when the digestive organs are out of order.

In sciatica the cure is also attained by sweatings and leg packs, the latter simply with a wet towel from over the foot up to the hip, say, for an hour daily, followed by a wash; and the vapour bath day by day, if the pain is severe, is likewise very effective in relieving pain and expelling the disease. Pay also strict attention to diet.

#### DIPHThERIA.

Diphtheria is a term frequently applied to throat ailments which have nothing in them of the peculiar features of that disease, but belong only to the common types of throat affections.

Diphtheria was first noted as a new disease some twenty years ago in France, where it broke out in a camp among horses, and affected the attendants. A foul atmosphere, combined with improper food and want of cleanliness, seems to



have been the origin of this, as of many other peculiar forms of disease in all ages of the world. The same conditions develop the plague, cholera, malignant fever, dysentery, and other destructive diseases which have decimated mankind; all of them teaching man unceasingly the necessity of obeying the laws of life and health written in his constitution, of removing offensive substances, whether in fluids or solids, and of maintaining personal cleanliness.

This disease is sometimes observed in connection with the blood-poisoning of scarlet fever.

Many cases of diphtheria are those in which the throat being previously feeble or ulcerated, the poison lodges there, instead of coming to the general surface in the usual rash.

In such a case the glands are rapidly swollen, the circulation is impeded to and from the head, and the morbid material in many cases accumulates to a great extent, endangering life by swelling, ending in suffocation; or, if the gathering breaks and discharges, it may destroy the surrounding parts or poison the blood, and so endanger life.

Wherever oppression of breathing or any swelling of the throat is observed, although it may be from a simple sore throat, give the trunk pack, with four folds of cold wet toweling round the throat; and if it heats soon, or uneasiness in breathing is experienced, renew the throat bandage perhaps every fifteen minutes, without disturbing the body pack.

The patient may remain in the pack for one or two hours, or have another and another if needful, drawing abundance of heat to the whole surface of the body, while keeping the throat cool by renewing the cloths as soon as they heat. If the poison be in the blood, this treatment will soon bring it to the skin everywhere, and draw it away from the throat, which will be immediately relieved.

We do not wait to enquire what the particular character of



the disease may be, but assist nature to regain control by relieving any local oppression or obstruction.

A simple and safe rule to follow in all cases is, to maintain *general* warmth, while keeping the weak or diseased part or organ *cool*, and thus extracting the diseased heat or impurity as speedily as possible by frequent changes of cold or cool compresses.

Observe, by the hand or by the feeling of the patient, when the compress requires renewal. This may, in acute cases at first, be in ten minutes, the intervals increasing to thirty or sixty minutes as the inflammation is overcome, and the compresses repeated again and again till perfect relief is attained.

Keep the **FEET** warm, in all cases, by some suitable appliance, such as the foot bath, warm bottles, or a warm brick wrapt in a piece of blanket or flannel. To other parts *cooling* applications are always more effective in giving relief in fevers and inflammation, than hot or warm appliances.

I have seen many recent cases of inflammation, both in chest, brain, stomach, and bowels, completely relieved in a few hours by several folds of wet towelling kept on the part and frequently renewed, and also threatened returns checked by the same simple means.

#### COLD IN THE HEAD, ETC.

Some special remarks on this ailment may be useful in reference to the poverty or thinness of the blood, or an undue proportion of water in the veins, making us susceptible to chills and colds, particularly in the head and chest.

As this condition is frequently the result of social habits, such as taking extra cups of tea or some more pungent fluid with friends, or under any other influence which induces us to use more fluid than is required for the daily consumption in breathing, etc., particularly in cold weather, we direct attention to the importance of abstaining as much as possible from fluids,



whether in food, as soup, etc., or drinks of any kind, when liable to colds or other diseases or derangements depending on their use, beyond what the economy requires. Cold feet and hands and pale complexion; soft muscle; susceptibility to perspiration; frequent urinating, especially during the night; and other unpleasant conditions, are all frequently begun with and dependent upon the excessive use of fluids. These observations are more important in connection with an indoor or sedentary life.

Keeping this simple cause in view, it will be much easier than at first glance is supposed to curtail the quantity of fluids for a time, or habitually when troubled with any of these symptoms in our cold climate. I subjoin a racy extract on the subject, from a popular author, as a commentary on the subject. These means, although of great importance, are chiefly to be kept in view as preventives, and for a speedy cure we must resort to sweatings, by exercise in the open air if possible, and other means as proposed under the various headings.

“A cold in the head is the most serious of petty nuisances; but real cold, attended with fever, shivering and sore throat, is far from being a petty nuisance; it is one of the most formidable evils of human life in our cold, humid, northern climate. Dr. Symes Thompson recently delivered at the Gresham College a lecture upon the subject of ‘Catching Cold.’ This was just about the time when Professor Tyndall was lecturing on ‘Dust,’ and teaching us how we could avoid all danger of infectious disease by the simple process of wearing a respirator of wool or cotton. The prevention of ‘colds,’ Dr. Thompson tells us, is mainly accomplished by keeping the skin in a healthy state; but the question is, having caught your cold, what are you to do with it? The point is immediately to bring back vigorous circulation and exhalation from the skin. In the first place pop yourself at once into a Turkish bath, a vapour bath, or a hot air bath, of one sort or another. Then administer



concentrated food, such as 'solid essence of beef.' By no means fly to strong drinks. On the contrary, do not drink anything at all—not even water. The remedial action through the skin does its work by drawing away the superabundance of the circulating fluid from the overcharged part. Your business then is to withhold supplies of the watery ingredient from the blood. 'Diminution of drink sustained at the point of moderate persistent thirst is one of the most certain and powerful preventives of congestive disorder, and the most sure remover of undue internal susceptibility which can be adopted.' Here is a simple method of dealing with a bad cold: As soon as you have caught a cold, take at once a Turkish or vapour bath. Go home; take moderate doses of concentrated 'beef tea;' do not drink anything, save just a mouthful or two of liquid, to save yourself from too great suffering. Keep yourself at thirsty point. There is the more need of being careful in this matter, seeing the more often you take cold, the more likely you are to take cold again. Each cold brings with it increased susceptibility of the internal membrane to congestive derangements. Make up your mind to a few hours of thirst, and you may set common colds at defiance."

#### NERVOUSNESS AND FLUSHING.

Nervousness and extreme sensibility is very much controlled by bathing the head, hands, and feet frequently in cold water. The worst case I ever met with was completely cured by persistent foot-bathing several times daily in cold water, repeated again and again over some weeks.

Flushing of the face is controlled by the same means. Cold sitting baths, and cold bathing generally in various forms, may be depended on to overcome over-sensibility, with the assistance of plain food and plenty of out-door exercise.



## SLEEPLESSNESS,

If caused by constant pain, must be remedied by attention to the cause. Appropriate advice will be found under the various heads in the Index.

Want of sleep from simple restlessness, or a habit of thinking when in bed, may be overcome by changing the conditions, as by bathing the hands and feet, or taking a tepid head-wash before going to bed.

I have found the wet body bandage the simplest remedy, as it is easily managed by making use of a bedroom towel, wetting the half, wringing it well, and then folding the wet half against the dry half and fastening it round the body over the stomach, after the body is well warmed in bed. One or two folds of dry flannel above is advantageous if the weather is cold. Sleep generally follows the application of the bandage in a few minutes both in children and adults.

A cold sitting bath for perhaps ten to twenty minutes in the evening [is valuable in procuring sleep, especially in persons subject to headache; but good reaction or warmth must be attained by exercise before going to bed.

A wet cotton nightcap is very good when an over-active brain is the cause of sleeplessness; and if chilly, a thin silk or woollen handkerchief may be put on above the wet nightcap.

A smart walk after a day of mental work or excitement is beneficial to promote circulation, especially if the head is freely bathed.

Cheerful society also suits many individuals by relieving one part of the brain and calling another set of organs into agreeable activity.

Hearing another read aloud in a quiet tone is also effective in many cases.

But the sleepless must shun all stimulants, tobacco, and heavy



ppers, in the endeavour to procure sleep, as the after effects of these are injurious and exciting, both to mind and body.

#### LOSS OF HAIR.

The hair frequently comes out after fevers more or less severe, especially with females. This arises chiefly from the excess of heat, caused either by fever, hot atmosphere, too much covering by hair or caps, or neglect of frequent washing, especially when stimulating pomades and artificial washes have been much used.

Simple tepid washing with brown soap, which should, as a rule, be done at least once in the week, as described under head ailments, is generally sufficient to maintain and restore the growth of the hair of females.

The addition of a little pomade of olive oil, combined with a little mutton suet to give it consistency, is very beneficial in supplying nutriment to the roots of the hair, and at the same time softening the hard cuticle of the scalp, and improving the hair.

The pomade may be well rubbed into the scalp for several minutes, after the head is washed and before the hair is quite dry; then bind the damp hair with a thin woollen or silk binder till quite dry.

Gentlemen may use the same means, so far as the case is similar, but as the most of the cases of premature loss of hair in males is caused by excess of brain action, resulting in excess of heat, which is aggravated by the tight-fitting hats in general use, preventing evaporation, these causes must be observed and attended to also. A tepid wash and shampooing of the head in the evening, followed occasionally by rubbing with any simple pomade, and also bathing the head with cold water every morning will be of service. When the head feels hot, the wet towel bandage, or a wet cotton night-cap, may be worn for some time with benefit. These means embody all



that can be safely done to maintain and restore health and vigour to both brain and hair.

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## PERSPIRATION IN RELATION TO HEALTH AND DISEASE.

The importance of perspiration and sweatings in the maintenance of health, and for the cure of several marked types and forms of disease, by means of one or other of the various methods of attaining perspiration, or expelling simple water or waste matter and blood poisons through the skin, cannot be over-estimated.

The animal economy is wisely designed in providing for the expulsion of the waste and corrupt materials which result from all living action. Every motion, thought, and emotion, consumes more or less of tissue, the retention of which would produce disease, and knowing this, the wise physician keeps a watchful observation over the excretory or expelling organs. We know, also, that we enjoy the better health the more we attend to proper rules and the laws of life, both in regard to the quality and quantity of what we eat and drink, and of the external influences to which we may be exposed, such as the extremes of heat and cold, more especially when in connection with damp and corrupt atmospheres. Indeed, it is self-evident that much of our health, and happiness also, is given unto our own keeping. Life and health consists in having more or less of power and activity, enabling us to do something, in addition to securing our own requirements, by assisting or supplying comforts to others.

Labour or activity is the first law of existence.

We are born into a world where there is abundance of RAW material; but almost every article which we require for shelter



or housing—for food, clothing, and warmth, in addition to all the thousand wants which civilisation and development of man's higher nature have given him—each and all require *Labour*.

Labour, work, or activity, gives us health and enjoyment in what we have laboured for.

In proportion to our activity we breathe deeper and become stronger. We place breathing in the first position, as it is the primary or first motion in order from and through which all movements in the body proceed.

Motion generates heat, and in proportion to the activity of motion the whole mechanism responds. When the body is weak from any cause it absorbs instead of exhaling as it does in health, and it is in those moments of depression or exhaustion that our own waste or impure materials, or others that we may be exposed to from external sources, become dangerous—almost infectious. While we are in a state of activity—exhaling from skin and lungs—there is almost no danger of this.

Having premised these general principles, I wish specially to show how the restoration or stimulation of the system is attained by simple heat and moisture, which expel, by perspiration, the materials of disease and impurity from all the organs and surface of the body, and are thus effectual in purifying the vital fluid, the blood, without injury to the LIFE.

My attention was first drawn to the value of sweatings as a cure for rheumatism in 1847, in many cases of which the cure was completed, by means of the spirit lamp, in from three days to three weeks.

In 1848, when cholera was so fatal, I used the same means in the case of a woman who seemed in immediate danger of death from that disease. With difficulty she was supported on a chair for a whole hour before perspiration could be effected. After perspiring freely and receiving a warm wash, every dangerous symptom was removed and sleep soon followed,



with speedy convalescence, being able for her household duties in twelve hours.

I had the same means applied in about twenty cases, some of them in the later collapse stage. The remedy is by no means difficult of attainment, means of perspiration being easily available under almost any ordinary circumstance, even with bed-ridden patients.

The following is a short summary of diseases or conditions in which warmth, to the extent of perspiration, is suitable and desirable :—

In general, all symptoms connected with exhaustion or debility, states of coldness, &c.; chills, and taking of common colds; rheumatism, general or local; neuralgia; diarrhœa; diabetes; suppression of urine resulting from cold; blood poisoning as from wounds; hydrophobia, especially in the first stages; excessive discharges of any natural function, or from abscesses or ulcers; fever and ague; night sweats; oppressed breathing in connection with weakness of heart; broken sleep from frequent urinary discharges; obesity or fatness, and as a means of reducing bulk; enlargement of liver; dropsy, swollen feet, general puffings, and pale skin.

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## LIST AND DESCRIPTION OF BANDAGES AND COMPRESSES.

DESCRIPTION AND DIRECTIONS REGARDING THE MATERIALS AND PREPARATION OF BANDAGES AND COMPRESSES FOR THE VARIOUS ORGANS AND DISEASES REFERRED TO.

SOFT, well-worn, common towel or towelling is the best material for these appliances, and cold or cool water in general is best, as the intention is to *abstract* internal *heat*, for which



purpose linen is best adapted, although soft thick cotton is also suitable; and either material may be used, when the *feelings* call for it, with tepid water, or the chill taken off.

We abstract heat by the application of cold water in LINEN cloths.

We give and supply heat in and by warm and hot well-wrung FLANNEL and WOOLLEN applications.

#### HEAD BANDAGES.

A general or full head bandage is formed by wetting the half of a square towel across the angle, or shawl fashion, and folding the wet half against the dry half, then laying it over the head with the long edge over the brow above the eyes (if needful over the eyes); the two tails are drawn one above the other round the back of the head, covering and fastening the small tail of the towel at the back, and the last tail drawn smoothly and tight round to the brow, and there fastened with a single pin. The arrangement is simple, and may first be tried with the towel dry.

A compress to relieve headaches, etc., is formed by wetting half or two-thirds of a towel and folding it to about six inches by four wide, and from four to eight folds of it wet, with the dry part of several folds rather larger, and placed over the wet part. Lay the compress close up under the hair to the back of the neck in bed till warm, and, if needful, cool it by spreading it out or re-wetting it several times.

For severe headache or brain disease, as in fever or hydrocephalus, the whole head may be wrapped up in four folds of cold wet towelling, and bound comfortably tight by a single fold or binder of dry flannel outside for hours or days, renewing it as it becomes hot or dry.



## EAR BANDAGES.

Ear compresses are formed of from two to six folds of soft towelling, about from three to six inches in length by two, three, or four inches wide, laid over the ear, and kept on by some folds of dry flannel fastened round over the head and under the chin.

## EYE BANDAGES OR POULTICES.

These applications for inflammation or cataract, etc., require several folds of soft linen, or lint or cotton wool, sufficient in bulk to fill the hollow of the socket of the eye. More or less of the folds may be wet in proportion to the heat or inflammation, and the pads or compresses kept on by a band of some soft material bound on all round the head.

The centre hollow must be filled, although only from two to six folds are wet, and no space left, but the pad gently passing on the eyeball, as loose wet cloths on any part, especially on the eye, might produce cold or inflammation.

## THROAT COMPRESS FOR TONSILS OR MUMPS.

For swollen tonsils or mumps apply from four to eight folds of cold wet towelling, under the chin, and up near to the ears, two inches or so broad, kept on with a flannel band, double *under* the chin, and spread broader, single fold, on top of the head to keep it from getting loose.

## THROAT BANDAGE FOR A COUGH OR AFFECTION OF THE THROAT.

This application is similar to the above, but is worn over more or less of the throat and neck, and fastened on with flannel round the throat behind.

## CHEST BANDAGE OR COMPRESS.

For a common cold, or whooping cough, or chest disease,



this is made in the form of a child's bib and kept well up to the throat, with two tapes tied round the neck. Take from two to four folds of soft wet towelling from four to twelve inches square, with two folds of dry flannel outside. One or two straps of elastic tape, sewed to one edge of the flannel and brought round under the arms and fastened with a button at the other edge, keeps them comfortably to the breast.

Waterproof cloth may be kept on above the wet cloths, or the material be altogether of spongia—made of sponge and soft wool.

These compresses may be worn constantly, renewing them evening and morning, when required for removing a severe cold, or in continued illness.

Temporary compresses for a cold or recent attacks of illness in other trunk organs, may be described as from two to four or six folds of cold wet towelling, from six to twelve inches square, with sufficient dry flannel or linen outside, to be laid, when in bed, on any part in which there is disease or weakness.

One application may be sufficient for a recent cold. Such an application between the shoulders in the morning before rising, or on the breast, or on both, is sufficient warmth to heat them; both applications may, with good rubbing on rising, be sufficient to remove a cold in the first stage.

Make sure of keeping all compresses close to the body, with some padding of dry flannel or wool above, if needed, to maintain gentle pressure, as loose wet cloths of any sort will chill and be injurious instead of beneficial.

#### LIVER AND STOMACH COMPRESSES.

These are similar in formation to the chest compress. For the liver, which lies under the bottom of the ribs on the right side, from four to eight folds of wet towelling, about twelve to fifteen inches long by eight to nine broad, should be used; it is well that the compress be kept on with a flannel binder



for a longer or shorter period every night, as the liver is a deep-seated, internal organ.

Stomach bandages or compresses, from two to four folds of wet cloth, are worn for stomach complaints of various kinds, and may be changed frequently when there is inflammation, but kept on for longer periods when used to aid feeble digestion, renewing them morning and evening for several weeks. An eruptive rash, more or less severe, generally follows the use of this bandage with great benefit to the digestive organs.

#### COMPRESSES FOR KIDNEYS, LUNGS, ETC.

Cooling compresses for kidneys, lungs, spleen, bowels, uterus, weak spine, tumour, pleurisy, inflammation of chest or bowels, may be formed from common towels, with more or less folds, half wrung out of cold or cool water, applied to the part affected, while maintaining warmth and comfort to the body as a whole.

These should be changed frequently in recent and acute attacks, and more slowly but continuous for old-standing or chronic diseases, washing and rubbing the surface acted upon well and frequently between the applications. Deep-seated tumours of slow and long formation may be reduced, dissolved or dissipated by such applications and washings, with appropriate diet and other accessory influences.

A bandage for the knee may be formed of several folds of soft or worn towelling, more or less in proportion to the heat and swelling, with a dry flannel binder above.

A description of another sort for constant use will be found under "*Illustrative Cases*," in the cure of a stiff knee.

#### COMPRESSES FOR VARICOSE VEINS.

These are also formed of cold wet towels, from four to six folds, lightly bound, laid over the swollen veins, and renewed so soon as they become warm, for longer or shorter periods, as



often as convenient, so as to cool and strengthen the relaxed veins and muscles, as when once formed they can never be re-formed or obliterated. Keep the compresses cool all over the distended veins, but the feet warm.

#### WEAK AND SPRAINED ANKLES.

Bandages for such cases are described under this head in the Index.

Compresses for diseased ankle, or swelling in foot, leg, or ankle, may be formed also of old soft towelling. When there is excess of heat, the more folds you can apply the better, as heat favours the formation of matter or pus, while moist cooling lessens it. But the *foot* must be kept comfortable even while cooling the knee, leg, or ankle. (*See case of Bruised Leg.*)

#### COMPRESS OR BANDAGE FOR FEET.

Feet that are dry or hard on the sole, or cold from feeble circulation, are greatly benefited by keeping one or two folds of wet towelling over the entire foot and ankle every night, with dry worsted socks or stockings above, and rubbing them with oil or fat occasionally after washing them.

Persons troubled with sweating feet should wash them frequently, and change their stockings, which should be woollen. (*See fuller directions under Cures for Cold Feet, &c.*)

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#### VARIED SUSCEPTIBILITY IN INDIVIDUALS TO DIFFERENT CLASSES OF DISEASE.

Persons with large brain in proportion to body, when pursuing mental and sedentary occupations, are more subject to nervous and head ailments.



Individuals who are narrow in the chest, with slender frames, are more liable to chest affections and infection through atmospheric influences.

Persons with good digestive organs, or sharp appetites, are more subject to biliary derangements and stomach complaints.

Either the brain, or chest and heart, or the digestive organs, may, by over use or abuse, absorb too much of our vitality, or the life power, and thus render us unfit or feeble for the duties of life.

Over-eating or drinking leaves the person cold and chilly, cold-rife, and liable to infection by touch through the skin, which is then absorbent, but when stimulated by some motive we become active and exhalent.

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#### CAUSE OF YAWNING AND SLEEPINESS AFTER MEALS, ETC.

As the stomach lies immediately under the lungs and heart, we can understane how it is that when it has received two or three pints of food and drink, it may be equal to the quarter of a cubic foot in bulk ; we see at once how pressure is experienced, and lung space for full inspiration is reduced, followed by oppression of heart, both in dilating and in diminished power of propelling the blood through the lungs and general circulation.

The large blood vessels lying along the spine must also be severely pressed upon, so that the excess of blood must inevitably go to the breast, as the vessels above are left free.

Every person must be conscious of these feelings after a



heartly meal, although not acquainted with the mechanism that is thus strained. A third of the breathing capacity, or lung space, may be diminished, and consequently so much of the purifying and propelling power of heart and lungs, for the time being, suspended.

Imperfect purification of blood in the lungs is the most prominent evil, and this result, with extra pressure on the brain from over circulation or propulsion of blood therein, explains how sleepiness and lethargy follow a full meal.

The deep inspirations we take when oppressed by extra digestion, demanded by the quantity of food to be disposed of, tend to press the diaphragm strongly on the stomach, liver, and bowels to expedite their action (thus giving relief to the important organs—heart and lungs—above), and indirectly also to relieve the congestion of the brain.

Nature complains loudly, by these uncomfortable sensations, of the strain she is subjected to, and the danger to life from apoplectic attacks; for these begin frequently with, and result from, indulgence in eating and drinking beyond what we require for daily expenditure. Mental strain also adds to the suffering and danger.

Repetitions of such overstrain on stomach and diaphragm soon result in relaxation and a loss of their contractile power, which is essential for the maintenance of their respective duties in continuous action—the diaphragm in breathing, and the stomach in expanding and contracting to accommodate the quantity of food we supply it with; for it should contract as it gets emptied; but when relaxed from over-strain, it remains in the expanded state, and becomes full of gases from fermentation, arising from imperfectly digested food, thus continuing the pressure and interference both of heart and lung action, in addition to more or less of pressure on the large blood vessels.

It is surprising that as intelligent beings, professing to be guided by judgment, we so readily forget the many lessons we



receive from the numerous errors committed in eating and drinking to excess. Physicians and all thoughtful persons know, that probably the half of the diseases which the human race are subject to are traceable to indiscretion in this function of life, which, above all others, is placed under our own control. Many suffer from insufficient and improper food, but far more from excess and over indulgence, both as regards quantity and quality. Note well the symptoms of oppressed breathing after food, sleepiness, flatulence, lethargy, heat and oppression of head, restlessness, yawning, sighing, hiccough, biliousness, constipation, and sometimes purgation and vomiting—and BEWARE!

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### THROAT AND VOCAL ORGANS.

Frequent cases of weakened voice and defective power of speech have come under my treatment.

These cases are frequently the result of overstraining the voice, either in tone, when in a large hall, or by prolonged action, and speaking in an artificial key instead of the natural one.

Henry Ward Beecher draws attention to the training which the news boys have, many of them attaining great strength of lungs along with clear musical intonation, from having, day by day, to announce their various publications for several hours in the open air,—thus, while free from any approbative effort to trim their voice to suit an audience, giving free scope to the natural utterance and ceasing when tired, resuming their announcements when recruited. Speaking beyond our ability, whether in regard to emphasis or duration, more especially in a large apartment, is most injurious to both the nervous and muscular power of the throat and vocal organs.



Persons who are ambitious of attaining influence in society by speaking, so as to demonstrate with authority and in persuasive tones and inflections, whether in the cause of justice or on the higher theme of religion, should devote special attention to adopt the best means of strengthening lungs and throat. Let there be gentle utterance at first in early youth, in proper situations, increasing in effort gradually until both the chest and throat are fitted to give due effect in enunciating truths, whether the subject be temporal or eternal.

Eloquence, when employed in a good cause, is one of the most valuable talents a mortal can possess, and it seems as if it had been more studied and made use of in former years than at present. How few Gladstones, Brights, Spurgeons, or Beechers there are at present amongst the multitude of speakers in pulpit, on platform, and in halls of justice. Seeing the power such men exercise, I may venture to step beyond my vocation in drawing attention to the best means of cultivating the talent.

The class of individuals who suffer most from prolonged speaking are those who are naturally gentle, retiring, and studious; whereas persons who have a fair measure of fire, impetuosity, and energy or zeal, generally breathe deep, and give decisive utterance with the voice. A strong motive induces strong utterance, and the organs increase in strength in proportion to their use.

Free gesticulation with the arms and trunk assists greatly in speaking, as every motion of the body involves deep breathing, and propels the flow of blood to and from the heart to the organs and muscles in use.

#### A COLD BATH BEFORE PREACHING.

I insert here a pungent note, by Dr. Parker of London, to show what an enthusiastic believer in the powers of hydro-pathy may do, and although few may adopt his adjuvants in full, it is well to observe what an amount of safe stimulant he



can draw upon, beneficial alike to himself and his hearers, from the invigorating effects of water.

“Do not drink half a tumbler at a time; that is a mistake. Sipping is the way for a speaker, and for anybody whose throat needs a tonic. Take a sip of water every five minutes if you want to have a throat to work with. It is better than spraying the throat with bromine, or inhaling pine oil, both excellent things in their way, but not much needed by the man who sips water. If my throat wants a little special petting in a heavy service, I keep a little raspberry vinegar in the pulpit. And as to the external application of cold water before preaching, there is nothing equal to the cold sitz-bath. Mark, cold. Not 70°, but cold as the weather runs. Give me that, and I am physically master of any congregation that ever assembled. I have come down to this place sometimes hardly able to stand, but one dip has made a man of me again. I have perfect bathing arrangements on these premises, and to them I owe no little of my comfort. First of all, take a good foot bath. This is of great importance. Stand in cold water; stand in it till the feet are red and numb. Having done that, sit down in another bath, and then get your bath-man to pour a pail of cold water over the bottom of the spine; get him to rub you till you think he is tearing the skin off, and I guarantee you will preach with vigour and comfort. I do something like this every time I preach in the City Temple; and if I did not do it, the City Temple would soon be too much for me. I never preach with comfort out of my own pulpit on this very account. I believe in hydropathy; but where is it rightly administered? I don't know. I have seen it in a most ignorant and shameful way, greatly to the cost of the unhappy patient. Is there a cloud upon your brow just before preaching? Lay a wet cloth on the forehead, and the cloud will go! It is not quite gone? Then the ice foot bath will clear it off unquestionably. Don't doubt it—try it.”



The brain being the first organ in active operation in speaking, it must be kept strong, as the first essential, by daily bathing of the whole head, and the throat also, as it is the organ through which it finds outlet and action. Without frequent head bathing no one can do justice to any prolonged mental action or effort.

But it is frequently the case that over-action of the brain draws too much on the vital power of the individual to restore what every thought, word, and action consume of nerve substance.

Cold foot, hand, and sitting baths are invaluable in this respect as relievers of an overcharged or overwrought brain; and as derivatives, by increasing the flow of blood to the parts from which heat has been abstracted by simply cooling, in addition to their stimulating effects through nervous action, thereby withdrawing congestion from the brain and throat.

Cooling applications to the throat are also valuable, and with weak or relaxed throats they should be kept *cool* by renewing them when hot, or keeping more folds—perhaps six or eight—of wet towelling, and sufficient dry flannel above for comfort. That number of folds, although cool, are not uncomfortable. (See *Strengtheners of Throat and Chest*.)

One clergyman, a leader in the Church, had overstrained his throat and lost the power of utterance from weakened nerve. Hydropathic treatment restored his ability, which he has exercised for several years past.

Another interesting case was that of an auctioneer, who, from prolonged speaking in an impure atmosphere, lost both his health and voice. He felt his inability to speak accompanied with excessive dryness in the throat.

His general health was much improved by a few weeks' treatment with us, and his throat felt very well also; but to



save it from giving way again, I proposed his keeping a small phial of olive oil in his pocket, and when uneasy from speaking to take about half a teaspoonful in his mouth, to be swallowed or retained in the mouth till absorbed.

I saw him sometime afterwards, and on asking how the oil suited, he said, "Oh, I can speak even on now." Sugars and gelatine soon lose their effect by absorbing all the moisture of the throat.

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## ILLUSTRATIVE CASES.

### CONSUMPTION.

Many cases of this disease have been treated with much success, holding out the hope of cure in cases where, in general, a fatal termination has been looked upon as certain, and strongly calling for the use of water in the earlier stages, when the vital powers are still vigorous for treatment.

A young man about twenty years of age, living in a country district, was sent with a letter to another friend in Glasgow, to learn where he could be treated for decline, as he had for some time been gradually losing strength, and the usual remedies were felt to be powerless. He had also been afflicted with sores for some years, and had no appetite, with cold sweats, and much weakness, etc., etc. He was treated mildly at home, and wrote me a detail of his state and changes every fortnight, and continued thus for about two months, receiving directions by letter, and seeing me four or five times personally. I had the satisfaction lately of receiving a letter from him, stating that he was then so well, in every respect, that he had no more occasion to write to me.

A young lady had been confined for two months, and was looked upon as hopeless by one of our first physicians, having



a large ulcer on one of her lungs. He merely directed the friends to keep up her strength with nourishing diet. However, on my seeing her the following day, and finding her in a high fever, and with a foul tongue and severe cough, and other violent symptoms of disease, I put her on the plainest diet, and gave her the half wet sheet daily, when she immediately began to rally, and with perseverance in the treatment directed, has gradually improved up to the present time, and is now enjoying a fair measure of health.

#### ACUTE AND CHRONIC BRONCHITIS.

These affections of the breathing organs have been treated with much success. One case was a boy of four years of age, to whom I was called for a second attack following whooping cough, which left both a bronchial affection and inflammation of the lungs, besides rupture. The inflammation resulted in forming an abscess, which burst, when he vomited considerable quantities of blood and matter for several months. He required much care and nursing for a long time, but by careful attention he regained perfect health, and has now been for ten years strong and well. I treated a case which had resisted the usual remedies for upwards of a year, and when on the point of resorting to another course of blistering, as the only relief from incessant coughing, and want of sleep, this person was induced by a friend to try the effects of water treatment, which gave relief the first night, and in a few weeks restored her to the enjoyment of perfect health.

Acute cases, when treated early, are easily cured, and the tendency of the disease to return is greatly diminished.

Repeated attacks of youthful ailments should not discourage parents, as, with water treatment, nature makes a new start after each illness, and after more or less effort the patient comes to be entirely free of hereditary or other complaints, such as weak digestion or bronchial affections.



Looking back over thirty years' experience, I see many robust men and women whom I have attended in early youth with much anxiety for several years, doubtful of success, but who, with attention to simple water treatment, proper diet and habits, have long ago attained health and vigour for all life's duties.

#### WHOOPING COUGH.

This disease of childhood is so gentle in its course under water treatment as to mark few cases in our memory worth recording amongst the many treated excepting one, showing the consequences of mistreatment, in giving rise to other features of disease in the head and bowels from the violence of the cough. In this case the parents were previously against the system, but losing one fine boy by the disease, and seeing the other seemingly fast sinking into the same state, they requested our aid; the result was the boy recovered from the disease, and regained perfect health, after a few simple applications, chiefly packings and chest compress.

#### MEASLES AND SCARLET FEVER.

Very many cases of measles have been treated with invariable success and freedom from the after prostration of strength induced by medicine. One case in my experience had been very severe, and was brought accidentally under my notice, in the family of a medical practitioner. On learning the state of danger the child was in, having been treated according to the old system for eight days without any eruption showing itself, I proposed putting it in the wet sheet, as it was in a high fever and very restless; but a smile of scorn was the first effect of my offer. On my giving the *rationale* of the sheet, and what results they might expect to follow, the parents consulted together and allowed me to put the child in a sheet, which immediately soothed it, and in ten minutes produced sleep, and in



a few hours brought out the dormant eruption ; the case then proceeded favourably. Another, a feeble child six months old, was treated first for feverishness and irritation from teething, with the wet bandage, when measles became developed and passed quickly away, carrying with them all other complaints, as the child from that time became stronger and healthier than it had been before.

In cases of scarlet fever some are so slight as to require no treatment except perhaps a tepid washing daily, while in others, again, it is exceedingly virulent, and in these, water appliances are soothing and beneficial beyond expression. I was sent for lately to a young girl seized with the usual symptoms—sickness, vomiting, and sore throat; and as there was another of the family very ill with the disease for about a week previously, under the care of the family physician, the father wished to try the virtues of Hydropathy in the case. I prescribed first a thorough washing of the whole body, and then, when fully warm, to wear wet bandages on the throat and over the stomach constantly. The eruption came freely out next day, and was at the height on the following, and by the fifth day it had nearly passed away. I then found the girl dressed and sitting up, although she had been advised to keep her bed for another day. I left her well, while the girl first ill was still in bed, very feverish and distressed.

In another case, where the parents were advised to use the water, and had promised to do it, I called after some days, and found the child seemingly near death, and almost rigid, while a small quantity of wine, which they were trying to pour into her mouth, was running over the chin, as the power of swallowing was gone, and the teeth clenched. The doctor had just left, and the friends were all in tears from the absence of hope. At this crisis they were willing to try anything. I immediately applied the wet sheet and a bandage to the throat, and in ten minutes she could swallow freely ; and, with careful



treatment and nursing, she soon recovered. In this case both the external skin and the lining membrane of the throat, peeled off in large pieces.

#### INFLAMMATION OF THE LUNGS AND PLEURISY.

I have treated several cases of this kind with the happiest results. One was a child under a year old, to which I was sent as a last hope; three professional men having been called before me. I found the pulse 180, and, from the tender age and great weakness of the infant, I was doubtful of success. But as the mother and friends were desirous of a trial, I gave directions for very gentle treatment, which were carefully attended to, and gave immediate relief to the breathing, lowered the pulse, and in five days I ceased visiting, as the child was out of danger.

#### HECTIC FEVER AND WASTING.

A boy, three years of age, was wasted to a skeleton, fretting continually, very feverish, and with severe purging. He required constant nursing in his mother's arms. She was very much attached to him, having lost a son before from the same disease. I gave her directions for treatment, chiefly with warm appliances at first, which proved very efficacious; and in a few months the boy grew strong and well, filling the mother's heart with gratitude and joy.

#### WEAK SIGHT AND HEARING, ETC.

Among several cases was one of a girl, about five years old, who could not look up from extreme tenderness, so that it was difficult to learn the state of the eyes; there were also specks covering nearly half of one of the balls, and she was in delicate health from weak bowels and stomach. In the course of a few weeks' treatment at home by her mother, I found her running



about in very good health, with the eyes strong, and the specks nearly gone.

Another was a case of partial blindness, proceeding from pressure on the brain, which, with other symptoms, gave warning of impending paralysis; this case was cured with a few weeks' treatment, and the patient's general health completely restored.

A case of paralysis of the whole body, with loss of speech, was quite restored in a short time, as it was treated early, and the patient young.

Another was a case of mania, from prolonged mental excitement and want of sleep, while the individual was captain of a vessel during a disastrous voyage, with deficient stores, causing several deaths; on reaching home, he was so excited that, for a month, he scarcely slept five minutes continuously, and was rapidly becoming worse from anxiety and fear of punishment, as he thought he was culpable for all the calamities of the voyage. I got him, partly by inducement and partly by compulsion, to submit to simple treatment, such as bathing the head and feet, and wearing the wet bandage, the result of which was that he slept the first night eight hours, and with the attention of a companion and similar means for about two months, he became gradually quite well. A case of *delirium tremens* was treated with the same success, when arrangements had been made to send the patient to the asylum.

#### RHEUMATISM.

Several cases of this disease, both acute and chronic, have been treated with success and complete recovery in every case but one where the patient persisted in remaining in a damp house. One was the case of a servant girl, who was to be taken to the Infirmary by the recommendation of the family physician, as her cries disturbed the neighbours, but a relation had her carried to her mother's house, where I attended her, and



within ten days she was able to resume her duties, perfectly recovered, with continued and improved health.

#### CONSTIPATION AND DIARRHCEA.

These diseases are both more easily checked and subdued by water than by any other means. I have had a case of constipation of four years' standing soon relieved; and lately a case of purging, on an average of three times daily for a year, was, after complete failure of the best advice and medicine, checked in the course of eight days, and in a few weeks the patient reported himself cured. The knowledge of suitable treatment for bowel complaints is invaluable to mothers and nurses, and easily acquired.

#### GASTRIC FEVER.

Water treatment is peculiarly adapted to this disease, so prevalent among the young; when taken early it can be prevented in its formation, by subduing the incipient inflammation of the stomach and restoring its healthy action; and even when fully formed the cooling effect of water prevents the usual severity of the disease, materially shortens the process which nature seems to be aiming at in throwing off all impurities in the stomach and bowels, and imparts new tone and vigour to the digestion. The recovery from this and similar diseases is very quick compared with the weakness which follows drug treatment in general.

Many peculiar cases which have occurred in the course of years are recalled to my mind. One was a case of inflammation of the bladder, or at least treated as such by two eminent physicians. The patient had excruciating pains on making the least unusual movement, such as stepping freely down stairs, etc. Water treatment at home relieved this in a week, and after three weeks he called to tell me that he had no return of the pain. The other case was somewhat similar, seemingly an



adhesion of the lungs to the pleura, the result of inflammation three years before I saw the patient; the pain had been gradually increasing until he could neither use his voice freely nor walk with confidence—the least motion caused acute pain in the chest and back. His medical friend could only advise him to another course of blistering. He took ten days' treatment from me instead, and was then able to go home, walking with perfect ease and able to use his voice freely.

#### GETTING RID OF THE USE OF INTOXICATING LIQUORS.

At a festival recently, a gentleman said of the cure of the use of intoxicating drinks:—"I overcame the appetite by a receipt given to me by old Dr. Hatfield, one of the good old physicians. When I called on him he said, 'Now that you have the moral courage, I'll tell you the tonic which I have used with effect among my friends for twenty years.' I expected, of course, some nasty medicine stuff; but no, he prescribed an orange every morning a half-hour before breakfast. 'Take that, and you will want neither liquor nor medicine. I have done so regularly, and find that liquor has become repulsive. The taste of the orange is in the saliva of the tongue, and it would be as well, with my taste, to mix water and oil as rum.'"

#### HEAD AILMENTS.

A lady, about forty years of age, who had been subject to a continued illness every winter for several months, and returning every year with increasing severity, had tried many remedies proposed by several physicians without benefit, put herself under my care. I detected no organic disease, but found that, with an active brain and nervous temperament, and being a fine singer, she was in the habit of overtaxing her physical and mental abilities till the dull season of the year arrived, when, in her own quiet home, she broke down and required to remain



in bed or on the sofa for several months. I suspected her active brain to be the cause of her illness, as she neglected washing or bathing the head, although in constant use. I gave her gentle baths, such as the trunk pack and sitting baths but the chief remedial measure was head bathing and pouring occasionally for from ten to twenty minutes, repeated three and four times daily, as the heat seemed at first to increase by the bathing, the congested brain becoming more free and the circulation more active.

This treatment was entirely successful, and in a few weeks she left us restored to health.

The following year she was threatened with a renewal of the illness, but a few baths removed it; and she has returned for some years to enjoy cheerful society and invigorating baths, entirely free of her depressing illnesses, by continuing the habit of head washing as a regular routine of her daily toilet.

A very learned gentleman, the author of several books, and a sanitary reformer, when upwards of sixty years of age, had been unable to study or write for some time from excessive pain and pressure on the brain, which compelled him to hold his hand on his head even when speaking. He was also an M.D., but on the recommendation of a friend came to try the effects of water treatment. He had been at Bath and some of the German Spas without realising any benefit. I noted his case on account of the assistance given by himself in effecting a cure.

To induce sleep I gave him a double cotton nightcap, well wet, to wear every night, with a thin woollen cap over it. This he found soothing, and assisted in procuring some hours' sleep; but he adopted the addition of another wet cap, and by and by kept on three cotton nightcaps, all wet, and wore them habitually for, I believe, six months.

Under these influences, along with frequent head bathing



and shampooing, he gradually regained his mental powers, for many years, which he retained with great satisfaction to himself and his numerous friends.

I remember the case of a teacher, nearly thirty years ago, in a badly ventilated school, where there were upwards of one hundred untidy children, telling me of his dreadful headaches. I then advised him to adopt the head bathing as given above, which he did with complete relief, and maintenance of health for many years afterwards under the same drawbacks. I saw him less than a year ago in perfect health, although now upwards of sixty years of age. He was teacher in the Seamen's Friends Society's School, in Brown Street, Glasgow, for many years, where his illness was incurred and his cure effected.

A young woman, an ironer in a warehouse, became delirious and maniacal from continual exposure to the heat from the hot irons and from inhalation. About two weeks' treatment at home with head bathing and cold sitting baths completely restored her to health.

An advanced student of divinity, from over devotion to his books, was compelled to give up all study for a time, finding himself surrounded by imaginary beings; and although quite conscious of the phantasy, he was unable to pursue his usual studies. A short time with us, however, under the influence of head and sitting baths, completely restored him, and enabled him to complete his course and enter on the ministry, in which he has now been engaged for several years without any return of the illness.

Another student, with strong physical constitution, but suffering from brain irritation by over-study, was restored by suspending his classes for a session and working actively as a carpenter.



## VIOLENT POURING ON THE HEAD INJURIOUS.

I have met with some cases where, to support an over strain from intense brain work, the head has been injured by cold spouting and prolonged chilling. Paralysis is apt to result from excessive cold head bathing. The application of ice to the head is open to the same objection, and the most serious results have frequently followed its use, from too rapid cooling causing, by contraction of the skull, internal compression on the brain. It is much safer to *prolong* and repeat *tepid* bathing, say at from 70° to 90°, than quite cold, especially in winter.

The most severe punishment inflicted on runaway slaves in America was to put them under a pump and pour cold water on the head till they became insensible. Excessive pain was experienced on recovering sensation.

## CONCUSSION OF THE BRAIN, ETC.

Several remarkable cases of recovery from head injuries, after severe railway collisions, have been effected by us.

One gentleman, whose recovery so as to be fit for business again (being upwards of sixty years old) was pronounced to be impossible by several of the best medical authorities, and which opinion was so conclusive to a Jury Court that £3000 was awarded to him as compensation, regained his health so thoroughly that he writes us recently, in his seventy-fifth year, in perfect health and strength. I gave this gentleman regular head bathing every evening, for from ten to thirty minutes, for about six months, besides other general baths in the course of the day. In the evening, however, before his head bathing, his sensations were those of extreme debility with utter prostration, feeling as if sinking; but after having his head thoroughly cooled and shampooed, in a comfortable apartment



at 80°, he slept soundly, and gradually regained all his powers of body and mind. This was ten years ago.

A somewhat similar case—concussion of head and spine—was that of a gentleman who came to us several years ago after being in bed about three months under medical treatment. He was awarded £2000 compensation as being permanently injured; but knowing the power of Hydropathic agencies, he came to us repeatedly, for several weeks at a time for a year or two, regaining his health completely, and has since married a lady he was very fortunate in meeting with at our Establishment. Beyond experiencing a blank of from one to two years in mid-life, he seems as well and happy as the majority of unconcussed and non-compensated individuals.

Railway Directors would probably find it to their advantage to send claimants for compensation for a time to a Hydropathic establishment before submitting their cases to medical examination, or a court trial before the usual sympathetic jurymen and judge.

A considerable number of other cases, suffering from various forms of injury, both nervous and physical, have been under treatment at various times with the most beneficial results.

#### DEAFNESS AND ERYSIPELAS.

A gentleman in delicate health and quite deaf in one ear, which was said to have the drum quite destroyed, came to us in winter to regain his health, but by exposure to the cold in travelling he was seized with erysipelas in the face, with dropsical symptoms in the body. He was quite helpless; and after gentle sweatings and other baths given daily, had to sit and sleep in an easy chair. He was for several days nearly quite deaf and blind from the swelling of the head; but he had con-



fidence and patience, and in the course of a week recovered from the erysipelas, and regained full use of both his ears and eyes. Perfect health, in all respects, followed, without any return of illness till the present time. This occurred perhaps twelve years ago.

#### RUPTURE OF A BLOOD-VESSEL IN THE NOSE.

Sometime ago I had a case of this kind under my care, which was caused by mental strain on the occasion of a tenement being destroyed by fire, resulting in the loss of so much blood that there was danger of a fatal result, as medical appliances failed to stanch the flow, which returned every few hours. I saw the gentleman after a few days, and found him very weak. When considering the best means to be adopted, he being quite unable to lie down, I learned that his head became hot and oppressed and quite congested before a recurrence of the bleeding. I immediately fastened a towel round his neck and shoulders, and washed and bathed the head freely for about half an hour, thus giving him great relief. This was repeated every few hours, after which the bleeding only returned two or three times slightly, and then entirely stopped. Plain, spare diet was adhered to for some weeks for the purpose of lessening the strain on the weak blood-vessels until the rupture had time to unite firmly.

#### HEAD ERUPTION.

A case of severe moist eruption all over the head, which had defied all medical treatment to cure, was undertaken by me. Although the discharge from the brain relieved the interior from pressure (the gentleman being exceedingly active mentally), still the condition of the head prevented him from enjoying social life, as was desirable, for several years. Cooling applications frequently repeated to the head, along with gentle sweatings and cold sitting baths over a considerable period,



completely cured him, and he is at present an active leader in society.

Another gentleman, of an exceedingly irascible temper, whose head and a considerable part of the face were always covered by an offensive yellow crust, was also cured by similar measures. He became a zealous advocate of Hydropathy in consequence.

A lady, who had frequently attended her doctor to have the crust of a similar eruption removed, having had the head shaved regularly for many months, was treated by the same means and likewise soon recovered.

Children with the most severe outbreak of the head are speedily relieved by similar means, along with attention to spare, plain dietary, with general improvement to the constitution, which is kept feeble from the great waste caused by these discharges.

#### IRRITATION IN CHILDREN, ETC.

Restless and irritable children are almost invariably soothed to sleep by the influence of head bathing and the wet towel bandage put all round the stomach, warming the feet, if they have been cold, by rubbing, or holding them in a warm hand for a few minutes.

The great value of Hydropathy consists in its applicability to the minor ailments of children, and even adults in the family circle, such as relieving or curing a headache, or a slight cough; correcting the frequent derangements of stomach and bowels; reducing feverishness from whatever cause; and it may be assisting nature to bring out some eruptive disease by a warm wash and a wet bandage. All this is within the reach of every mother in every household. When thus promptly



attended to, the organs are relieved from the irritant or impurity in the first stage, and the individual saved the necessity of some prolonged fever or other form of illness, so destructive to health and life, especially amongst the youth of our country.

I was struck lately by an illustration, given by a traveller, of intuitive water treatment practised in India, at the foot of the Himalaya mountains, by the natives on their children, in placing them, when only a few years old, on a slight couch or settee near a small stream or rill, from which they convey water through a bamboo reed, which trickles over the child's head. I understood from the description that the children enjoyed it and fell asleep—of course, the climate is warm.

On questioning the natives as to the object and origin of the custom, the explanation the narrator got was, that their forefathers had always done it, and that it prevented the sun from affecting the head in after life, or as a safeguard against sunstroke.

I once read somewhere of a similar process being used in some part of Turkey for the purpose of soothing irritable children.

A summary of the various bandages suitable for all the organs or parts of the body from the head to the feet, giving the simplest mode of preparing them when wanted, will be found on page 255.

#### BRUISED LIMBS FROM A FALL.

An old lady, ascending an outside stair which was coated with ice, slipped and fell, receiving several severe bruises on both legs. She was laid on a sofa, and the doctor applied salves and lotions; but as inflammation set in with symptoms of mortification, and with swelling and accumulation of bruised blood, he made several incisions and inserted lint in



them to promote suppuration, and thereby give relief, but without any good result.

I only saw her for the first time about a week after the accident, and was struck by finding the feet quite cold while the legs were inflamed and hot. I got the feet immediately into a warm foot bath, and kept them warm constantly with hot-water flannels and a warm jar near them on the sofa, and at the same time cooled and relieved the legs by keeping them wrapped up in cold wet bandages.

With warmth in the feet and wet cloths to the bruises, the healing processes soon took effect, and both the cuts and the bruises discharged and healed up. In a few weeks she regained her health and strength and walked freely.

I advert to this case specially to show the importance of keeping the FEET warm in all affections of the limbs. Watch against the injurious effects of tight boots on the feet, and especially the ankles, in keeping the feet cold.

#### SUPPRESSED SCARLET FEVER.

I was called on one occasion to see a boy in a high fever and evidently suffering from congestion of the brain, as he had been unconscious for several hours and breathing laboriously, and was deeply impressed with the importance of relieving fever promptly when the cause was obscure. The doctor in attendance had been at a loss how to treat him, and he had only been getting small spoonfuls of brandy occasionally. His head was bathed, but he died within an hour after I saw him without regaining consciousness.

Two nights after, I was sent for to the same family, as another boy had become feverish and very restless. I immediately gave him the wet sheet pack and wet cloths round his throat, as he had difficulty in swallowing. After an hour in the sheet, and then well washed in tepid water, the rash, as scarlet fever, became apparent, and another pack was given as



the eruption came slowly out; and with the full outbreak of the rash both head and throat were relieved, and he made a good recovery from both the fever and previous delicacy in a short time.

Another case of sore throat, without other symptom of scarlet fever, resulted similarly, in a family, about the same period, when scarletina was prevalent.

#### DEEP-SEATED TUMOUR.

A lady with a swelling on the left side, of some years' standing, had resolved, after trying many remedies under various physicians, to submit to having an operation for its removal in Edinburgh. A friend got her consent to try the power of water treatment before venturing on the dangerous operation of cutting.

I got her to foment the side for several weeks, with gentle sweatings occasionally and daily washing and rubbing of the side. Under these influences it soon became more defined and moveable; and finally, under continuous cold compresses and daily washing, with attention to plain vegetarian diet, it gradually dissolved, or was so much reduced as to give her no trouble.

The following year she gave birth to a child after several years' interval in child-bearing, and she has now been in the enjoyment of a fair measure of health for the last eight years.

#### SLEEP THE BEST RESTORATIVE.

The best possible thing for a man to do, when he feels too weak to carry anything through, is to go to bed and sleep as long as he can. This is the only actual recuperation of brain-force; because during sleep the brain is in a state of rest, in a condition to receive and appropriate nutriment from the blood. The supply of new brain-substance can be had only from the



blood, which it obtains from the food eaten previously ; and the brain can best receive and appropriate to itself nutritive substance during a state of sleep. Mere stimulants supply nothing in themselves ; they goad the brain, and force it to a greater consumption of its substance, until it is so exhausted that there may not be power enough left to receive a supply.

#### COMPRESSES MISAPPLIED.

The different effects following the application of cold compresses to the throat and other parts of the body when relaxed and inflamed, as distinguished from hot applications, was well illustrated in a "Case of Scarlet Fever," while following the rules given in a popular work on Hydropathy.

A family with rather weak constitutions had scarlet fever affecting several of them in succession. I attended two or three of them successfully ; but the last member showed symptoms of the fever after some interval of time, and as I was at some distance they referred to this book for guidance in relieving the throat, which was much swollen, affecting both the circulation and the ability to swallow food or drink. Following the directions in the book, they had been applying hot cloths to the throat all night, but were alarmed at the swelling and other bad symptoms becoming worse. I had an urgent message in the morning to come at once ; but as I was unable to leave my duties for some hours, I learned what the condition of the child was, and what they had been doing for it. I sent the messenger back immediately with directions to wrap four or six folds of cold wet towelling round the throat and change them as soon as they became warm until relief was attained. I was able to visit in the course of three or four hours, and by that time the child was thoroughly relieved and soon made a favourable recovery.

Warm and even hot applications may be applied with benefit *after* the hot, active, or purifying stage of fever has been gone



through; but during the inflammatory stage, with excess of heat, cool applications. Cooling baths and cold drinks are every way safer, and lessen the morbid heat and relaxed condition of all the organs in all fevers.

#### THE VAPOUR BATH IN CHOLERA.

Students should learn early to observe the prominent symptoms of illness as showing what treatment the patient requires, and endeavour to supply that by suitable means drawn from the natural agents, such as heat or cold, without or with moisture, before resorting to the aid of drugs or blisters, which must enfeeble the already weakened vitality.

I have been led to make these remarks from reading of a case where observation of the prominent features of cholera (which are cold, clammy surface and extremities, in connection with overaction of the internal organs) led the narrator to adopt the steam or sweating process as the proper means of cure.

The Rev. John Law, who was in the West Indies during the visitation of cholera, when the inhabitants were dying at the rate of about one hundred daily, and all the medical systems of cure were at the best useless, in his visitations on the sick and the dying, observing that all the sufferers were shivering, with cold extremities, &c., while there was great heat and overaction or rush of blood to the internal organs, with a craving for cold water to allay the thirst, the idea suddenly occurred to him that the steam or vapour bath might be beneficial in restoring warmth to the surface and lessen the internal action. He got the consent of the parents of a girl who was rapidly sinking under the disease from which three of their children had already died. With some difficulty the sweating process was tried, and with warmth and free perspiration there was immediate cessation of the purging, and speedy recovery followed. He gained confidence from this successful experiment, and treated many other sufferers with the same uniform success.



My own experience was similar in treating many cases in the year 1848, when my attention was drawn to the prominent symptoms of cold surface with internal heat; and at that time I had the satisfaction of curing all cases that came under my notice by means of the spirit-lamp bath. The Glasgow Hydropathic Society of that time printed 6000 four-page tracts on the subject for distribution, after which I heard of many cases having been successfully treated by the same means, and never one of failure.

Simple bowel complaints, or severe purging, whether named Asiatic or British cholera, must be treated on the same general principles, instead of irritating the weakened internal organs by administering drugs or stimulants.

#### FEVER FROM TEETHING.

A child, who was in a high fever from the strain of teething, had been bled from the foot by the doctor, with considerable relief, but also with loss of strength for some weeks. When the fever returned from the irritation caused by other teeth coming forward, the parents dreaded the reducing effects of bleeding again, and, after serious consideration, were persuaded to try a wet towel bandage, six or eight inches wide, round the child's body under the arms. The soothing effect was immediate, the pulse falling from 120 to 80 beats in the course of half-an-hour; and they had no difficulty with that child, nor with several others afterwards, in passing through teething and many other forms of illnesses, recognising the soothing influence of the bandage and observing to keep the head cool and the feet warm.

#### MODE OF TREATING BROKEN SKIN FROM INJURY BY SCALDING.

A child, in walking backwards, fell into a small bath which was being prepared for bathing, but which had only a kettle of scalding water in it, while the nurse was fetching cold water



to temper it. One hip was severely scalded, about eight inches square having the skin destroyed.

I applied a piece of soft linen moistened with oil, larger than the broken surface, and then laid four folds of cold wet linen above, renewing them every half hour till relief was obtained. The wet linen was kept on for several days, and renewed frequently; but the under layer with the oil adhered, and came off only when the new skin was fully formed.

This mode of treatment wonderfully assists the healing process, nature being thus relieved from the labour and waste of forming matter, to cover the tender under-skin with a scab, while manufacturing a new outer skin, which is always done from the outer edges and completed in the centre.

All sores of broken skin, especially when large, should be treated in the same manner, whether caused by burns or scalds or other injuries.

#### ERYSIPELAS IN THE HEAD.

I was sent to see a man who had been confined to the house with this ailment for a considerable period and was thought to be dying. His head was very much swollen, giving the impression of being double the natural size; he was also quite blind and nearly deaf from the general swelling, and much depressed.

I had some difficulty in procuring proper assistance, as he was only a lodger; but I gave his head a good washing with milk-warm water and soap; after which I bound up the whole head and face over the nose with a large wet towel, and applied another all round over the stomach to allay the general fever.

On leaving him for the night, I had some doubts of seeing him alive again; but in the morning I found him greatly relieved. He had slept well; his features were almost natural, saw pretty well, and was able to take some food.

He recovered quickly and thoroughly, the disease ending



with a large boil on his cheek, which discharged a great quantity of matter. He had several washings of the head before being completely cured.

#### CHRONIC DIARRHŒA.

A long-continued case of chronic diarrhœa, with piles and ulceration of the bowel, together with polypus in the nose (the person being of a delicate or sensitive organisation), was completely cured, chiefly by the use of sitting baths; these continued over six months, perhaps twice in the course of the day, at from 60° to 70°, and in the evening again, regularly, at 90° to 95°—using, also, water enemata with the chill off. The diet during that period was chiefly farinaceous, with the addition of broiled fish occasionally; spending also several hours daily in the open air.

The continuous use of the sitting baths drew the internal disease to the outside of the hips in the form of what seemed at first dropsical swelling, but it developed in a few days into a group of large boils. The frequent application of warm sitting baths, and warm wrung wet cloths kept on constantly over the hips in bed, matured the boils, which soon discharged freely, relieving the system of the internal disease and renovating his constitution in other respects.

#### STIFF KNEE JOINT.

A gentleman with a stiff knee joint from rheumatism, and subject to frequent severe pains on changes of weather, while consulting me regarding his general health referred to his knee, remarking that he had no hope of a cure, it being of so long standing (several years), and he was not now a young man (sixty). I advised him to wear, over the knee, a wet bandage of spongia. He adopted my advice, and also washed and rubbed the whole leg and knee daily.

I had a letter from him after a few weeks, informing me



that his knee was quite recovered, and asking me to send a similar bandage to a friend who was affected as he had been.

This spongia is a felted material of sponge and wool with a waterproof backing; while soft, and like a sponge, retentive of water, and equal in many respects to a poultice, it is easily washed and is usable for months; the thickness is about half-an-inch. These bandages are kept on with an extra covering of dry flannel and two or three elastic tapes, allowing perfect freedom when walking.

#### CASE OF SLOW DIGESTION.

A gentleman past the meridian of life consulted me; he was defective in vocal power with apparent want of lung capacity, moderate continuous speaking or reading aloud being felt to be oppressive and exhausting to both the head, heart, and lungs.

On making inquiries into his habits and examining his chest and other organs, I was led to suspect a distended stomach to be the chief obstruction to his free utterance and deep inspiration. His appetite and digestive organs were pretty good, but when taking the three usual meals without out-door exercise, he invariably felt oppressed, very sleepy, and unfitted for mental or social duties; but he was surprised to find that, when actively engaged all day out doors without *any* dinner, or an interval of seven to nine hours between the meals, he escaped many of the uneasy feelings experienced when in-doors and dining early.

His case was simply slow digestion, which is common after middle life, when the waste of material is slight with in-door life. In such case and with such symptoms, two meals in the day—and these moderate in quantity—are preferable to three, and attention to this rule will give speedy relief from oppression and a necessity for extra sleep.

The person, whose case is here alluded to, by adopting the rule of two meals instead of three, was astonished at the effects



of the change, and sorry that he had not been informed of the cause earlier, so that he might have saved himself from much suffering and had more power for active life duties. He soon observed that his breathing and vocal powers were much improved, and nature was satisfied with one or two hours less sleep.

I have referred to this case prominently, as it is one which is far from being uncommon and the cure is simple. A moderate amount of self-denial will have its reward in increased enjoyment of food, more enjoyment in and ability for all our life duties, and almost to a certainty an extension of the period of our active, enjoyable, and useful existence—it may be from ten to twenty years.

“The wicked man (who sins *physically*) does not live half his days.”

#### EXERCISE IN THE OPEN AIR.

In proportion to the breathing activities which are operative in quickened motion, particularly in the open air, the lungs perform the major part in blood purification; but with still, quiet, and sedentary life, the burden of purification devolves upon the liver, and nature complains or is dis-eased.

The fear of the weather (remarks one writer) has sent multitudes to their graves, who otherwise might have lived for many years. The fierce north wind and the furious snow-storm kill comparatively few, while hot winter rooms and crisping summer suns have countless human victims to attest their power. Except in localities where malignant miasmata prevail, and that only in warm weather, out-door life is the healthiest and happiest, from the Tropics to the Poles. The general fact speaks for itself, that persons who are out of doors must take cold least. In some parts of our country, nearly one-half our adult deaths are from diseases of the air-passages. These ailments arise from taking cold in some way or another; and surely the reader



will take some interest in the consideration of a malady by which—the chances being at least one to four—his own life may be lost. All colds arise from one or two causes: 1. By getting cool too quickly after exercise, either as to the whole body or any part of it. 2. By being chilled, and remaining so for a long time, from want of exercise. To avoid colds, and these engender the most speedily fatal diseases, such as pleurisies, croup, and inflammation of the lungs, called pneumonia, we have only to compel ourselves to walk with sufficient vigour to keep off a feeling of chilliness. Attention to a precept contained in less than a dozen words would add twenty years to the average of civilised life. Keep away chilliness by exercise; cool off slowly. Then you will never take cold, indoor or out.

John Adams and Benjamin Franklin, once journeying together, lodged at an inn in New Brunswick. It was so crowded that they had to take a bed together in a little chamber not much larger than the bed itself. It had no fire-place, and but one window. Mr. Adams, who was quite an invalid, wished to shut the window. "Oh!" said Franklin, "don't; we shall be suffocated." Mr. Adams replied that he was afraid of the night air blowing directly upon them. Dr. Franklin answered, "The air within this chamber will soon be, and indeed is now, worse than that without doors. Open the window and come to bed, and I will convince you." "The doctor then," Mr. Adams writes, "began to harangue upon air and cold, and respirations and perspirations, with which I was so much amused that I soon fell asleep, and left him and his philosophy together. I remembered little of the lecture except that the human body, by respiration and perspiration, destroys a gallon of air in a minute—that two such persons as were now in that chamber would consume all the air in an hour or two—that in breathing over and over again the matter thrown off by the



lungs and the skin we should imbibe the real cause of colds, not from abroad, but from within."

#### EFFECTS OF LIGHT SUPPERS.

What is termed a light supper, bread and milk or porridge, taken when it is superfluous, is frequently the unsuspected cause of ill-health, exhibited in flatulence and palpitation, with asthmatic tendencies, etc., etc.

Many severe cases of chronic bronchitis, with frequent acute attacks, are almost invariably preceded by repletion or indigestion, with excess of bile as a result.

#### LOSS OF APPETITE.

Another class of individuals, those of nervous and sanguine temperament, of active and excitable disposition, require *frequent moderate meals*.

I have seen several cases, chiefly warehousemen and shopkeepers in the prime of life and very active, who, after partaking of a hurried breakfast, have entered with such heart and soul into the excitement of business that there was left neither time nor inclination for food until all *important* duties had been disposed of. And when they did at last find some leisure, perhaps after five or six o'clock in the evening, they were surprised to find their appetite, instead of being extra keen as they had expected, was almost entirely absent. If they did partake of food then, it was with the aid of spices or stimulants; if left till bed time, it was in consequence of the tempting qualities of some favourite dish, which tended to over-indulgence. This was followed by a restless night and a repetition of the previous day's transgression; and so on, until it ended in a total inability to digest any food.

I have seen several incurable cases of this nature. Young persons should therefore attend to bodily requirements, in partaking of a moderate meal about mid-day, with comparative



quiet and leisure, to allow the first process of digestion to be accomplished.

#### IN-DOOR LIFE, SEDENTARY WORK, ETC.

Sensations of heat in the head or cold in the feet, or cold all over, as it may be, at the desk, in the counting-house, or in professional life, must all be attended to, otherwise culpability is incurred of a serious nature by the transgressor, and punishment is sure to follow.

The prolonged in-door life so general in London warehouses—dining in the premises, and, in the case of females, frequently working late, at sedentary work, in an impure atmosphere—is the cause of disease and premature death to very many thousands annually.

We are encompassed with inflexible laws, in obeying which there is great reward, and in violating any one of them there is inevitable conviction, punishment, and suffering.

We are all, in civilised and social life, so far knit together, receiving good or evil from those we come in contact with in the great business of life. Let us endeavour to make our influence for good, and, in so far as we can, be our brother's keeper, and our own adviser, guardian, and director.

#### CASE OF LAMENESS FROM INJURY.

A young woman, of about eighteen years of age, in leaping injured the knee joint, rendering her unable to walk. The village doctor applied the usual remedies—blistering, leeching, and poulticing—until it was swollen to double the usual size, while the leg below and the foot shrank to skin and bone. The whole leg was kept bandaged, as, when left unsupported, it quivered and shook the whole body.

When I saw her she had been confined to bed for a year, totally unable to move about. Her general health was very feeble; her feet cold, unless wrapped up and kept warm by a



hot jar. I explained to her mother how to manage the sweating bath by means of hot bricks, etc., and it was given to her twice in the week; while the leg at all times was kept wrapped up in a wet towel and the heat maintained in the feet. The head was frequently washed to strengthen the nerves. With these means her general health soon improved, and the knee and leg gained strength, so as to enable her to move about with crutches, and later on with the help of a stick. She is now able to enjoy life and be useful, although the knee, from long disuse while bound up, must remain stiff.

#### INCIPIENT CONSUMPTION.

A young lady living in the country, who was supposed to be far gone in hopeless consumption, with frequent colds and blood-spitting, feeble appetite, cold feet, etc., had never altered at maturity, although upwards of twenty years of age. She had been ill for three years, and had tried many remedies without any benefit.

I was at a loss at first after seeing her and hearing what had been done for her; but taking the cold, listless condition, with feeble but low pulse, as safe data to guide me, I got her mother to give her the sweating baths and warm wash, with warm oil-rubbing twice in the week, along with fomentations to the bowels every night. These means soon improved the appetite, and she was able to take moderate exercise outside.

With careful nursing and attention to diet she was soon able to drive about for miles daily, and after several marked changes she has been in the enjoyment of moderate health now for several years, to the surprise of all her friends, her case being looked upon as hopeless.

I draw attention to these cases specially as illustrating the necessity of supplying the feeble individual, who is unable to manufacture heat from food or exercise, with that all-important



substance or condition, WARMTH—moist warmth—as the first essential in restoring function and regaining health.

#### SPEEDY RECOVERY FROM SCARLET FEVER.

A gentleman called upon me one morning with a cab, asking me whether I would go to visit his brother, a married person, of about thirty years of age, with several children in the house, one of whom had had scarlet fever. He himself being taken ill, the doctor had pronounced it to be the same fever, and that he must arrange for absence from business for at least a month. This information alarmed him greatly, as, in addition to anxiety regarding the hopes of recovery, he felt that if absent so long from his office his business would be seriously affected.

With the hope of attaining a speedier cure, he allowed me to give him several wet sheet packings and washings, with the constant use of the wet bandage round the body. The result was, as is the case in ninety out of the hundred, perfect recovery from the fever in eight days, and ability to resume business within a fortnight from the time he took ill.

In this case, as in many others where water treatment was used, no other member of the family took it, as the virulence and infectious emanations of this and other fevers are so modified by the cooling and cleansing processes, that there is infinitely less danger, to the other inmates of the house, by communication of the disease.

#### CONGESTION OF LUNGS.

Several cases of the congestion of the lungs, in connection with general debility and asthmatic tendency, have been cured by means of repeated deep hot foot baths, conjoined with the application of cold chest compresses, given in bed while lying on the back with the knees well drawn up. This bath at 110° may be given two or three times daily for perhaps an hour each time, and at the same time maintaining the warmth



by the addition of hot water without disturbing the patient. Adjust the bath and cover it with two folds of towelling, and then the usual bedclothes.

With tendency to excess of blood to head or chest it is needful to resort to these foot baths; and after the general warmth is attained even to cause gentle perspiration, cold cloths of from two to four folds may be bound on the head or laid on the chest, and kept cool by frequent renewals until relief is obtained. I have found the most surprising results follow these means in the course of a few hours. The excessive circulation to or congestion in the head or chest subsiding and a free expectoration bringing away the retained secretions of several days, without any return of the congested state, compresses of from two to four folds of cold towelling, from six to twelve inches square, may be applied to both back and breast, and renewed alternately as they get well warmed, or before they are *hot*.

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### CONCLUDING REMARKS.

EMBRACING SOME IMPORTANT SUBJECTS THAT HAVE BEEN  
OVERLOOKED.

Persons of lethargic temperaments with slow pulsation, liable to depression of spirits, can be greatly benefited by adopting more or less of the MOVEMENT CURE, or by resorting to some process of useful activity, or even some simple amusement which calls all the muscles into motion. The best exercise embraces action of the arms and trunk, as in using the axe or saw, or in cricket, golf, etc.

#### COLD FEET AND ANKLES.

I particularly direct attention to a serious injury many persons, especially children, suffer from by wearing tight boots.



Bootmaking improvements supply society with very neat-fitting boots, very gratifying to the wearer, but interfering seriously with the free circulation of the blood to the feet, which is absolutely essential in maintaining health.

I impress the importance of attending to this matter on mothers, chiefly in regard to their children. Keep the feet and ankles FREE and EASY AT ALL TIMES. Compressed and cold feet give rise to headaches and colds at first, followed by more serious forms of illness afterwards.

General sensations of cold and cold feet should be understood, in the language of SENSATION, as calls for activity, for nature or life tells us by discomfort that something is wanting or wrong, and should be rectified. Seasonable cold is of indispensable value to MAN in attaining vigorous HEALTH and STRENGTH.

DEFICIENCY of HEAT in the FEEBLE, whether from defective vitality, sedentary occupations, or in the evening of life and in cold climates, may be greatly assisted by the adoption of furs as part of the clothing. We know that many parts of our globe would be uninhabitable without their assistance. Hare and rabbit skins are easily adapted for maintaining warmth by fastening them to the usual dress, wearing one over the stomach and another between the shoulders, and also round the feet and ankles, as by maintaining warmth over the centre and to the extremities the general circulation is greatly assisted.

#### WATER INVIGORATING TO HEAD AND NERVES.

Water, in its various conditions, furnishes us with an element of power wherewith to prevent or remove injurious influences.

When the head and nervous powers are the chief organs employed in daily life, it will be found of great benefit to wash and bathe the head frequently. I refer to head bathing direc-



tions, and other suggestions on these means, which will be found by reference to the Index.

My chief reason for these additional remarks is, to draw attention to the importance of knowing the weak point of our constitution, and learn how best to guard against overstrain of the weak organ, and also to practise the best means in our daily habits, so as to strengthen it.

The head requires cooling, the chest requires bathing and rubbing, the stomach requires judgment and self-denial in eating, the kidneys require attention in regard to the quality and quantity of fluid made use of.

When the kidneys are weak in action in cold and damp weather, the lungs have extra labour to perform, as we may observe by the amount of vapour we expel in breathing. This is one fertile source of cold-taking and chest diseases in winter. Warm drinks are indulged in to warm us, not thinking of how the fluids are to be disposed of: with excess of fluids, cold feet, and in-door life (unless we are active), taking cold is a certainty; and the repetition of colds weakens the chest. Information on the chest and digestive organs may be had by turning to the Index.

The various organs have conjoined action in life, MAN embodying many parts and powers, all of which may be expressed in the ability to *do*, to *use*, or to operate in this wonderful theatre of existence in which the Creator has placed us.

Many persons are apt to adopt some habit or adventitious influence to assist the various functions of life, such as want of appetite, or to procure sound sleep, by indulging in smoking or the habitual use of wine or some other stimulant, etc., and sometimes under the idea that they require some extra aid to increase their enjoyment of life. All the needful duties of life give, in their due performance, much satisfaction and



pleasure. We enjoy food when hungry, water when thirsty, rest when weary, sleep after some useful activities during the day, society and social intercourse with friends is pleasant after our personal duties have been fulfilled, warmth is agreeable after cold, and so on through all the duties and enjoyments of life. So that the natural round of daily life, with its unceasing activities in the change of seasons, and the varying and advancing periods of life, should satisfy Man without seeking for unnatural stimulants which, in so far as they gratify his desire for pleasure beyond what nature requires, exhaust his capability for true satisfaction and peace, and waste and mis-spend his capital of life and shorten its duration.

Even the stimulus of bathing, although comparatively harmless, excites the heart, on which organ the strain of circulation devolves, while mental strain affects the head. Few persons would knowingly consent to curtail their allotted term of life by, say, ten or twenty years for the gratification of some comparatively trifling enjoyment. Yet this is what thousands do, and seem surprised when disease and ultimately premature death calls them hence before their allotted term—three score and ten. Let every person seriously consider his daily habits and mode of life, and by the understanding or light of perception, which God has given to every man in measure sufficient for his guidance, calculate what the effect of his cherished habits will be in the course of so many years, remembering the cases of many others who have prematurely passed away.

The truth meant to be impressed, or the sum of the whole matter, is, that HEALTH, COMFORT, and LONGEVITY, are in a great measure given into our own keeping; that the use or abuse of the capital of Life or the talent of Time is one of great importance, and must be accounted for to the Giver, or it will be taken from us if we misuse or simply neglect to make *good* use of it. Life and all we possess are given us in trust for USE.



The first part of the paper is devoted to a discussion of the general principles of the theory of the function of the mind. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The second part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The third part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The fourth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The fifth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The sixth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The seventh part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The eighth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The ninth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world. The tenth part of the paper is devoted to a discussion of the function of the mind in the process of knowledge. It is shown that the function of the mind is to represent the world as it is, and that this representation is not a mere copy of the world, but a construction of the world.



## APPENDIX.

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As an emphatic illustration of the principles and object of this work, I append, with the hearty permission of the authoress, the following tract, confirming as it does the practicability of saving numerous lives in addition to conferring increased health and comfort on society in general. All classes of society act and re-act upon and influence each other far more than is generally supposed, and the happiness and misery of those around us inevitably affect ourselves, rewarding us with happiness or punishing us with unhappiness exactly in proportion to our obedience of the divine command to LOVE OUR NEIGHBOURS AS OURSELVES:—

### THE RELIGION OF HEALTH.

BY. DR. ELIZABETH BLACKWELL.

THE words "The Religion of Health" convey a profound meaning to the physician who has spent a life-time in relieving physical suffering. I will try and state what those words seem to me to imply.

Obedience to divine law is the highest wisdom of the human race.

Wherever God's laws are clearly visible, stamped in immutable characters, so plain that every human being who is willing to read them can do so, then the wisdom, the happiness—nay, the simple common sense of the race, lies in obeying them. The first lesson every one of us has to learn profoundly is his subjection to law. There is no escaping this inexorable destiny. Although each one is born with freewill, his type, the plan and pattern of his being, is born with him also. This type is a limitation to the nature, but it is also a guide: it is the finger of Providence showing him the road to follow in the great wilderness of creation; it is the divine order,



according to which each one can freely grow and expand in body and soul to the finest proportions. True freedom consists in the voluntary choice of this type, in the full acceptance of all its conditions, and in the endeavour to unfold its capacities. The will may refuse this type, may deny the laws that govern it, may seek for license in a lawless rejection of divine order; but it is soon arrested by endless obstacles; and persistence in the unequal struggle will only end in degradation and self-destruction.

We recognise a divine law when we see it existing age after age unchangeably, carrying order and beauty in its fulfilment; penalties, discord, desolation, with infringement. These laws are grand in design, beneficent in their effects; equally so, whether we observe the marvel of parental love, or explore the wonders of the skies; whether we clothe them in warm human garments indispensable to the simple, loving heart, or frame them in the clear precision of scientific formulæ, indispensable to the truthful mind.

If there be one law that all can clearly recognise in the existence of the material world around us, it is the unvarying method of human development from infancy to old age. A certain plan exists, according to which the infant expands through childhood and youth into manhood, and thence changes through elderly life into old age.

This plan never varies in any epoch, or race, or country. It is the same for the lowest savage tribe as for the most cultivated race. No effort of ours can change this unvarying sequence in human life.

This is a wonderful fact. It is so common that we hardly notice it. Yet it is wonderful, because it is so common—so common as to be universal. It rises, as we regard it, into the dignity of Law.

Reverence for this unity of life increases the more carefully this strange fact called the human body is studied—the more fully we understand what it is, that thus remains unchanged age after age. We speak of the body as if it were a single, simple thing, to be used as a tool and then laid aside; but its complicated structure is a little world in itself. As a machine, it is such a model of compactness and ingenuity that no human skill can approach its perfection. It possesses a two-fold life—a life for itself as well as a life for our use. In its own proper life it carries on a thousand curious opera-



tions necessary for its growth and maintenance, quite independent of our volition or consciousness. It contains extensive manufactories, full of complicated and delicate machinery for the production of sugar, oil, milk, acids, alkalies, salts; it has storehouses of iron, lime, and other chemical substances; there are magazines where it lays up supplies against a time of scarcity; it has its refiners and scavengers; apparatus for warming and ventilating; it has pumps and propellers constantly at work; and a more perfect electrical apparatus than has ever been invented. All these remarkable operations are directed by intelligence, working according to a plan, and combining these manifold energies for one purpose—viz., the maintenance during a certain period, of a healthy human body. Besides this independent existence of its own, the body possesses a life of relation, by means of which it is fitted to the uses of individual and social existence. Its powers of locomotion, its active senses, its faculty of feeling, its wonderful human hand, and its still more wonderful human brain, all belong to this other use of the body, as an instrument for the expression of intelligence and emotion.

Equally remarkable is the system of general unvarying laws by which this living structure is governed. The first law we notice in human growth is the precedence of physical over mental growth. We observe that physical development, though never separate from mental development, is always in advance of it. This is shown by the wonder and delight with which the parent receives the first sign of awakening intelligence in the young infant, the first smile, the first indication of observation. It is the awakening mind. But every physical function essential to life has been perfectly performed from the first moment of birth, as perfectly, according to its wants, as it will ever be performed throughout life. This precedence of physical life continues throughout the whole period of growth, though it strikes us less as the years roll on, and the mind gradually assumes that mastery over the body which should be the condition of adult life. The brain is the last part of the body to cease growth. Every other organ is perfectly formed, every bone consolidated, the physical organisation complete, while the mind, with its necessary organ of expression, is still growing. I place this important fact first, amongst the rules which govern the human



economy, because it strikes the key-note of education; and it is only through a thorough appreciation of this principle that we shall beneficially change our present systems of education.

Each age has its own special method of existence; thus there are laws for growth, for maturity, for decay. There are the great facts of growth by exercise or use; the necessity of maintaining a just distribution of force amongst the various parts, lest one grow at the expense of another; the alternations of action and rest required in every part of the economy; the varied life of different functions, which give to each its individuality and special rule; the varieties of race, of temperament, of individual peculiarities—these will slightly indicate the extent and variety of these unchanging laws, by which our human nature is moulded. Their importance may be realised more fully by dwelling for a moment on one or two of them.

What may be termed the balance of power or just distribution of force in the various parts of our physical and mental nature—according to each individual type—is essential to the perfection of the organisation—it is indeed the measure of health. It is attained and preserved by the due exercise of all the functions of our nature. In ascertaining what is this due exercise, we observe that the different functions of the human being are subject to varying laws of constant or occasional action. The higher the object of a function, the wider its scope—the longer are the intervals of rest required, and the more direct is its subjection to reason; it is taken from under the control of the automatic vegetative life of the body, and placed under the direction of the central authority—Reason—Conscience. Thus, we see the lungs, whose sole object is the physical life of the individual, breathing day and night unceasingly, with alternate rest and action every moment. The digestive apparatus, with longer intervals of rest and a wider range of objects, connected with the preparation and enjoyment of food. The senses, with their great use, both to the individual and to society, locked in slumber every night. Thus step by step the plan rises to the highest functions of human nature—those which concern the race—which, above all others, are under the dominion of reason, and not subject to that law of constant action which controls the lower functions.

Equally interesting is that law of our nature which determines



growth by exercise. It is a fact clearly demonstrated by modern science that the governing organ of the human body, the brain, has distinct portions of its structure devoted to the service of distinct faculties of the mind. Thus the intellectual, the emotional, and the locomotive powers work through corresponding portions of the highly-organised brain. Each faculty grows by exercise. Not only does the mental faculty become stronger by use, but its physical organ of expression in the brain, with its dependencies in the rest of the body, become larger and stronger with a richer supply of blood, and greater aptitude for instantaneous action. This condition of the physical organ reacts upon the mind, which takes greater pleasure in acting in a certain direction, when it finds the brain so keenly responsive to its impulses. If the proper distribution of force is disturbed in any individual by the neglect to exercise important portions of our nature, an antagonism of faculties springs up, one part growing at the expense of another part. Thus the emotional may destroy the intellectual life in an individual who is subjected to undue excitement of the passions, particularly if the type of the nature is not largely emotional. The other faculties will rapidly lose their power. The intellect suffers, judgment is lost, and mental confusion produced, which is really a species of insanity. Those organs of the body, also, which are most intimately connected with the excited portion of the brain become involved, and their functions may be entirely deranged. The automatic power of the human body may also assume undue control in those who yield to fancies and caprice, and lead an unnatural and sedentary life. There is an antagonism between this automatic force, and the life of relation or brain-life of the individual. The more the balance of powers is lost in the human brain, reason being no longer the controlling force, the greater becomes the power of this instinctive life of the body, the greater its capability of answering every fanciful suggestion, and even of exciting those suggestions. The individual may thus become the sport of his own unbalanced faculties, and a prey to every species of morbid hallucination.

An organisation so complicated (as this human body), designed for such manifold uses, and at the same time drawing the elements of its existence from the external world, must be powerfully influ-



enced by all the circumstances which surround it. Certain physical and mental conditions are essential to human growth—to Health. Hence the question of food and clothing, of drainage and ventilation, of human habitations, of exercise and occupations, attain equal importance and dignity, as essential to the fulfilment of the great changeless plan of life.

Thus we are brought face to face with a great fixed fact—a fact which concerns every human being during every moment of life, viz., God's unchanging law of human growth. This law we are called on to study—to obey, and the obedience to it is placed first in the order of human duties. Obedience can only be rendered by study of the objects of physical life—of its structure, its conditions, its rules. Its learning, thus regarded, becomes sacred learning, and ignorance is criminal.

The folly and wickedness of our practical contempt for the great laws of human growth, may be measured by the penalties of suffering, illness, and premature death attached to this neglect. This is rendered more striking by observing, first of all, the great force of the principle of vitality—the strong tendency to live and resist injurious influences, which we all possess. Nothing is more remarkable in the history of the human race than its great power of adaptability. Scattered all over the surface of the globe, under the most varying conditions, men still live and thrive. The cities of Cuença and Quito, at a height of 9600 feet above the level of the sea, possess large and flourishing populations; so also do the cities of Holland and New Orleans, which lie below its level. Multitudes of workmen live in the galleries of the deepest mines, many hundred feet below the surface of the earth, deprived of light, breathing air much more condensed, living under a much stronger pressure than that of the ordinary atmosphere. And, on the other hand, scientific observers have taken up their residence for a long period on the crest of Pichincha, at an elevation of 14,826 feet. Agassiz spent some weeks in investigations on the Jung-Frau. Gay Lussac attained the highest elevation ever reached by man in his balloon, 28,000 feet. All can recall the thrilling narratives of Arctic voyagers, where the thermometer has been known to measure 91° below zero. Contrast this with the burning sun of India, where 120° Fahrenheit is observed; where glass is cracked by the



heat. A wide range of more than  $200^{\circ}$  of temperature, and yet the heat of the human body maintains its steady and necessary amount, never materially wavering under the two extremes. Similar illustrations of the power of human nature, to adapt itself to unnatural conditions might be drawn from all the other elements necessary to life.

Notwithstanding this remarkable power of vitality, which can brave such extreme variations in physical conditions and endure enormous privations, careful observation all over our country presents a fearful record of death, sickness, and physical degeneration produced by our own social arrangements—arrangements and habits so destructive to the human organisation that they overpower even this great capability of adaptation.

This is seen in the statistics of our towns, in the condition of our peasant population, in our social and domestic experience.

The statistics of all our large towns demonstrate the great and unnatural destruction of life that takes place in these centres of civilisation, where the highest medical skill is found, and placed freely at the call of poor as well as rich. The natural death-rate at present is 17 per thousand, *i.e.*, that under the most favourable conditions, as amongst the upper classes in our healthiest cities, in the healthiest country districts, 17 out of every thousand persons die each year all the world over, a lower mortality being exceptional; but the following was the death-rate of our chief cities (1868), instead of the natural rate of 17 per thousand: Bristol, 23; London and Birmingham, 24; Dublin, 25; Edinburgh, 27; Liverpool, 29; Glasgow, 30; Manchester, 32. That means, that in London alone, in a year of no special sickness, more than 21,000 were killed, who ought to have lived; in the British Islands, an army of over 176,516 lives were swept off unnecessarily. This is not all; a much larger proportion of the population is always ill at one time—about 78,000 in London is reckoned, of whom one-third are suffering from preventable diseases. This calculation does not take into account those feeble, ailing persons who are never more than half well; who lack strength and energy for the daily fulfilment of duty. It is shown that in the whole of England the people have only a mean life-time of forty-one years; not half the term of life that seems to belong naturally to our race. Of those



who died within the year, over 134,000 were in ripe manhood; but yet more noteworthy are the deaths under the age of twenty-five—over 242,000 perished in childhood and youth. The wholesale slaughter of children, in our civilised country, is truly appalling. Out of 233,515 deaths at all ages, 94,804, or 40·60 per cent., were those of children under five years of age.

To understand fully the grave import of these records, three facts must be noted; first, that the death-rate of a country is always under-stated; second, that town populations increase at a much more rapid ratio than country populations; third, that the death-rate increases in direct proportion to the density of the population.

In proof of these three propositions, let me quote from recent testimony of our most eminent statisticians:

“Wherever the population is increasing, the amount of mortality is under-rated, in consequence of there being an excess of young people in those numbers which make the mortality appear lower than it really is. The mortality of London appears much less by statistics than it actually is; it is reduced in two ways, by having a large influx of persons, at the period of age when mortality is low; and by the departure and return of patients to the country to die, as consumptives for instance. The causes of disease in London are excessively active, as is seen, for instance, in the mortality of male children under five years of age, which is about 8 per cent. (*i.e.*, 80 per 1,000), while in some of the more healthy districts it is not more than 4 per cent.” Again: “Of the 20,066,224 persons enumerated in England in 1861, nearly 11,000,000 were in the towns, and 9,000,000 in villages and country around the towns. The total population in London and 71 of the largest towns in England was over 7,667,622, and the population in the country and in smaller towns was over 12,398,602, so that there are nearly eight-twentieths of the population in those 72 towns. The total increase from 1801 to 1861 in the population of England was over 11,173,688, and one half of that increase was in those 72 towns. It will thus be apparent that the town population is increasing at a much more rapid rate than the country population.” “The country population now is very nearly the same as it was in 1801. By a law which at present is very constant, the mortality increases rapidly with the density of the population. In our thinnest dis-



tricts the mortality is about 15 per 1000; in our densest districts it ranges from 28 to 33. This relation is a constant law; where there are 179 persons to a square mile, there the mortality is from 17 to 19; where the density of population varies from 3000 upwards, the mortality ranges from 26 to 33; so that, under our present arrangements, there is a constant connection between the density of population and its mortality. That connection is not necessary; our towns might be made nearly as healthy as these country districts, having a mortality of 17 to 20." Of the circumstances under which large masses of our population grow up, another distinguished physician writes: "They create special diseases, demoralise the population, and, in course of generations, completely overthrow the physique of the people. It is impossible to walk through the central streets (of this large town) without observing that you are in contact with a population awfully degraded, both in physical and moral attributes—a population whose mere external characteristics impress you at once with the idea of a depth of degradation, of bad habits growing for generations, in consequence of these arrangements." "Thousands and hundreds of thousands are thus brought up."

Turning from the towns to the agricultural population, where we have the right to expect the fullest measure of health, we find a condition of things which strikes an observer with dismay. The cultivators of the soil constitute the back-bone of a nation. I have carefully observed them in America, and have learned to consider them the ruling force of the nation; independent, thoughtful, exercising judgment and common sense. Again and again I have seen the corrupt or mischievous vote of the large towns reversed or overwhelmed by the country majorities. The condition of the peasants who cultivate the soil, all over our country, presents a terrible contrast to this picture. Fever, produced by extreme misery, seems to be endemic amongst them, sapping their strength and stupefying their minds, when it does not kill; they are crippled by rheumatism and destroyed by scrofula; their miserable cottages are damp, dark, close, and overcrowded; their pitiful wages will not supply them with decent dwelling, sustaining food, or other necessities of life.

Let me quote testimony from high authority, given within the



year: "As many as ten persons are often crowded into a sleeping room not twelve feet square;" "the external walls are too thin, the rooms too small, no ventilation, brick or tile floors;" "cottages are frequently built in marshy situations, and by stagnant water, or at the foot of hills where there is no free circulation of air; the spot is chosen on account of the small value of the land, and its uselessness for agricultural purposes;" "they are not able to pay what would be a fair interest on a decent cottage." "If a new colliery is opened in an upland valley, 200, 300, or 400 cottages are built very rapidly, and they are inhabited long before they are dry. The foundations as a rule are simply upon the sod, which is merely turned over, and a flag is put on that sod. There is no drainage of any kind; 40,000 to 50,000 persons will live in houses of this kind, in one valley." "There are numbers of villages throughout England where the people are drinking polluted water." "I have seen no place in England in a worse condition than this village. I have seen many native villages in South Africa, but none so bad as this!" Volumes might be filled with similar testimony as to the physical state of our country population—a population whose condition is the truest measure of a nation's substantial strength.

There is no error so dangerous in national life as the discouragement of honest labour. If the conditions of labour are injurious and repulsive, whether from exhausting hours of toil, unhealthy work-places, squalid homes, or dreary monotony of toil, the workers of either sex will inevitably seek relief from hopeless drudgery in the excitement of vicious indulgences.

Our social experience joins its testimony with these statistics of town and country, to show how wide-spread is this destruction of health. Every housekeeper knows the extreme difficulty of obtaining a healthy servant; nine-tenths of those who apply for a situation are suffering from some chronic form of disease, which, if they belonged to a different class of society, would place them in the list of permanent invalids. There is no more frequent cause of the ill-health of domestic servants than the damp and sunless rooms in which they pass so much of their time, owing to the injurious practice of building dwelling-houses, both in town and country, without a cellar under the whole house, drained, and ventilated from side to side. No room is fit for human habitation which has



not a six-foot cellar, dry, with ample through ventilation, underneath it. It seems surprising that, in a damp climate like ours, with rheumatism and scrofula prevailing everywhere, this necessity has not been perceived.

It is often thought that sanitary knowledge means chiefly ventilation, food, and drainage, that it applies only to the lower classes, and that we must await the action of Government to build better houses, and otherwise deal with the gigantic question of pauperism. This is a profound mistake. Health depends upon the observance of all the laws of our complex nature; it applies to the mind as well as the body. A deteriorating influence which proceeds from within is more to be dreaded than one that comes from without. The nervous system (from mental or physical causes) may be completely shattered, leaving the individual a wreck. The senses (from mental or physical causes) may be rendered so craving and irritable that the noble proportion of the nature is lost. An hysterical, feeble person is an unhealthy one; equally unhealthy is a coarse brutal one. In either case, health, in the true meaning of the word, is thoroughly impaired. Those classes of society who are able to command every physical appliance that wealth will purchase are often, from their kind of suffering, more dangerously diseased than the labouring classes. I need only mention the spread of luxury, the delay of marriage, the frail progeny of unsuitable unions, to show how inextricably the mind and body are blended in all that concerns health.

The highest authority on this subject thus condenses the lessons of his great work on health: "Hygiene is based upon the physical and moral perfectibility of man, of which it furnishes the proof." "Health may be described in two words—morality, competence."

The general deterioration of health prevailing in all classes and both sexes is most strikingly seen among women. It is proved by the increase of nervous and special diseases, the prevalence of scrofula by general fragility of constitution, and inability to bear the unavoidable burdens of life.

The health of the mass of educated women is a matter of serious national concern. These women form the heart of the nation: they mould its family life; they create society; they exercise an unbounded influence on the lower classes. If the health of the



mother breaks down, family happiness is destroyed; so if the health of this class of a people is deteriorated, the welfare of the nation is imperilled, both in the present and the future.

Young parents enter upon the heavy responsibilities of family life, in deplorable ignorance of their duties to one another, and to their children. As parents it is their first duty to secure right conditions of health for the infant, for the child, and for youth, until they leave the parental roof. Each age demands a varying set of conditions, which become continually more complicated as the necessities of the mind increase in proportion to the physical wants. The conditions that will keep an infant in perfect health will not suffice to secure the health of the boy or girl of fifteen. As a weak stomach will impair the temper, so a vacant or corrupt mind will injure the body. Comprehensive knowledge is needed to embrace the wants of every age, and such knowledge all parents should possess.

In seeking the cause of this destruction and deterioration of life, thus briefly stated, we find it in the universal ignorance or neglect of the divine laws of human growth. We find this neglect and disobedience equally among rich and poor, learned and unlearned, religious and worldly, in individual life, in business enterprise. The fevers of the poor, the hysteria of the luxurious, the indigestion of the learned, the devastation of our mining districts, equally show contempt for the wonderful organisation which God has made,—indifference to the conditions which He has clearly laid down as essential to its welfare.

One of the most important problems of the present time is how to embody the sanitary knowledge which we possess in the life of the nation, so that a higher standard of health may be gained by the present and succeeding generations.

The solution of this great problem must be attempted in many directions. It must be sought in the power of legislative action; in the wide-spreading influence of education; and in the strength of social combination.

The part which legislation should take in promoting national health demands serious consideration. Legislation is the human imitation, or visible representation, of the greatest fact in the universe—law; and it derives from this representative character, its



immense power in moulding the spirit and habits of a people; for, as the divine laws of the human organisation limit its powers, and direct its modes of action, so the human laws which rule a people, determine their modes of thought, and their relations to one another. Legislation, therefore, not only represents the life of the present generation, but is the most powerful educator of the rising generation. Every law contains this latent power hidden within it, and so often overlooked. In every subject of legislation, whether it be the most trifling village regulation, or the gravest international question, there are principles, hidden behind the facts which induced legislation; and it is the attitude that legislation assumes towards those hidden principles, which stamps its character as good or evil, which makes the human law obedient, or disobedient, to divine law.

The health of a nation is a most important concern of a wise Government. No other agency can act with such extensive and combined power. But much wise caution is needed in dealing with such a subject as national health. Human agencies are very imperfect, and much has to be learned as to the right way of dealing with most important subjects of health legislation. If the authorities introduce a supply of pure water into a village suffering from typhoid fever, they do a righteous thing. They deal with causes. By careful investigation they have collected a body of facts which prove that impure water will produce typhoid fever. In this act of introducing a supply of good water there are many principles enfolded. Thus they destroy the cause of a great evil; they express approbation of that good thing—pure water; they educate the people into liking it; they show them, through experience, the blessings that flow from it. They thus render obedience to divine law by their legislation. But it is very different if they attempt to regulate a village gin-shop. Gin, as a drink, is always bad, whether adulterated or not; and, in dealing with the greatest evil that afflicts our country—the curse of drink—legislation must adopt the same course that it did for typhoid fever; it must patiently and persistently accumulate the facts, which will show what produces this dangerous disease of drinking.

Divine law rewards the good (*i.e.*, the obedient), punishes the bad (*i.e.*, the disobedient), swiftly, surely, inexorably, no matter at



what cost or pain; and human law must never temporise with evil, neither directly nor indirectly sanction it. Every act must mark disapprobation, or it loses its character of law, and becomes simply blind or blundering expediency. In dealing with evils, legislation is bound to investigate the causes of evil, and attack them. Herein lies the superiority of legislative over individual effort—that it is able to accumulate that body of varied facts through which causes can be clearly ascertained, and the attention of the community directed to them. It is only on this sound basis that wise legislative measures can be framed; only in this way that great questions of national health can be judiciously dealt with.

Our English Government—in advance of every other nation—is learning to recognise this great function of legislation, and is gradually accumulating such a store-house of facts as will render comprehensible measures of wise statesmanship possible. The mass of the people, however, must become sufficiently intelligent to support such measures. The difficulties which now stand in the way of health-improvements from want of this intelligence, are inconceivable to those who have not considered the subject. No matter whether the health-improvement suggested be great or small—whether it be the redemption of a lovely mountain river, whose sparkling waters have been turned into a black source of pollution, a swamp that ought to be drained, or a poor cottage that needs the introduction of fresh air—there is always the same opposition and misconception. Thus a short-sighted view of expense will excite furious opposition from small ratepayers and ignorant farmers, even to the most necessary measures—measures which would rapidly diminish the poor-rates and increase the prosperity of a place. Incompetent men or poorly paid men are appointed to carry out Health Acts—or timid men, afraid to excite ill-will in the neighbourhood. The Acts thus become a dead letter, or law-suits are instituted against improvements, harassing and even destroying local health boards. Large proprietors enclose the commons, farm out their estates to agents, and thus neglect the duties which are inseparable from rights. The same ignorance which opposes such endless obstacles to the establishment of sanitary improvements, often defeats the best-laid plans, when they are carried out; and proves, if proof were necessary, that a people



must be educated to appreciate laws, before the objects which those laws were intended to effect can be accomplished.

Much confusion also at present arises from patch-work legislation, that has not been based on sound principles. This is shown by the present Acts regulating towns: "A recent edition of the laws affecting health and sanitary affairs gives the text of fifteen Acts relating to health, diseases prevention, nuisances, local government, sewage, and kindred subjects; twelve Acts consolidating provisions as to towns, lands, markets, police, loans, bakehouses, etc.; the public health and local government supplemental Acts are twenty-nine in number, while the laws treated by the work are affected by not less than 296 public general statutes, which the author tabulets in the index, as being referred to in the text. No lawyer can grasp these enactments, save by great research; much less can a man who has his own business affairs to look after."

The sanitary investigations carried on by the Privy Council and other Government bodies, the labours of the Royal Commission appointed to inquire into the condition of the poor, etc., cannot be over-estimated; but none feel more strongly than the very men who are carrying on these measures, the necessity of effort in other directions—directions where the co-operation of every member of society is needed—viz., in education, and in domestic and social life.

We now possess enough sanitary knowledge to reform the physical and moral condition of the human race, if it were generally diffused and its rules systematically applied. Scientific investigations, and the knowledge of hygienic laws, are far in advance of the practices of daily life. The knowledge is within our reach which, if employed, would save the lives of tens of thousands of human beings around us, keep this army of sick in vigorous health, and make our homes the precious centres of ennobling influence that they are intended to be. We fail, however, in the means of diffusing and putting into practice the substantial knowledge which scientific observation has laid before us. The first duty, therefore, which rests upon us all is an endeavour to secure the universal diffusion of sanitary knowledge. As every human being in the British isles should know how to read and write, so every human being should be taught that health is a duty, and shown how to



secure it. Sanitary teaching (varying of course in its style) should be introduced into every school and college in the kingdom, in the common school, in Oxford and Cambridge equally; into every series of lectures, whether at the Royal Institution, or the South Kensington Museum; into every Working Man's Institute, and into every medical and every theological seminary.

Above all other classes of men, it is certainly important that physicians, and medical men generally, should be thoroughly educated in sanitary knowledge. The authority which they possess, and their opportunities for instilling this knowledge, when families are keenly alive to the dangers of illness, would give them greater success as health missionaries, than any other class of society. But medical men are not taught that it is equally their duty to prevent disease as to cure it; and their attention is not, therefore, sharpened to observe, and to deprecate the numerous habits in family life which tend to produce disease. There are but two chairs of hygiene established in connection with our medical schools, and attendance upon those lectures is not obligatory, *i.e.*, is not essential to the attainment of a degree. Every practical instructor knows that the press of studies is so great that the student always neglects whatever is not absolutely necessary to his success. One of the most beneficial changes that could be introduced into medical education would be the establishment of hygiene as a first-class chair, of equal importance with anatomy; a searching examination in its teachings being indispensable to the attainment of any degree which gives authority to attend the sick. Almost equally important is the introduction of sanitary instruction into theological seminaries. The clergy generally seem to be sadly ignorant of the laws of health. The powerful and legitimate influence which they exercise would be more valuable if it were not so one-sided. If the clergy, all over the land, who command a mighty army of parish visitors, could show those visitors the direct and positive connection between pure blood (made out of food, light, and air) and pure thought, what a revolution would be wrought in every country village! But the clergy themselves must be educated in such knowledge; for it is not simply intellectual assent, but a thorough realisation of it that is necessary. The same knowledge is as necessary to our schoolmasters. No one is fit to direct the education of youth



who does not perceive the difference between the young and the old, and suit education to the child's nature, not his own. The kind of studies, their variety, frequent movement, and change; the arrangement of school-rooms, the unlimited supply of fresh air, the play-ground, etc., must all be based upon an acquaintance with sanitary knowledge, which would be a proper subject for examinations and certificates.

The education of children and youth in Health is a subject in which women are especially concerned. It is a large subject, it demands not only the introduction of sound sanitary instruction suitable for different ages into all our school-rooms and colleges; but the creation of a love of such knowledge and the habit of its practical application. But this is not all; our great need—education in Health—implies the confirming and improving the health by means of education. It is not sufficient that the course of studies laid down for children and youth should not injure them—it is also necessary that it should do them positive physical good; they should be stronger, better, and brighter for the hours spent in technical education, or there is something wrong in the plan of education. If lessons produce headache, lassitude, inactivity of functions; if they make children pale, quiet, spiritless, then the lessons are bad; they have done the children an injury, no matter how slight the evil effect appears to be each day; and the injury cannot be remedied by sending them out to play, and repeating the same process day after day. A wrong cannot be made right by constantly committing it, and then endeavouring to repair it. It cannot be too strongly urged that, unless the plan of education adopted with children does them a positive physical good in all its details, it does them a positive physical harm—it cannot be neutral. This is also true of the youth in college or boarding-school. The same principle is applicable; if the course of study is not positively beneficial to the bodily organisation, it is positively injurious. The over-taxed brain cannot be righted by boating and cricketing. The rules which apply to the fully-formed adult organisation do not apply to the growing youth; and it could be clearly shown how much moral, as well as physical, harm arises from our failure to recognise the radical difference between the youthful and adult natures.



Education in Health, therefore,—not simply theoretic instruction,—is what we need to make our children stronger; and it requires such a reverence for health on the part of educators, that there shall be a constant endeavour to make every part of instruction strengthen the physical as well as mental nature.

In seeking the best means of imparting sanitary instruction to youth, we find that a certain preparation is necessary, before anything like a full and direct hygienic education can be given. This preparation must be laid in childhood. A knowledge of the structure and functions of the human body is indispensable; yet young women generally shrink with repugnance from physiological instruction, for which they have not been prepared. The most eloquent demonstration of a sheep's eye or a bullock's heart, given in a young ladies' school, will generally leave a feeling of disgust in the larger part of the class. All reference to bodily functions is unpleasant to them. They have never learned to respect the laws of their organisation, and they turn from the subject of physical structure as very repugnant, or a great bore. The tastes of children, however, are of a very different character; the intellect, as shown in untiring curiosity and incessant questioning, is predominant in childhood, and taste for any study may then be formed. Children will receive the elements of comparative and human anatomy and physiology, learn to handle bones and examine structure, not only without disgust, but with extreme interest; and they may thus be prepared for the fuller instruction which they should receive as youth. Everything should be done to cultivate the taste for natural history and science that is latent in every child. Their fondness for animals indicates this taste, and the care of animals should be encouraged and directed. The manual of physiology in every school-room should be pleasantly written, well printed, and with abundant illustrations. Bright, well-drawn pictures, clean and fresh specimens, shelves and little boxes for collections, should be provided.

To the intellectual training which results in the formation of tastes, the formation of healthy habits of life must be added. These habits should be formed without, in general, giving any reason for them. Children should not be taught to reason on matters of health. They utterly lack the power of proportion



which is essential to reason ; and they run the risk of becoming morbidly conscientious, or hypochondriacal, if compelled to reason on these practical matters. It is very important that they should go to sleep early, eat simple food, live in fresh air, and take a great deal of out-door exercise ; but it is not desirable that they should know too early why they do these things. The proper time for reasoning on these habits has not arrived ; but the healthy habits, early formed, will gradually become a part of their nature. Habits of self-control, and obedience to rules, are also an essential part of the moral hygiene of childhood ; they prepare the nature for the intelligent obedience to law which should come in later years. Children should not be worried with unimportant observances. The precepts which it is necessary to give them will make more impression if they are not too numerous ; the rules laid down must be wise rules ; children are trustful, and their trust must never be abused. If, as they grow older, they learn to recognise the wisdom of the obedience that has been exacted, they will escape that dangerous scepticism, which so often comes to youth, who find that their intellectual and moral guides have cheated their youthful trust. Intellectual tastes, healthy habits, and obedience to law being thus formed in childhood, the youth is prepared for that full instruction in health which is adapted to the period where reason is developed.

For the education of youth in Health, *i.e.*, in physical strength, and in sanitary knowledge and habits, a Training College seems to be urgently needed. The acquisition of knowledge, enthusiasm for the study, and a practical realisation of it, must go hand in hand. Modifications may doubtless be gradually introduced into the ordinary plan of family and school instruction. But if, under the present system of school-room discipline, we attempt to instruct young ladies in the laws of health, we are called on to contend with insurmountable obstacles ; not only with an utter indifference to all subjects of health, and repugnance to many topics connected with it, but with enfeebled powers, from a neglected or misdirected childhood ; and with vitiated tastes, from the substitution of artificial excitements for natural healthy enjoyments ; it is also impossible to find the necessary number of teachers, inspired with that respect for divine laws which would give them insight into matters



of health and the true order of education. This combination of difficulties makes the task of education in Health almost a hopeless one, unless the individual be placed in a fresh educational atmosphere, where the objects and methods of education are entirely changed. Health-education should train the body—of which the brain forms part—into well-balanced strength; giving full command of the various faculties, and power to meet the demands of future life. To accomplish this work, the hearty co-operation of the individual is essential; such education cannot be forced from without, it must be accepted by the will. All the mixed motives which act upon human nature are needed to vanquish indifference and excite enthusiasm; large and beautiful arrangements in buildings and grounds; the sympathy of numbers; the stimulus of honours and rewards; the increased prospect of establishment in life. All the motives which act upon young men, stimulating their zeal in college life, are also needed by young women. The natures, if not identical, are strictly parallel. The broad rules applicable in one case are applicable in the other; and success in education can only be attained, when it is adapted to the one common human nature.

Education in Health would be best attained by giving prominence to the following subjects: 1st, The practical study of natural science, including sketching from nature; 2nd, The practical study of hygiene, which would include the structure and management of houses and households; 3rd, The direct training of the bodily powers in precision, agility, and strength.

1st, The importance of the practical study of natural science, in the education of youth, can hardly be too strongly urged. The love of nature, when strengthened by a knowledge of nature, gives occupation, amusement, mental and physical development of the best kind; it is an antidote to the morbid influences of fashion and dissipation; it hinders the premature development of function; it furnishes a basis of intellectual companionship between the sexes; and would prove invaluable to a mother in the education of her children. The power of habits formed in children by their parents are second only to the original type of constitution, and often overpower even the original tendencies; these habits are nevertheless formed by the silent working of influences, hour by hour, and day by day, that



are invisible, and cannot be measured; that seem valueless, taken item by item, in the long account, and yet in the aggregate they mould body and soul. A mother may instil the love of reading, or the love of dress; she may form the habit of out-door exercise, or the habit of gossip; not by set precept or even formal regulations, but by her own tastes unavoidably moulding the tastes of her children, and flowing out naturally into those external arrangements, that reflect the ruling spirit or affections of the individual. Did the mother possess a hearty interest in the wonders of field and forest, of sea and sky, what a treasury of delightful intercourse might be found in every country ramble. A mother's love, joined to broad tastes and knowledge, would never weary of the ceaseless questioning of childhood; the older the child, the closer and more influential would be the companionship. The holiday by the seaside or amongst the mountains, so often wasted in idleness or frivolity, might be a rich harvest-time of delightful knowledge, drawn from the treasures of land and water.

It is the out-door study of science and art that must be insisted on with the young—the cultivation of the powers of observation rather than memory—which powers compel the exercise of the muscles and senses. The guiding principle of health-education is to follow the order of nature, and place the strengthening of the physical powers not independently of, but in advance of, the mental powers. If the order is reversed, and the immature mind be allowed to tyrannise over the immature body, and disturb the proportion of nature's work, by withdrawing too much creative force to the exclusive stimulus of the mind, the true relations of mind and body can never be restored; the adult will never receive that ready and capable service that the body should render to the mind. In thus urging the paramount importance of some branches of study, particularly in a girl's education, it is not intended to exclude all others. Many accomplishments, as well as various branches of knowledge, may be taught in such a way as to conduce to physical and mental health; and all studies may be so arranged and subordinated as to be innocuous. The principle here insisted on is: that those studies must predominate and lead, in the education of youth, which most fully require the exercise of the physical as well as mental nature in their pursuit.



2nd, The direct study of hygiene involves so large a range of profoundly interesting subjects that it is difficult to display its full importance in a condensed sketch. The creation of a healthy happy home (which all will allow is the legitimate work of a woman) requires comprehensive knowledge. The structure and arrangements of a house, adapted to the climate, soil, and wants of a family, including drainage, ventilation, warming, economy of labour; the management of a household, in relation to individual wants and to society, including the subjects of food and waste, domestic service, petty trading, the care of the sick, and prevention of disease, occupations, and amusements;—these, and many other topics, belong to the formation of a noble Christian home. These are subjects that men and women have a direct personal interest in. They may be taught, in graduation, with abundant illustration. The examination of economic museums, exercise in the inspection of houses and neighbourhoods, etc., should be added for advanced students. Every method should be used to impress facts on the memory, and excite personal interest. To this end a system of rewards would be useful, whether of prizes or honours. There seems to be no reason why honorary degrees, scholarships, and fellowships should not be bestowed for proficiency in knowledge that relates to the health of mankind, as well as for distinction in classical and mathematical study.

3rd, The third subject of education in Health is the direct cultivation of the various bodily powers in strength, agility, and grace. This culture presupposes close attention to the weak points in the health of each individual student—those tendencies to disease which exist at present in every person. All will have remarked that the same morbid cause, applied to half-a-dozen people, will produce varying effects, according to varying peculiarities; thus a current of cold air applied when the body is over-heated may cause either catarrh, bronchitis, neuralgia, rheumatism, intestinal derangement, according to the individual susceptibility. Youthful vitality masks, but does not cure, weak tendencies, unless those tendencies are known, and the exuberant vitality be especially directed to their cure. This season of life is, however, particularly favourable to such cure. Nature will never again present so valuable an opportunity of remodelling the constitution. A doctor of



health or preventive medicine, who shall become acquainted with the constitution of each student, and determine how far exercise must be modified to meet individual peculiarities, is an indispensable member of the Faculty of any College that undertakes to educate in Health. With this observation and caution, modern gymnastics and exercise in various forms will become an invaluable part of education. The muscles of the body are capable of the same careful training as the senses. As the eye and hand in painting, or the ear and hand in music, require long and careful practice to acquire skill; so the great variety of delicate or powerful muscles in the human body require careful exercise to draw forth the varied powers that belong to them. The ordinary movements of life do not call forth half these powers. As the large majority of people go through life with only an imperfect use of their lungs, from the constraint of clothing and sedentary habits, which weaken the thoracic muscles, so it is with other organs; and imperfect muscular action and weakened health is the result.

The principles of education which are thus laid down are the following—viz., a constant observance of the order of human growth; the selection of studies that will carry out this order; habits and arrangements of college life that will enforce it; direct instruction in the necessary conditions of health; and careful training of the body. It is giving to education the grandest of all objects—use; which, if properly understood, includes the highest and most permanent culture of which the individual is capable. Were our beautiful sea-coasts studded with such Colleges, with their wonderful playgrounds washed twice a day by the Atlantic waves, furnishing endless treasures for the eager gatherers; enthusiasm for health-giving studies would grow up in the youthful mind, and a stronger generation would mould a nobler society.

The establishment of sanitary improvements by Government, and the remodelling of education, are not the only means by which we must seek to obey those divine laws which are implanted in our nature. Every class of society, every institution,—in short, our whole social life, needs to be re-born into the idea of health. The customs to which we all conform, whether rich or poor, the standards by which we measure success in life, and the means by which we seek to reach it, are all opposed to the idea of health. The



hours we keep, our dress, our food, the excitements, and strain of life, are injurious alike to mind and body. The deeper we look into the structure and state of society, the more serious are the effects of the general neglect of the laws of human growth. Practical life now is a cruel foe to pure enthusiastic youth; purity and enthusiasm are alike destroyed by the corrupt and faithless society into which they enter. We preach one standard of right; we practise another. We exact a superhuman effort from our children when surrounded by temptations, we tell them not to fall into evil habits; we require an impossible thing when we expect them, as social beings, to do what is right, when society does what is wrong. The diffusion, therefore, of sanitary knowledge through all classes of adult society is as necessary as the remodelling of education. It is through the gradual diffusion of this knowledge that combinations of individuals may be formed, who will be strong enough to put down some of the senseless and injurious customs that now pervade society.

This principle of combination may wield a great and increasing power of good. Departure from any established custom by a single individual is an eccentricity; but the union of fifty for the same purpose will exercise a decided influence; and a hundred resolute men and women form a social power in the State. It is encouraging to recognise the power that might be exerted by such a band, resolved to carry out the large "Laws of Health" in their daily lives!

There is only one form of combination, however, that I shall venture to suggest, and whose utility I think will be at once apparent.

I refer to the formation of a National Health Society. Such a society seems to be much needed—needed to give combination, direction, and impulse to the efforts of individuals; to form a storehouse of information to which all could apply; to assist health legislation, by looking at this great subject from a family point of view, and educating the community into an intelligent appreciation of wise legislative measures; to attack such a great and growing evil as that of unconsumed smoke; to suggest improvements in education; and draw every charitable institution into health missionary work. Every other subject of human interest is represented by some society, more or less active, which takes up the



social side of each particular work, and urges its claims. It seems characteristic of the general neglect with which health is treated that no national society of men and women has yet been formed to promote this vital subject—Health.

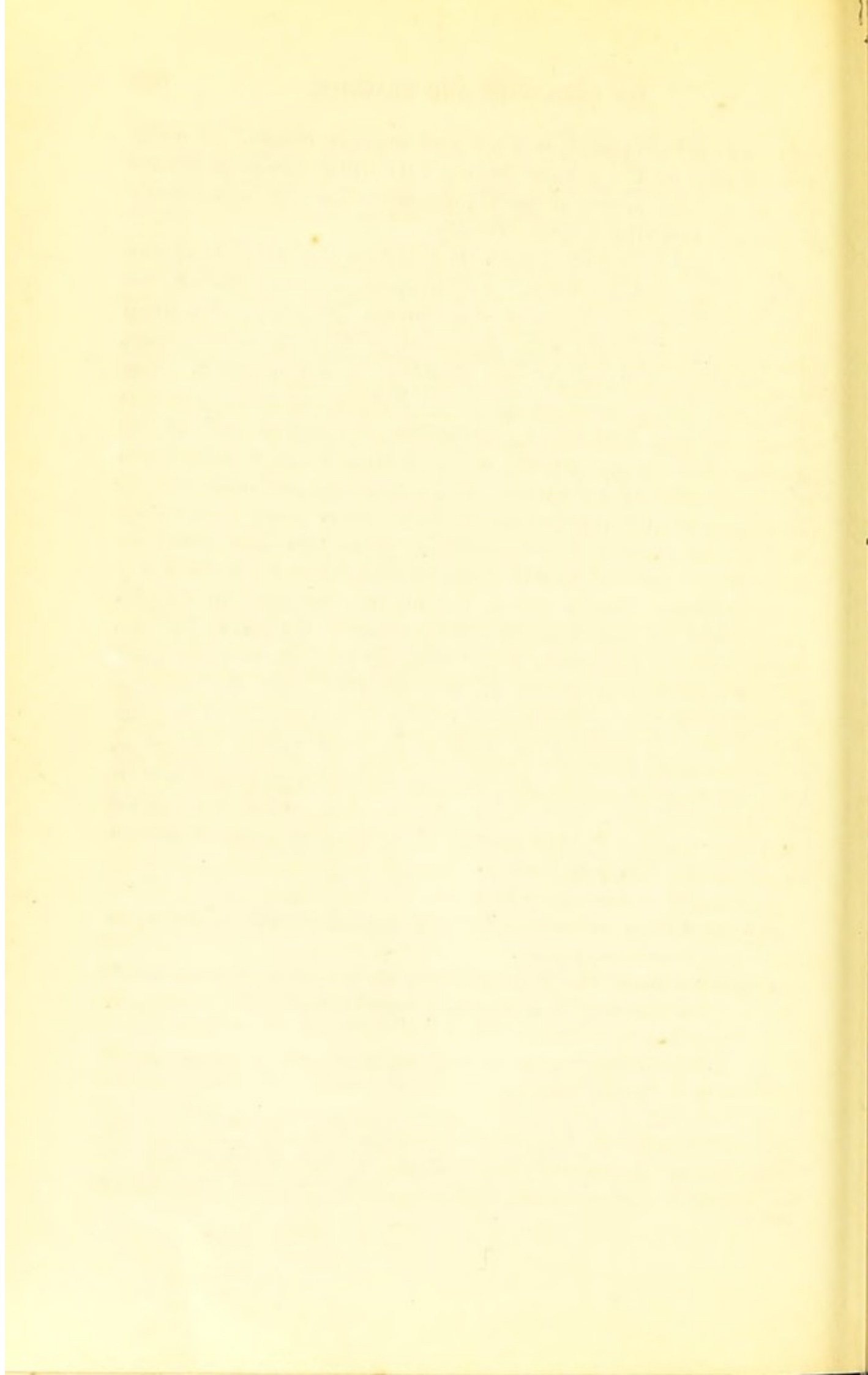
Such a society should extend its branches into every town and village of the land, and form a body of corresponding members, not only throughout the kingdom, but abroad. It might, with great advantage, promote the wide application of that excellent system of instruction initiated by Mr. Twining, of Twickenham. This gentleman has devoted his life to the diffusion of sanitary knowledge. Having established a museum of domestic arts in his grounds, open to the public, he has written a series of lectures, which are read by the curator of his museum, and illustrated by his librarian,—the illustrations of each lecture being ingeniously packed in a small box; he generously sends this little establishment to any place which will make arrangements for the delivery of the lectures. Such a system, varying the lectures and illustrations, might be applied to every little village in England; for two young ladies or gentlemen might certainly be found in every place to read discourses so prepared. If a Health Society did no other work than keep in constant activity such a simple plan of instruction as this, it would do a work of immense utility. There is, however, no limit to the practical suggestions that might thus be brought before the public, to the influence that might be exercised upon family life, or to the sanitary institutions that might be formed by an energetic Health Society.

I have thus endeavoured to show,—

- 1st. That there are laws governing human growth according to an unvarying plan.
- 2nd. That neglect to study and obey these laws produces individual suffering in all classes of society, and national degeneration.
- 3rd. That obedience must be rendered through legislation, education, and social life.

It is only when we have learned to recognise that God's law for the human body is as sacred as, nay is one with, God's law for the human soul, that we shall begin to understand the Religion of Health.







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